

13.1 Landscape Standards

13.1.1 Street Frontage and Entryways:

- Landscape buffers or tracts in addition to the street right-of-way landscaping are common along the perimeter of residential developments where they front onto major streets to provide landscaping and a sense of openness for the community. To assure there is adequate room to convey the sense of open space, the width of the landscape tract along the major street frontages should be as follows:
- Arterial Street Frontage: 20 feet in width.
- Collector Street Frontage: 10 feet in width.
- Enhanced landscaping at the main entrances of the proposed development should be provided to make a distinctive statement about the community and provide a sense of arrival.
- Shrubs with a minimum size of five (5) gallons should be planted at a rate of five (5) shrubs per thirty (30) feet of linear street frontage.
- Clustering of trees and shrubs is encouraged to accent focal points or landmarks and to provide variety to the streetscape. Contouring of the ground and placement of mounds and earth berms along streets is recommended.
- A minimum of twenty-five (25) percent of all frontage landscaped areas should be covered with vegetative or organic groundcover consisting of living plant materials characterized by horizontal growth which generally does not exceed eighteen (18) inches in height.
- A minimum two-inch depth of decomposed granite should be specified on landscape plans for all planted areas.

13.1.2 Active Recreation Areas:

- Adhere to the minimum requirements in Chapter 2.176.160 of the PCDCS
- Trees with a minimum size of 15 gallons shall be planted at the rate of 1 tree per 1000 Square feet of the surface area provided.
- Minimum of 25% of the required trees shall be 24-inch box tree
- Minimum of 25% of each recreation area shall be dry and not used as retention/detention.
- Shrubs with a minimum size of five (5) gallons should be planted at a rate of seven (7) shrubs per 1,000 square feet of surface area provided.
- A minimum two inch depth of decomposed granite should be specified on the landscape plans for all planted areas.
- To provide variety to the landscape, the clustering of trees and shrubs is encouraged. Regular on-center spacing or linear placement of trees and shrubs in retention/detention basins is not recommended. Where space allows, provide tree grouping in groves rather than in a single row, unless the design dictates otherwise.
- Reasonable effort should be made to conserve the natural drainage patterns. Retention/detention basins designed to handle surface water runoff and overflow should be constructed so as to appear natural in appearance following the natural landforms to the greatest extent possible. If such forms do not exist, the basin should be shaped to emulate a naturally formed depression.



13.1.3 Passive Recreation Areas:

- The minimum number of trees required shall be planted per the Open Space and Recreation Area Manual.
- Twenty-five percent (25%) of the trees required shall be at least 24" box size.

13.1.4 Detention/Retention Areas:

- Live vegetative plant material should consist of: a) a minimum of fifty percent (50%) vegetative groundcover that does not exceed eighteen (18) inches in height, and b) no more than fifty percent (50%) trees and shrubs. Tree and shrub coverage area will be determined by calculating two thirds (2/3) the mature canopy size of the tree and/or shrub.
- Shrubs with a minimum size of five (5) gallons should be planted at a rate of seven (7) shrubs per 1,000 square feet of surface area provided.
- To provide variety to the landscape, the clustering of trees and shrubs is encouraged. Regular on-center spacing or linear placement of trees and shrubs in retention/detention basins is not recommended.
- The minimum width of the landscape area between the top of slope of retention/detention basins and any existing or proposed property line, internal lot line, or street right-of-ways should be five (5) feet.
- A minimum two-inch depth of decomposed granite should be specified on landscape plans for all planted areas within retention/detention basins.





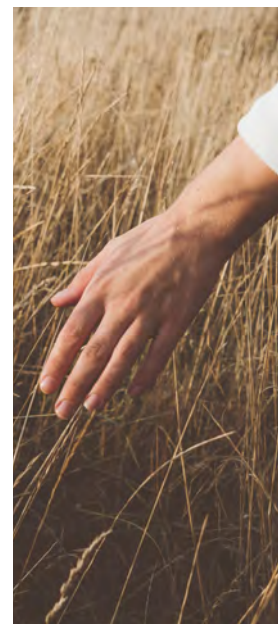
Section 14: Amendments

Major or Amendments to the OSRP may be required as the project develops over time. These amendments will follow either the public hearing process or the administrative review process depending on their deviation from this intended and approved plan. Below are the following two types:

Major Amendment: Major amendments shall follow the County's procedures for a PAD Amendment process and be subject to a public hearing review for approval. Any deviation which substantially alters the intent of this OSRP document or alters the overall design of the community. Such deviations shall include a decrease in the open space areas, the removal of the community park area, the redesign of the main collector roadway or similar deviations.

Minor Amendment: Minor Amendments shall be processed administratively through the Community Development Department and shall maintain the intent of this OSRP/ PAD. A letter of request defining the change with an accompanying exhibit, if required, shall be submitted to the Community Development Director for their review and approval. Such deviations shall include, but are not limited to, changes to smaller park locations, changes to street cross section locations, relocated open space areas, and etc.

It is the intent of this OSRP to ensure the project develops to a high community standard and provides the residents with active and passive open spaces, and a family friendly community. Amendments found to be compatible to this intent and in compliance with the County regulations shall be determined consistent with this OSRP/ PAD and in line for approval.



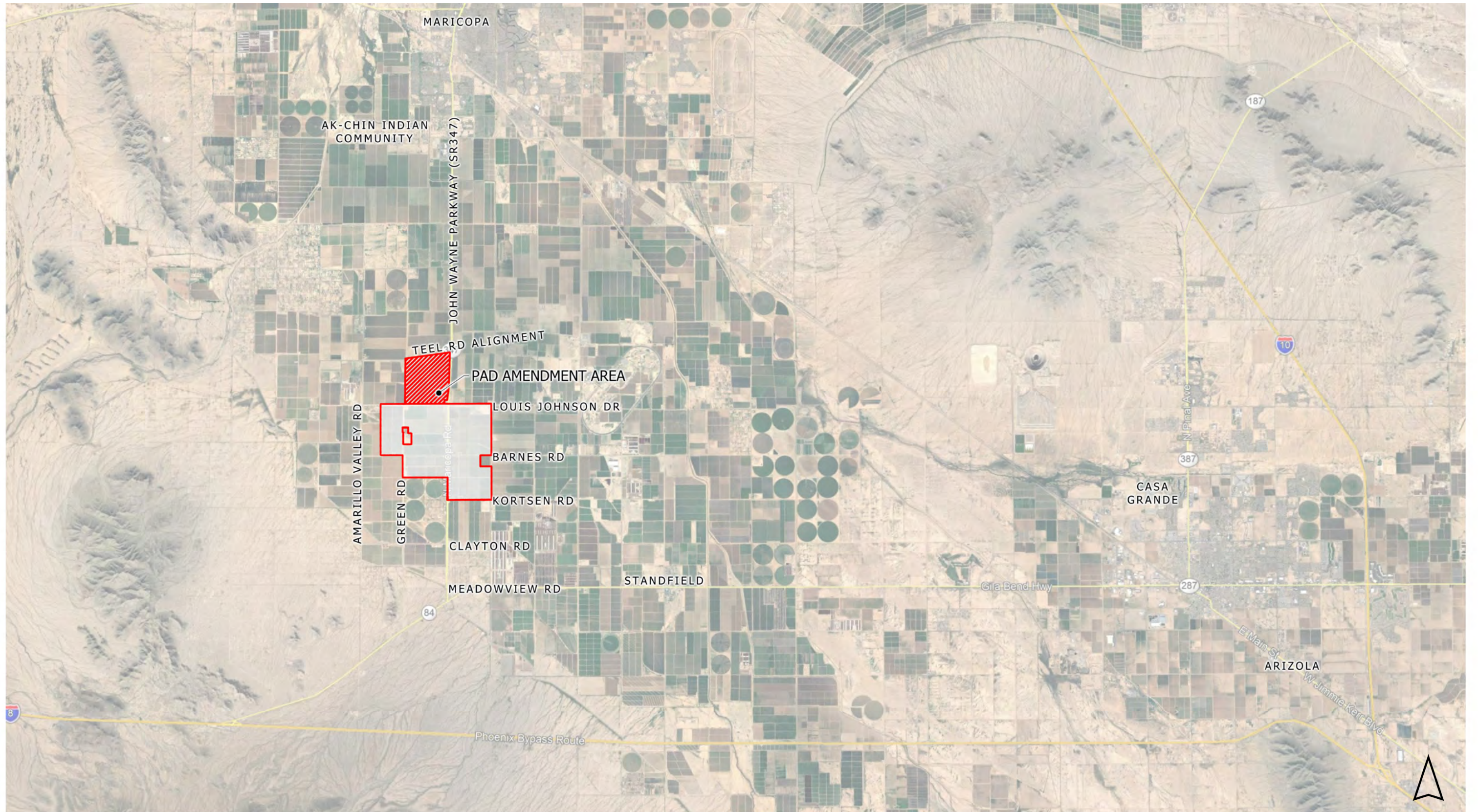


Exhibit 3: Regional Vicinity Map



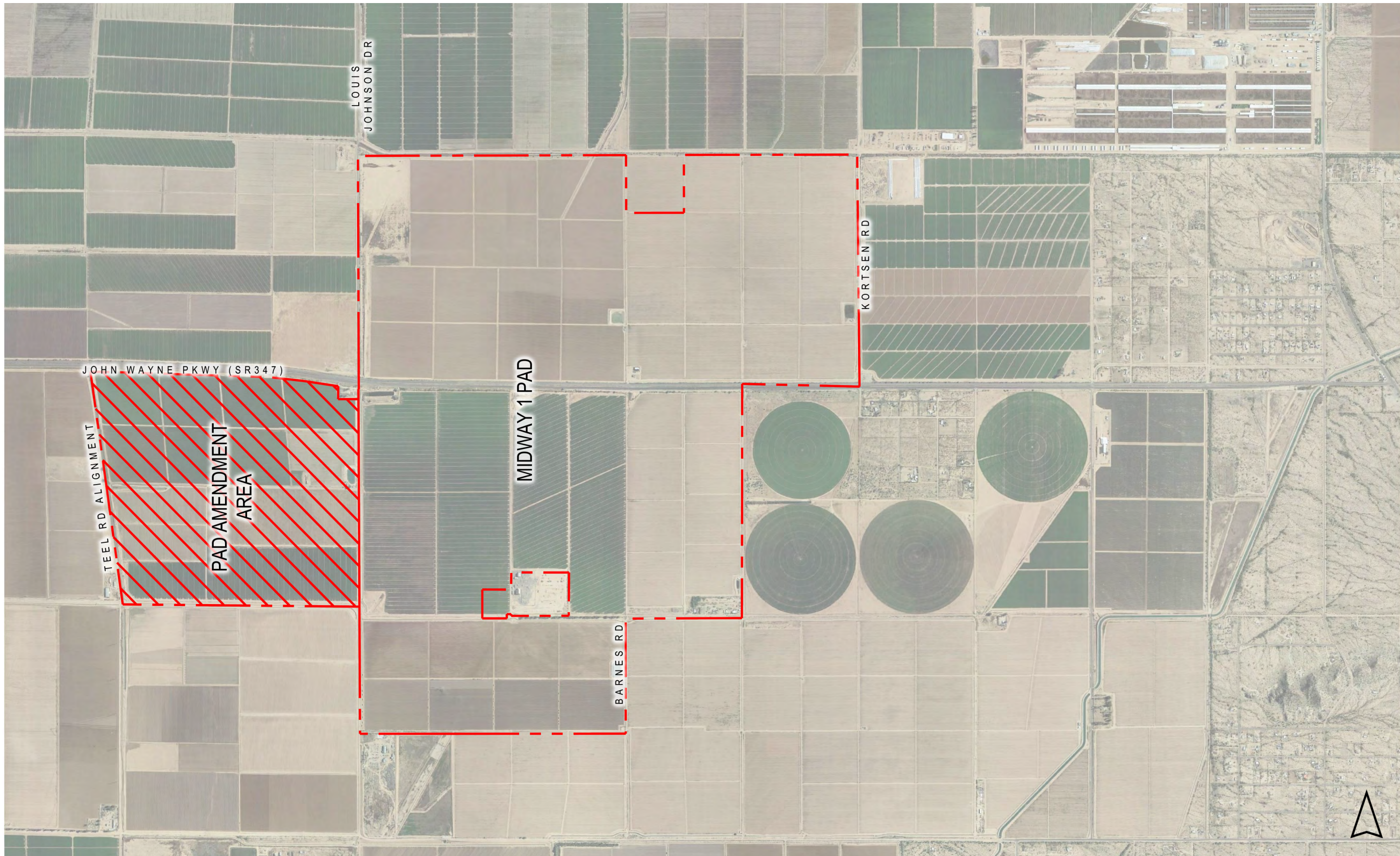
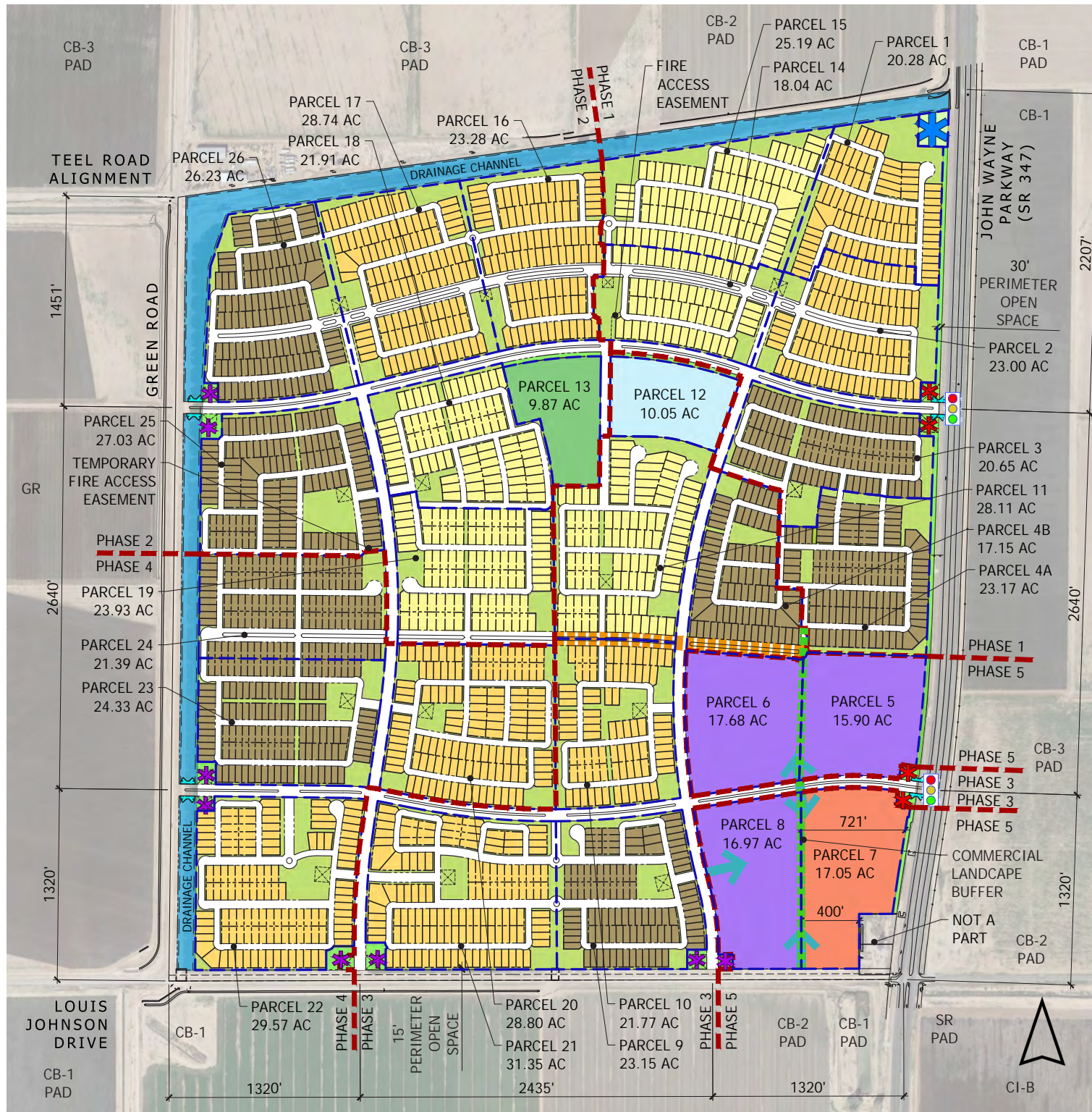


Exhibit 4: Aerial Vicinity Map





CLIENT/OWNER AGENT

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 TEMPE, AZ 85284
 P: (480)-831-2000, EXT 244
 EMAIL: SETHK@WHOLDINGS.COM
 CONTACT: SETH KEELER

CONSULTANT TEAM:

CIVIL ENGINEER

HILGART WILSON
 2141 E. HIGHLAND AVENUE, STE 250
 PHOENIX, AZ 85016
 P: (602)-730-3809
 EMAIL: ATHOMAS@HILGARTWILSON.COM
 CONTACT: AUBREY THOMAS

PLANNER/LANDSCAPE ARCHITECT

ABLA
 310 E. RIO SALADO PARKWAY
 TEMPE, AZ 85281
 P: (480)-530-0077
 EMAIL: ANDY.BARON@ABLASTUDIO.COM
 CONTACT: ANDY BARON

PROJECT LOCATION

NORTHWEST CORNER OF JOHN WAYNE
 FREEWAY (SR 347) AND MILLER ROAD
 PINAL COUNTY, AZ

LEGEND

- REGIONAL ENTRY MONUMENT
- PRIMARY ENTRY MONUMENT
- SECONDARY ENTRY MONUMENT
- PROPOSED TRAFFIC SIGNAL
- HEADWALL
- PARKS
- PARCEL BOUNDARY LINE
- TEMPORARY SECONDARY ACCESS ROAD TO BE USED FOR PHASES 1 & 2
- THIS SECTION OF ROAD TO BE BUILT AS A PART OF PHASE 2
- PHASE BOUNDARY LINE
- PROPOSED ACCESS

Land Use	Zoning	Gross AC	Units	Allowed Density	Proposed Density
Moderate	R-7	620.58 AC	2,172 DU	3.5 DU	3.5 DU/AC
	MD	39.45 AC	316 DU	3.5-8 DU	8.0 DU/AC
	MR	20.02 AC	446 DU	8-24 DU	22.3 DU/AC
Low Density	C-1	24.00 AC			
PAD Amendment Area Total		704.05 AC	2,934 DU		4.2 DU/AC

ZONING	ACREAGE	PRODUCT	** UNITS
GROSS ACREAGE	156.33 AC.		
NET ACREAGE	147.69 AC.		
FOCAL FEATURE	1.11 AC.		
PARCEL OPEN SPACE	2.99 AC.		
MISC/ROAD	21.90 AC.		
PARCEL	ACREAGE	PRODUCT	** UNITS
PARCEL 1	20.28 AC.	50'x120'	84 D.U.
PARCEL 2	23.00 AC.	50'x120'	95 D.U.
PARCEL 3	20.65 AC.	45'x115'	96 D.U.
PARCEL 4A	23.17 AC.	45'x115'	118 D.U.
PARCEL 14	18.04 AC.	55'x125'	60 D.U.
PARCEL 15	25.19 AC.	55'x125'	93 D.U.
45'x115' LOT	43.82 AC.	45'x115'	214 D.U.
50'x120' LOT	43.28 AC.	50'x120'	179 D.U.
55'x125' LOT	43.23 AC.	55'x125'	153 D.U.
PHASE 1 PARCEL TOTAL	130.33 AC.		546 D.U.

ZONING	ACREAGE	PRODUCT	** UNITS
GROSS ACREAGE	193.42 AC.		
NET ACREAGE	190.30 AC.		
PARK	9.87 AC.		
PARCEL OPEN SPACE	1.02 AC.		
MISC/ROAD	31.41 AC.		
PARCEL	ACREAGE	PRODUCT	** UNITS
PARCEL 16	23.28 AC.	50'x120'	97 D.U.
PARCEL 17	28.74 AC.	50'x120'	113 D.U.
PARCEL 18	21.91 AC.	55'x125'	82 D.U.
PARCEL 19	23.93 AC.	55'x125'	84 D.U.
PARCEL 25	27.03 AC.	45'x115'	132 D.U.
PARCEL 26	26.23 AC.	45'x115'	121 D.U.
45'x115' LOT	53.26 AC.	45'x115'	253 D.U.
50'x120' LOT	52.02 AC.	50'x120'	210 D.U.
55'x125' LOT	45.84 AC.	55'x125'	176 D.U.
PHASE 2 PARCEL TOTAL	151.12 AC.		639 D.U.

ZONING	ACREAGE	PRODUCT	** UNITS
GROSS ACREAGE	155.22 AC.		
NET ACREAGE	149.88 AC.		
SCHOOL	10.05 AC.		
PARCEL OPEN SPACE	3.11 AC.		
MISC/ROAD	20.53 AC.		
PARCEL	ACREAGE	PRODUCT	** UNITS
PARCEL 4B	17.15 AC.	45'x115'	82 D.U.
PARCEL 9	23.15 AC.	45'x115'	100 D.U.
PARCEL 10	21.77 AC.	50'x120'	82 D.U.
PARCEL 11	28.11 AC.	55'x125'	101 D.U.
PARCEL 21	31.35 AC.	50'x120'	130 D.U.
45'x115' LOT	40.30 AC.	45'x115'	182 D.U.
50'x120' LOT	53.12 AC.	50'x120'	212 D.U.
55'x125' LOT	28.11 AC.	55'x125'	101 D.U.
PHASE 3 PARCEL TOTAL	121.53 AC.		495 D.U.

ZONING	ACREAGE	PRODUCT	** UNITS
GROSS ACREAGE	123.46 AC.		
NET ACREAGE	117.63 AC.		
PARCEL OPEN SPACE	3.11 AC.		
MISC/ROAD	16.26 AC.		
PARCEL	ACREAGE	PRODUCT	** UNITS
PARCEL 20	28.80 AC.	50'x120'	129 D.U.
PARCEL 22	29.57 AC.	55'x125'	119 D.U.
PARCEL 23	24.33 AC.	45'x115'	127 D.U.
PARCEL 24	21.39 AC.	45'x115'	117 D.U.
45'x115' LOT	45.72 AC.	45'x115'	244 D.U.
50'x120' LOT	28.80 AC.	50'x120'	129 D.U.
55'x125' LOT	29.57 AC.	55'x125'	119 D.U.
PHASE 4 PARCEL TOTAL	104.09 AC.		492 D.U.

DESIGNATED FLOOD ZONE

FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA) FLOOD INSURANCE RATE MAP (FIRM) COVERAGE FOR THE SITE IS PROVIDED ON FIRM PANEL 04021C1125E (FEMA, DECEMBER 4, 2007). ACCORDING TO THIS FIRM THE SITE RESIDES ENTIRELY WITHIN FLOOD HAZARD ZONE X. FEMA DEFINES ZONE X AS FOLLOWS: "AREAS OF 500-YEAR FLOOD; AREAS OF 100-YEAR FLOOD WITH AVERAGE DEPTHS OF LESS THAN 1 FOOT OR WITH DRAINAGE AREAS LESS THAN 1 SQUARE MILE; AND AREAS PROTECTED BY LEVEES FROM 100-YEAR FLOOD."

ZONING	ACREAGE	PRODUCT	** UNITS
GROSS ACREAGE	75.62 AC.		
NET ACREAGE	67.71 AC.		
PARCEL OPEN SPACE	1.88 AC.		
MISC/ROAD	6.14 AC.		
PARCEL	ACREAGE	PRODUCT	** UNITS
PARCEL 5	15.90 AC.	MU	150 D.U.
PARCEL 6	17.68 AC.	MU	166 D.U.
PARCEL 8	16.97 AC.	MF	446 D.U.
PARCEL 7	17.05 AC.	COMM	
MIXED USE	50.55 AC.		762 D.U.
COMMERCIAL	17.05 AC.		
PHASE 5 PARCEL TOTAL	67.60 AC.		762 D.U.

ZONING	ACREAGE	PRODUCT	** UNITS
GROSS ACREAGE	704.05 AC.		4,17 D.U./AC.
NET ACREAGE	673.2 AC.		
COMMERCIAL	17.05 AC.		
SCHOOL	10.05 AC.		
MISC/ROAD	96.24 AC.		
WASH AREA	27.89 AC.		
FOCAL FEATURE	9.91 AC.		
PARK	9.87 AC.		
PERIMETER OPEN SPACE	7.40 AC.		
PARCEL OPEN SPACE	63.53 AC.		
* OVERALL OPEN SPACE	109.60 AC.		18.10%
USE	ACREAGE	PRODUCT	** UNITS
45'x115' LOT	183.10 AC.	45'x115'	893 D.U.
50'x120' LOT	177.22 AC.	50'x120'	730 D.U.
55'x125' LOT	146.75 AC.	55'x125'	549 D.U.
PARCEL TOTAL	507.07 AC.		2172 D.U.
MIXED USE	50.55 AC.		762 D.U.
OVERALL TOTAL	557.62 AC.		*** 2934 D.U.

* OVERALL OPEN SPACE PERCENTAGE BASED OFF OF NET AREA MINUS COMMERCIAL AND MIXED USE AREAS.
 ** QUANTITY OF UNITS PER LOT SIZE, TYPE, PARCEL AND PHASE MAY INCREASE OR DECREASE, SO LONG AS THE OVERALL UNIT TOTAL IS NOT EXCEEDED.
 *** OVERALL UNIT TOTAL

SITE SUMMARY TABLE

GROSS ACREAGE: 704.05 AC.
 EXISTING ZONING: CR-3 PAD, CR-4 PAD, CR-5 PAD, CB-1 PAD, SR PAD
 EXISTING LAND USE: MLDR
 CASE NUMBER: PZ-006-21/PZ-PD-006-21

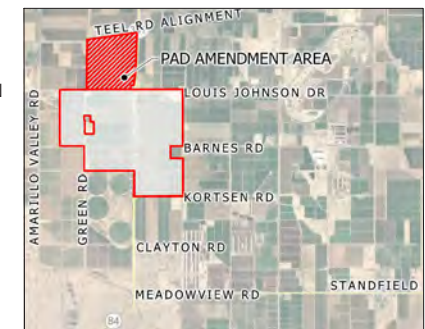
REQUEST

PAD AMENDMENT WITH ZONING CHANGE- R-7 PAD, MR PAD, MD PAD, C-1 PAD

LAND USE TABLE

TOTAL GROSS ACREAGE: 704.05 AC.
 TOTAL OPEN SPACE: 109.60 AC.
 MAXIMUM PROPOSED DWELLING UNITS: 2,934
 MAXIMUM PROPOSED DENSITY: 4.17 D.U./AC.

VICINITY MAP



UTILITIES

TELEPHONE: CENTURY LINK/ COX COMMUNICATIONS
 CABLE TV: CENTURY LINK/ COX COMMUNICATIONS
 WASTEWATER: GLOBAL WATER SANTA CRUZ WATER COMPANY (GW-SCWC)
 WATER: GLOBAL WATER SANTA CRUZ WATER COMPANY (GW-SCWC)

NATURAL GAS: SOUTHWEST GAS CORPORATION
 SCHOOLS: JO COMBS UNIFIED SCHOOL DISTRICT #44
 ELECTRIC: ELECTRICAL DISTRICT NUMBER 3 (ED3)
 FIRE/ EMERGENCY RESPONSE: RURAL METRO FIRE AND EMERGENCY SERVICES

Exhibit 5: Conceptual Site Plan



LEGEND

Amendment Area Open Space Table				
*Net Acreage	620.58 Ac.			
Description	Required (%)	Required (Acreage)	Provided (%)	Provided (Acreage)
Neighborhood Park (Active Recreational)				** 9.87 Ac.
Pocket Park (Active Recreational)				** 7.24 Ac.
Trail Areas (Active Recreational)				** 26.33 Ac.
Total Active Recreational Open Space	7.00%	** 43.44 Ac.	7.00%	43.44 Ac.
Passive Open Space	11.00%	68.26	11.00%	68.26 Ac.
Total Open Space	18.00%	111.70 Ac.	18.00%	111.70 Ac.






*NET ACREAGE BASED OFF OF TOTAL ACREAGE MINUS COMMERCIAL AREA AND MIXED-USE AREA FOR OPEN SPACE CALCULATIONS. ANY PORTIONS OF MIXED-USE AREA DEVELOPED AS RESIDENTIAL OR NON-RESIDENTIAL, SHALL CONFORM WITH PINAL COUNTY REQUIRED OPEN SPACE PERCENTAGE
 **ACTIVE RECREATIONAL OPEN SPACE ACREAGE MAY INCREASE OR DECREASE BETWEEN CATEGORIES, SO LONG AS THE TOTAL REQUIRED ACTIVE RECREATIONAL OPEN SPACE IS PROVIDED.
 *Passive open space is defined as all areas that are not classified as active open space.

Exhibit 6: Open Space Plan





LEGEND

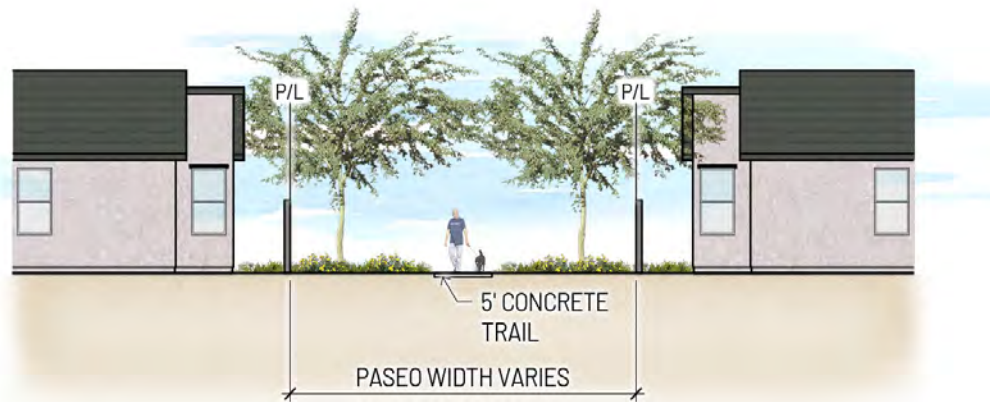
-  5' SIDEWALK
-  6' SIDEWALK
-  5' CONCRETE TRAIL
-  5' PERIMETER TRAIL
-  CONCEPTUAL TRAIL SECTION LOCATIONS

NOTE: REFERENCE EXHIBITS 14-15: CONCEPTUAL TRAIL SECTIONS FOR DETAILED CROSS SECTIONS

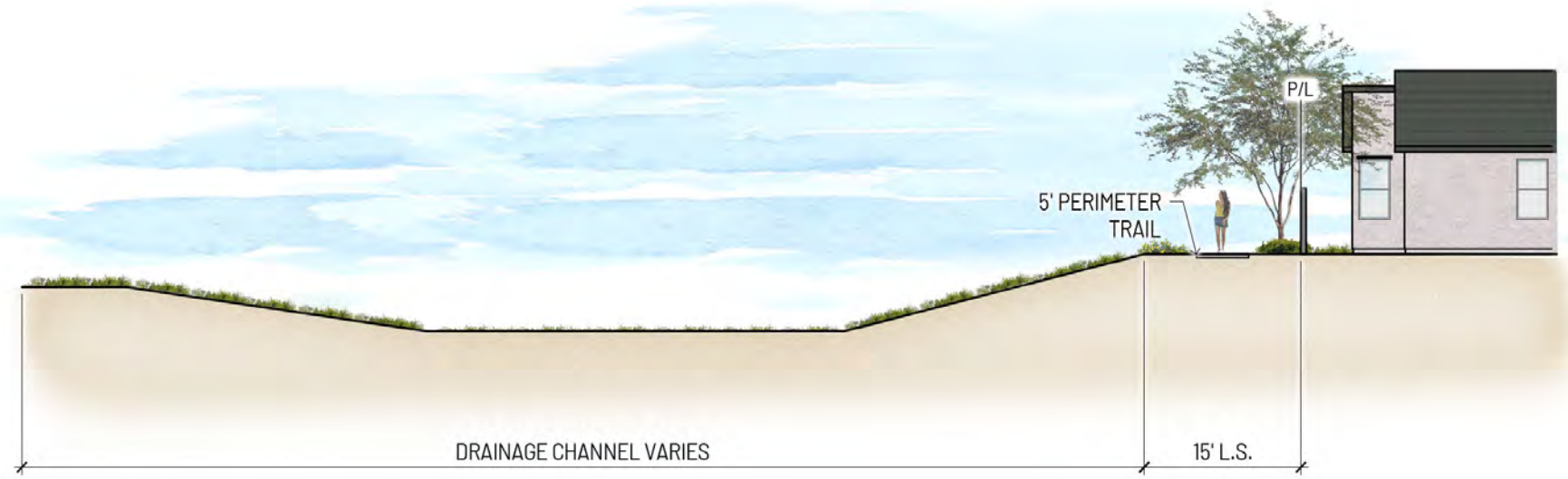
NOTE: FOR DETAILED STREET CROSS SECTIONS SEE STREET SECTIONS EXHIBIT

Exhibit 7: Conceptual Circulation and Trails Plan

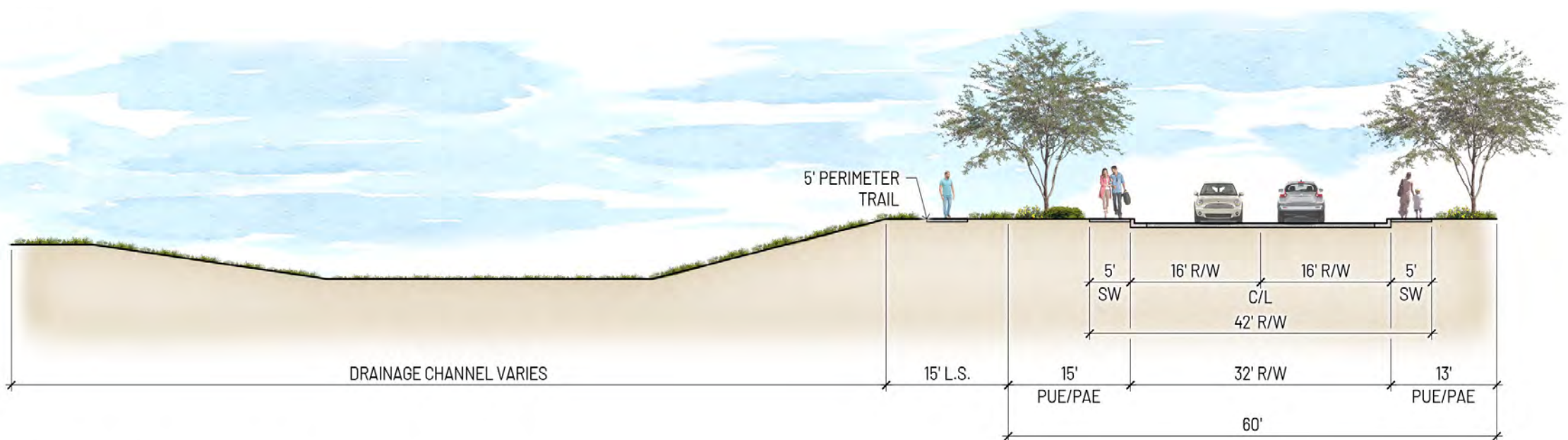




1 Concrete Trail Within Paseo
SCALE: 1"=10'-0"



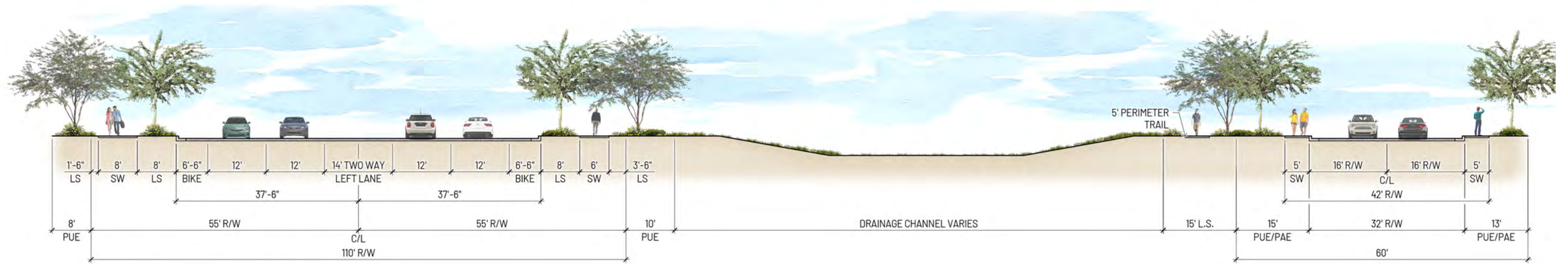
2 North Perimeter Trail Adjacent to Home
SCALE: 1"=10'-0"



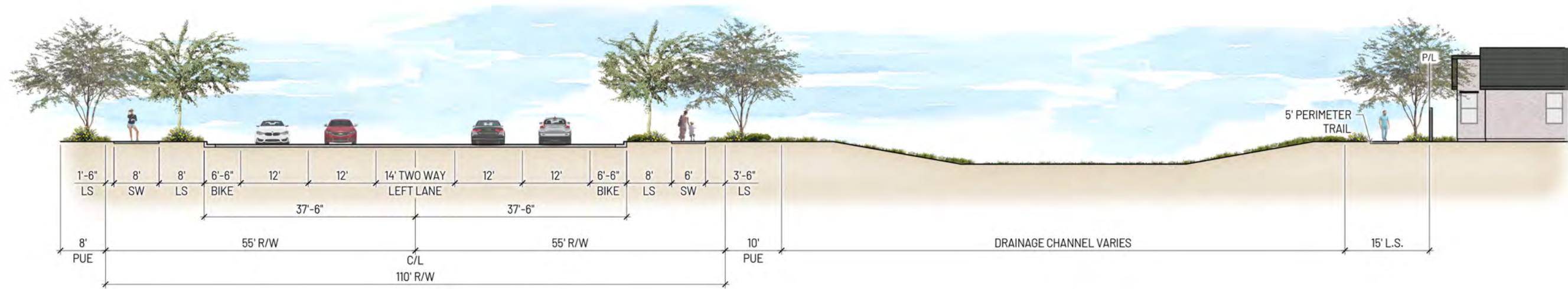
3 North Perimeter Trail Adjacent to Road
SCALE: 1"=10'-0"

Exhibit 10: Conceptual Trail Sections 1-3



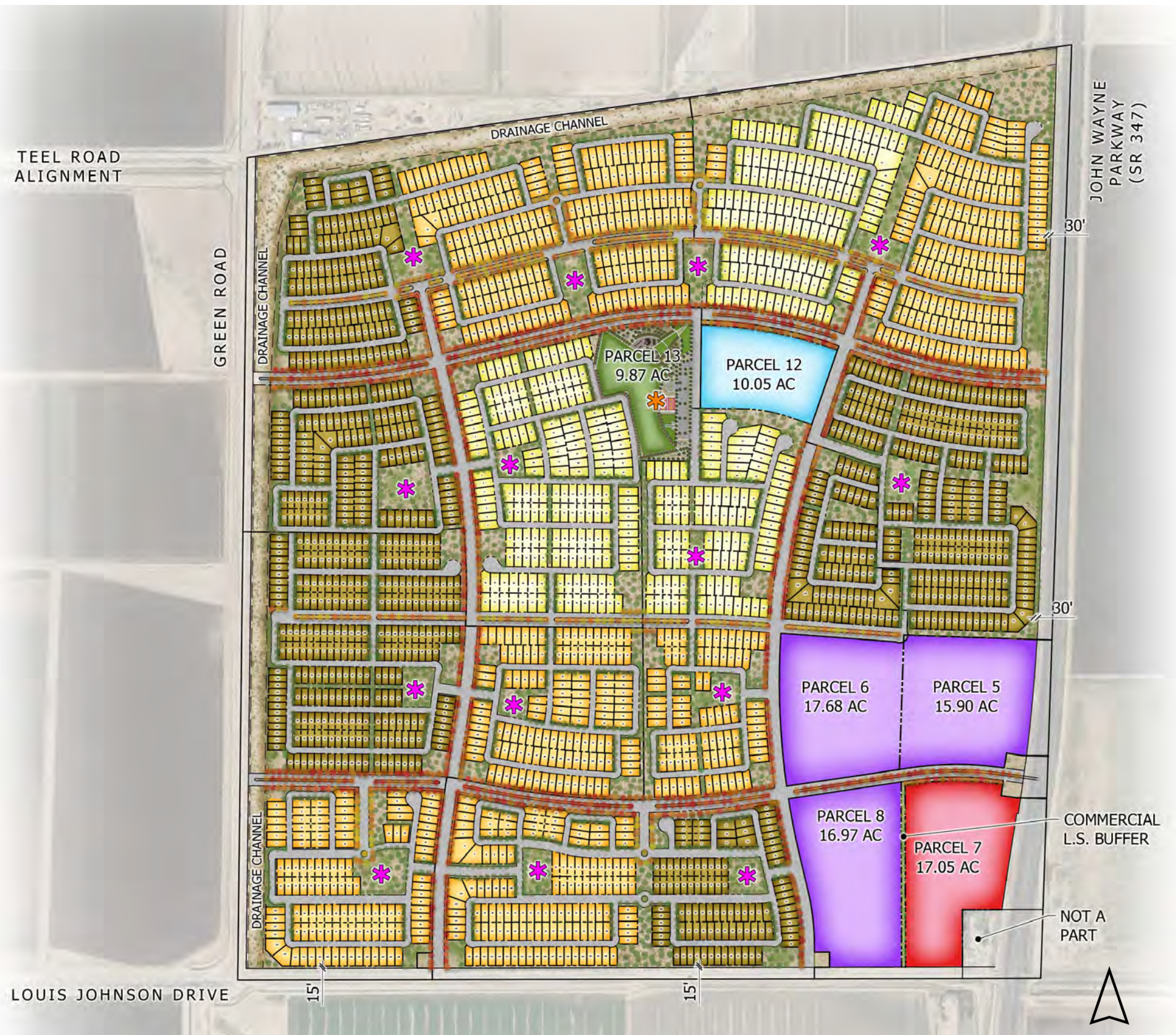


4 West Perimeter Trail Adjacent to Road
SCALE: 1"=10'-0"





5 West Perimeter Trail Adjacent to Home
SCALE: 1"=10'-0"




Exhibit 11: Conceptual Trail Sections 4-5



LEGEND

- 

15 GALLON -24" BOX
- CANOPY AND ORNAMENTAL TREES
TREES TO BE SELECTED AND PLANTED PER ANA STANDARDS
- 

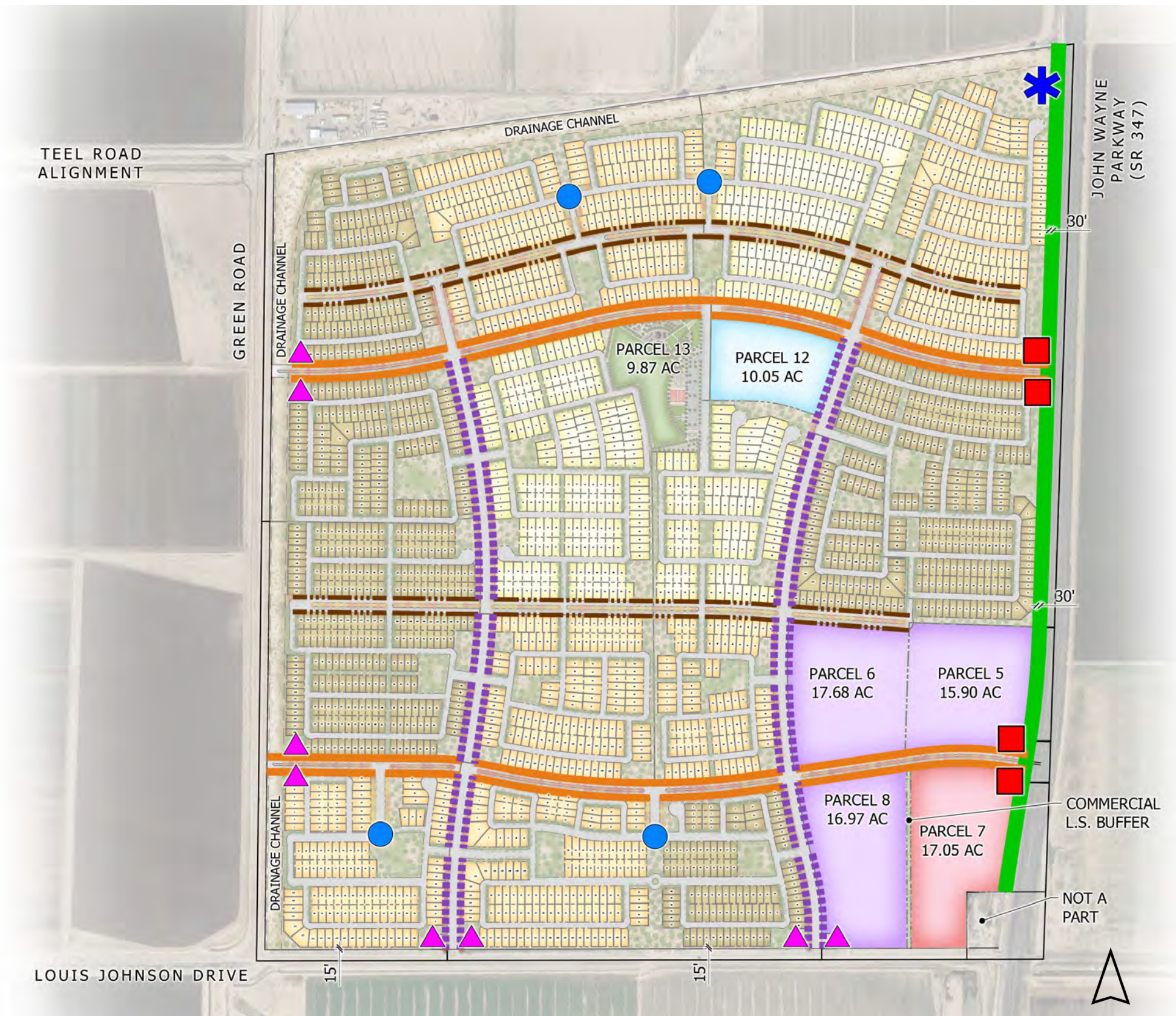
1-5 GALLON
- SHRUBS AND GROUNDCOVER
SHRUB DENSITY PER PINAL COUNTY STANDARDS
ALL LANDSCAPE AREAS TO RECEIVE 2" COVER OF DECOMPOSED GRANITE
- 
- TURF
MID-IRON SOD
- 
- NEIGHBORHOOD PARK - SEE EXHIBIT 21: NEIGHBORHOOD PARK FOR CONCEPTUAL LIST OF AMENITIES
- 
- POCKET PARK - SEE EXHIBITS 22-23: CONCEPTUAL POCKET PARK VIGNETTES FOR CONCEPTUAL LIST OF AMENITIES

NOTE:
PLEASE REFER TO THE MASTER PLANT PALETTE IN THE PAD FOR A COMPLETE LIST OF PROPOSED PLANT MATERIALS

- PLANTING NOTES:**
- ALL FIVE (5) GALLON SHRUBS SHALL BE PLANTED AT A RATE OF FIVE SHRUBS PER 30 FEET OF LINEAR STREET FRONTAGE
 - FIVE (5) GALLON SHRUBS WITHIN RECREATION AREAS SHALL BE PLANTED AT A RATE OF SEVEN (7) SHRUBS PER 1,000 SQUARE FEET OF SURFACE AREA PROVIDED
 - THE MINIMUM NUMBER OF TREES REQUIRED SHALL BE PLANTED PER THE OPEN SPACE AND RECREATION AREA MANUAL
 - TWENTY-FIVE PERCENT (25%) OF THE TREES REQUIRED SHALL BE AT LEAST 24" BOX SIZE
 - DECORATIVE DESIGN ELEMENTS SUCH AS BENCHES AND PAVING ACCENTS SHALL BE PROVIDED WHERE APPROPRIATE TO ENHANCE THE OPEN SPACE AREAS
 - NO WASH CORRIDORS OR NATURAL FEATURES EXIST WITHIN THE SITE
 - A VEGETATIVE SALVAGE PLAN DOES NOT EXIST FOR THE SITE AS IT IS EXISTING FARMLAND
 - THERE IS NO CONSERVATION OPEN SPACE WITHIN THE SITE OR VICINITY
 - LOCATION OF TREES AND SHRUBS SHALL BE PROVIDED DURING THE CONSTRUCTION DOCUMENTATION PROCESS AND SHALL MEET THE MINIMUM STANDARDS AND SPECIFICATIONS OF THE ARIZONA NURSERYMAN'S ASSOCIATION OR ARIZONA ASSOCIATION OF NURSERYMEN
 - RIPARIAN VEGETATION AND BIOLOGICAL HABITATS ARE NOT PRESENT ON THE SITE
 - A MINIMUM OF 25% OF EACH RECREATION AREA WILL SHALL BE DRY AND NOT USED AS RETENTION/DETENTION

Exhibit 12: Conceptual Landscape Plan





LEGEND









-  REGIONAL ENTRY MONUMENT
-  PRIMARY ENTRY MONUMENT
-  SECONDARY ENTRY MONUMENT
-  MAJOR ROUNDABOUT CHARACTER
-  PARKWAY CHARACTER
-  MAJOR COLLECTOR A CHARACTER
-  MAJOR COLLECTOR B CHARACTER
-  LOCAL CHARACTER

Exhibit 13: Conceptual Landscape Character



LEGEND

- | | |
|--------------------------------------|--------------------------|
| ① TURF / RETENTION | ⑧ PARK ENTRY PLAZA |
| ② MULTI-USE SPORTS FIELD | ⑨ TOT LOT PLAY STRUCTURE |
| ③ BASKETBALL COURT | ⑩ RAMADA AT TOT LOT |
| ④ DOG PARK - LARGE & SMALL DOG AREAS | ⑪ TURF AMPHITHEATER |
| ⑤ PICNIC AREA W/COVERED SHADE | ⑫ TREE GROVE |
| ⑥ PARKING LOT | ⑬ CONCRETE SIDEWALK |
| ⑦ DROPOFF | |



Exhibit 14: Neighborhood Park



LEGEND

- ① PLAY STRUCTURE - MULTI-AGE
- ② LOW SCREEN WALLS IN LANDSCAPE
- ③ COVERED RAMADA
- ④ TREE LINED SIDEWALKS
- ⑤ CONCRETE WALK THROUGH OPEN SPACE
- ⑥ TURF AREA / RETENTION

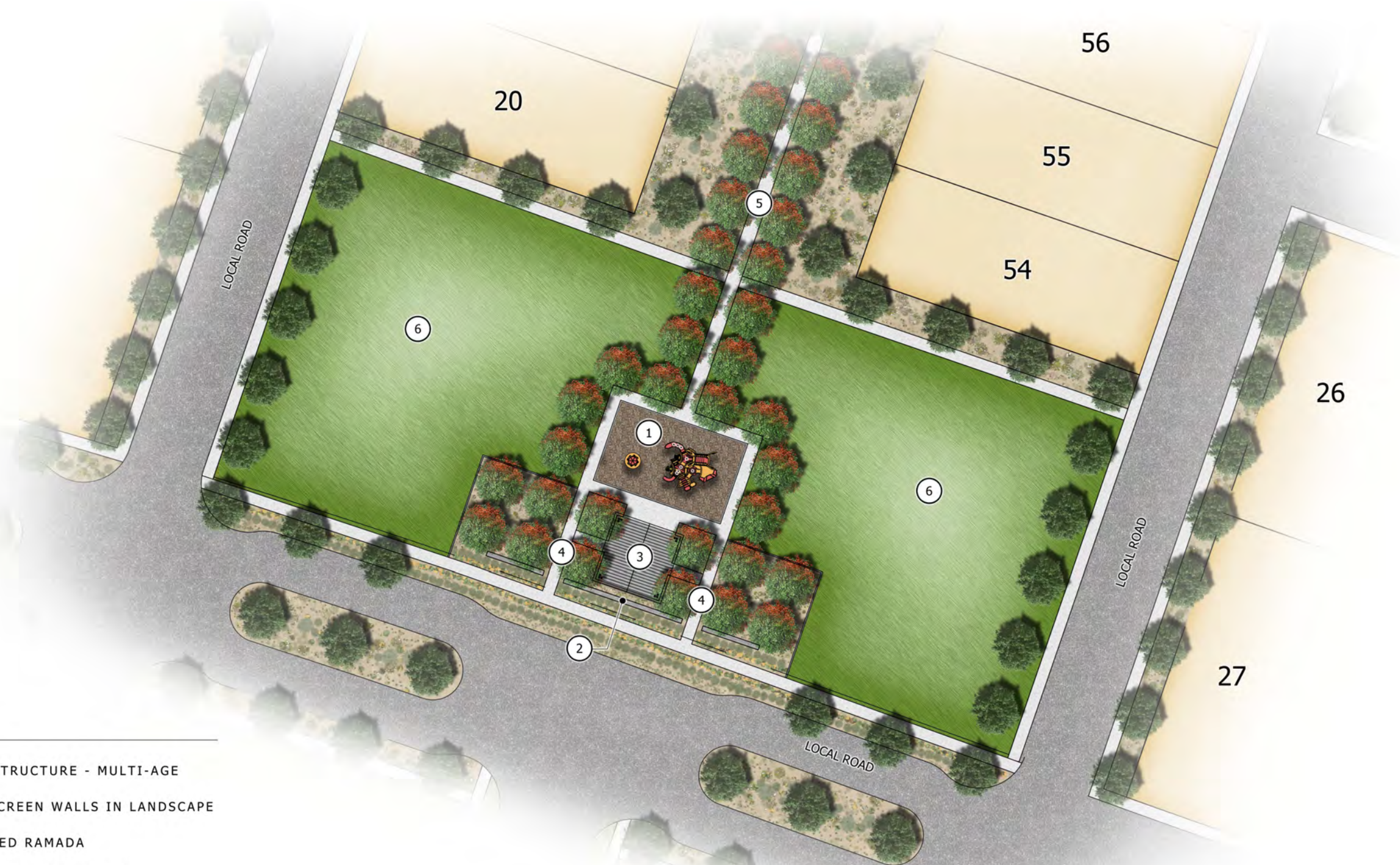
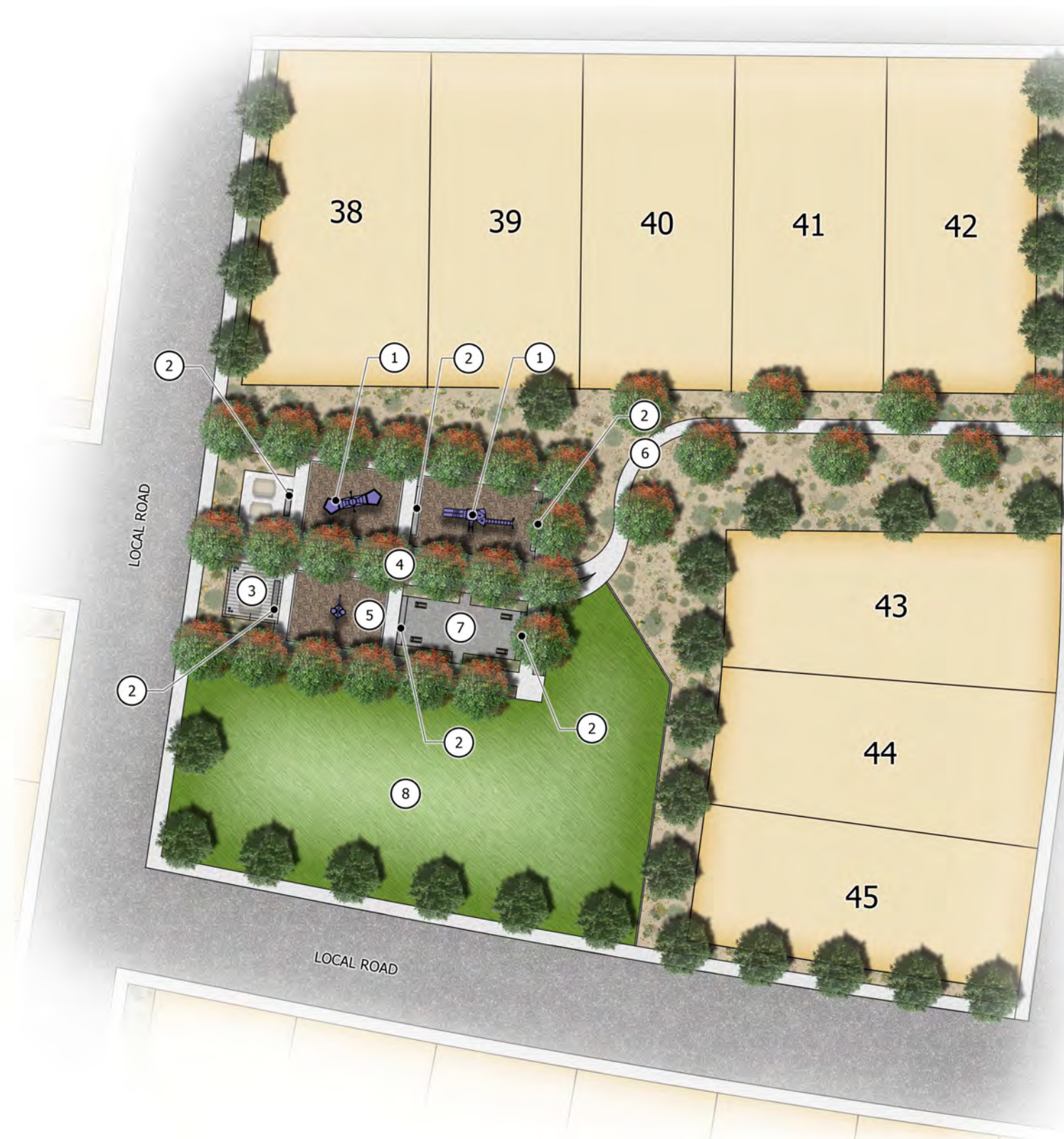


Exhibit 15: Conceptual Pocket Park Vignette 1



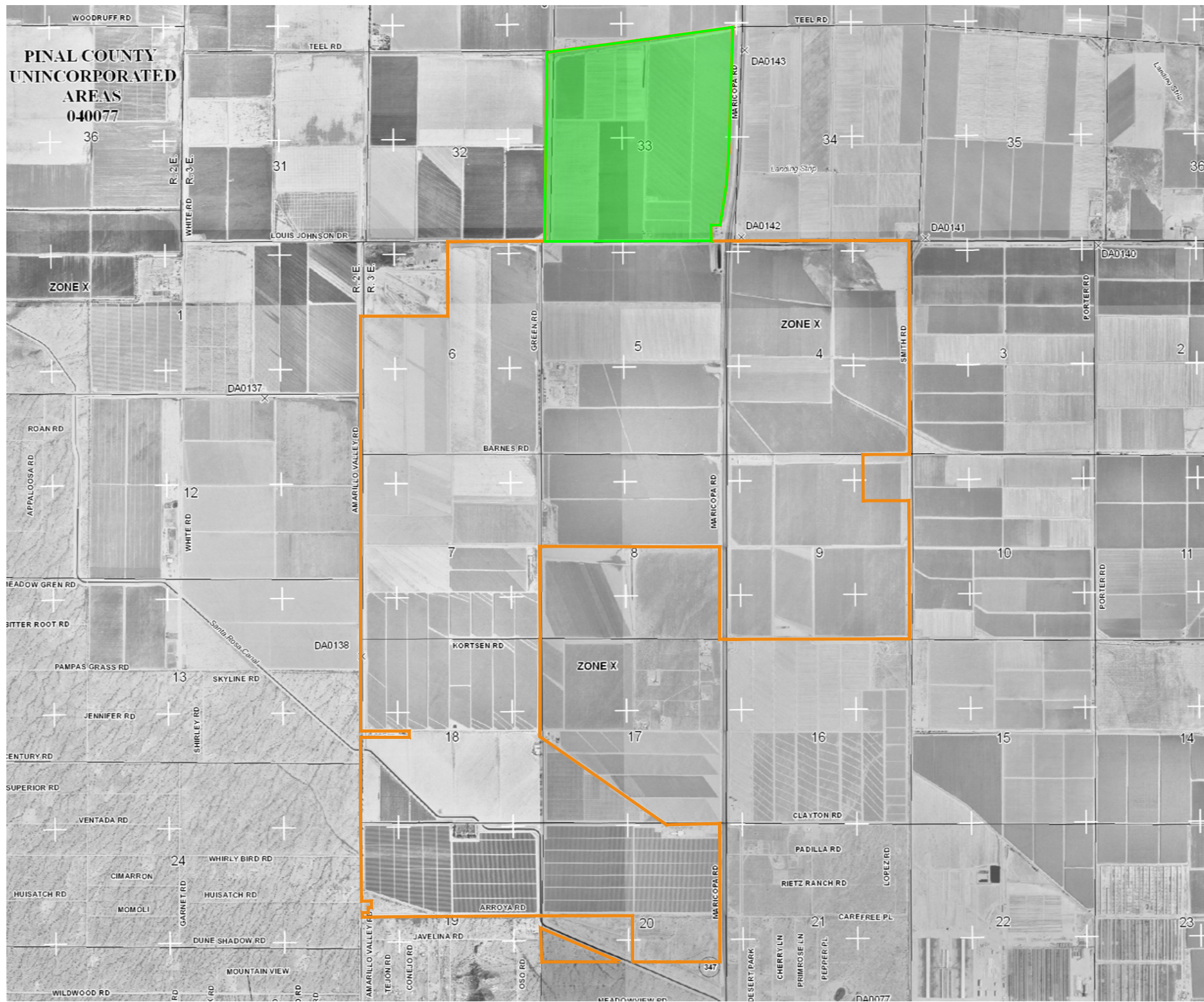


LEGEND

- ① PLAY STRUCTURE - MULTI-AGE
- ② SEAT WALLS
- ③ COVERED RAMADA
- ④ TREE LINED SIDEWALKS
- ⑤ SWING SET
- ⑥ CONCRETE WALK THROUGH OPEN SPACE
- ⑦ BAG TOSS COURT
- ⑧ TURF AREA / RETENTION

Exhibit 16: Conceptual Pocket Park Vignette 2





NFP PANEL 1125E

FIRM
FLOOD INSURANCE RATE MAP
PINAL COUNTY,
ARIZONA
AND INCORPORATED AREAS

PANEL 1125 OF 2575
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
PINAL COUNTY UNINCORPORATED AREAS	040077	1125	E


Notice to User: The Map Number shown below should be used when placing map orders. The Community Number shown above should be used on insurance applications for the subject community.


MAP NUMBER
04021C1125E

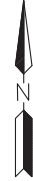
EFFECTIVE DATE
DECEMBER 4, 2007

Federal Emergency Management Agency

LEGEND

MIDWAY BOUNDARY 

PHASE 1 BOUNDARY 



3000 1500 0 3000
SCALE FEET

HILGARTWILSON
2141 E. HIGHLAND AVE., STE. 250
PHOENIX, AZ 85016
P: 602.490.0535 / F: 602.368.2436

MIDWAY - PHASE 1
PINAL COUNTY, ARIZONA

FIG 2: FEMA FLOOD MAP

PROJ. NO.: 2232
DATE: JUL 2021
SCALE: 1" = 3,000'
DRAWN BY: SL
CHECKED BY: AT

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U:\2200\2232\2232.01 Tres Points LLC\REPORTS\DRAINAGE\Master Drainage Report - Midway Phase 1\Exhibit\2232 FIG 2 - FEMA Flood Map.dwg 7/12/2021 2:50 PM

Appendix 1: FEMA Flood Map



Arizona Environmental Online Review Tool Report



Arizona Game and Fish Department Mission

To conserve Arizona's diverse wildlife resources and manage for safe, compatible outdoor recreation opportunities for current and future generations.

Project Name:

Midway

User Project Number:

PZ-006-21/PZ-PD-006-21

Project Description:

Building a master planned community that will include single and multi-family housing as well as some small commercial areas. The maximum proposed dwelling units is 2,941.

Project Type:

Development Outside Municipalities (Rural Development), Residential subdivision and associated infrastructure, New construction

Contact Person:

Paula Wheeler

Organization:

ABLA

On Behalf Of:

PINAL

Project ID:

HGIS-14901

Please review the entire report for project type and/or species recommendations for the location information entered. Please retain a copy for future reference.

Disclaimer:

1. This Environmental Review is based on the project study area that was entered. The report must be updated if the project study area, location, or the type of project changes.
2. This is a preliminary environmental screening tool. It is not a substitute for the potential knowledge gained by having a biologist conduct a field survey of the project area. This review is also not intended to replace environmental consultation (including federal consultation under the Endangered Species Act), land use permitting, or the Departments review of site-specific projects.
3. The Departments Heritage Data Management System (HDMS) data is not intended to include potential distribution of special status species. Arizona is large and diverse with plants, animals, and environmental conditions that are ever changing. Consequently, many areas may contain species that biologists do not know about or species previously noted in a particular area may no longer occur there. HDMS data contains information about species occurrences that have actually been reported to the Department. Not all of Arizona has been surveyed for special status species, and surveys that have been conducted have varied greatly in scope and intensity. Such surveys may reveal previously undocumented population of species of special concern.
4. HabiMap Arizona data, specifically Species of Greatest Conservation Need (SGCN) under our State Wildlife Action Plan (SWAP) and Species of Economic and Recreational Importance (SERI), represent potential species distribution models for the State of Arizona which are subject to ongoing change, modification and refinement. The status of a wildlife resource can change quickly, and the availability of new data will necessitate a refined assessment.

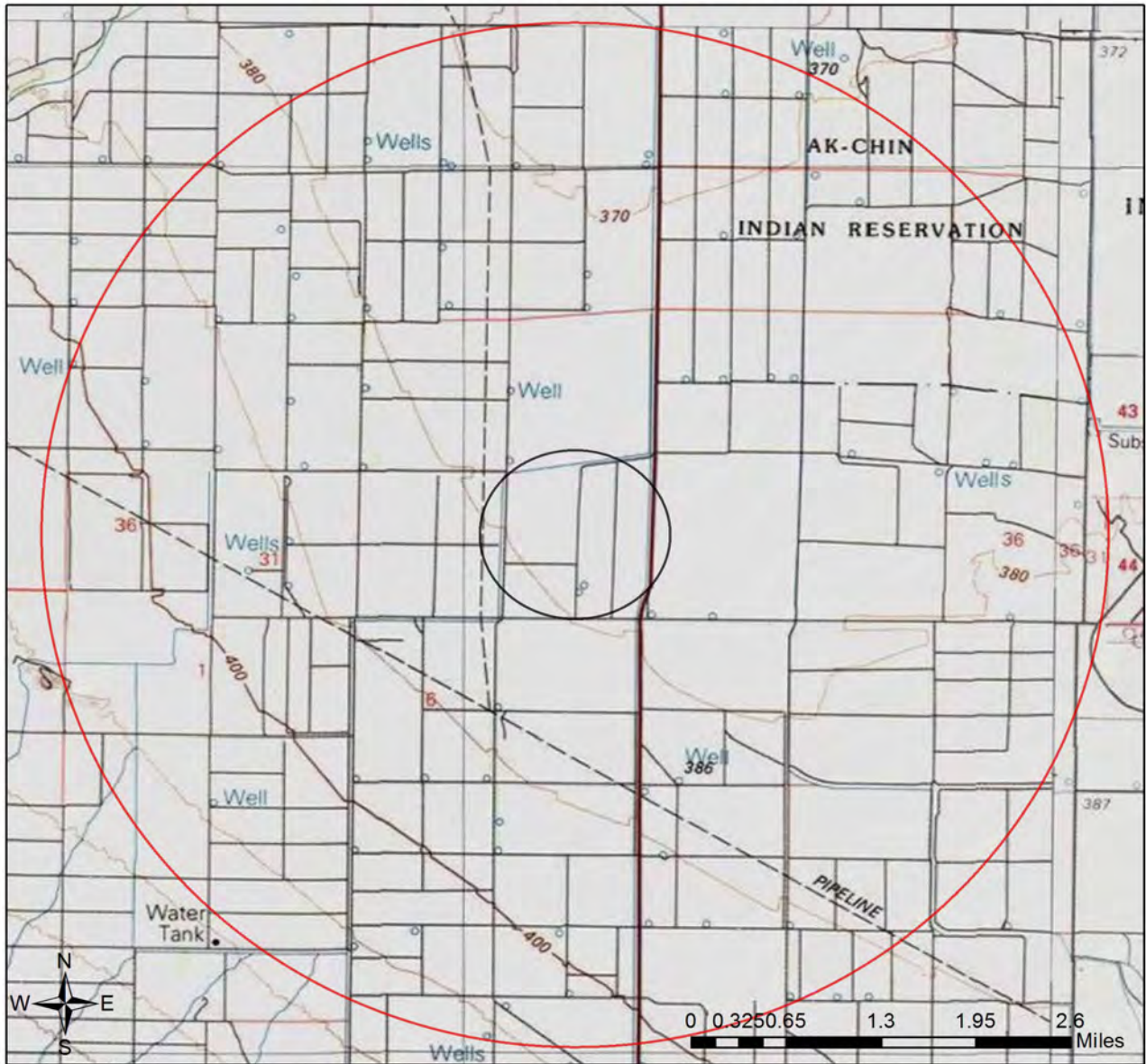
Locations Accuracy Disclaimer:

Project locations are assumed to be both precise and accurate for the purposes of environmental review. The creator/owner of the Project Review Report is solely responsible for the project location and thus the correctness of the Project Review Report content.

Recommendations Disclaimer:

1. The Department is interested in the conservation of all fish and wildlife resources, including those species listed in this report and those that may have not been documented within the project vicinity as well as other game and nongame wildlife.
2. Recommendations have been made by the Department, under authority of Arizona Revised Statutes Title 5 (Amusements and Sports), 17 (Game and Fish), and 28 (Transportation).
3. Potential impacts to fish and wildlife resources may be minimized or avoided by the recommendations generated from information submitted for your proposed project. These recommendations are preliminary in scope, designed to provide early considerations on all species of wildlife.
4. Making this information directly available does not substitute for the Department's review of project proposals, and should not decrease our opportunity to review and evaluate additional project information and/or new project proposals.
5. Further coordination with the Department requires the submittal of this Environmental Review Report with a cover letter and project plans or documentation that includes project narrative, acreage to be impacted, how construction or project activity(s) are to be accomplished, and project locality information (including site map). Once AGFD had received the information, please allow 30 days for completion of project reviews. Send requests to:
Project Evaluation Program, Habitat Branch
Arizona Game and Fish Department
5000 West Carefree Highway
Phoenix, Arizona 85086-5000
Phone Number: (623) 236-7600
Fax Number: (623) 236-7366
Or
PEP@azgfd.gov
6. Coordination may also be necessary under the National Environmental Policy Act (NEPA) and/or Endangered Species Act (ESA). Site specific recommendations may be proposed during further NEPA/ESA analysis or through coordination with affected agencies

Midway USA Topo Basemap With Locator Map



- Project Boundary
- Buffered Project Boundary

Project Size (acres): 775.77

Lat/Long (DD): 32.9481 / -112.0571

County(s): Pinal

AGFD Region(s): Mesa; Yuma

Township/Range(s): T5S, R3E; T6S, R3E

USGS Quad(s): ANTELOPE PEAK NE

Service Layer Credits: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap



Midway

Web Map As Submitted By User



- Project Boundary
- Buffered Project Boundary

Project Size (acres): 775.77
Lat/Long (DD): 32.9481 / -112.0571
County(s): Pinal
AGFD Region(s): Mesa; Yuma
Township/Range(s): T5S, R3E; T6S, R3E
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Midway Important Areas

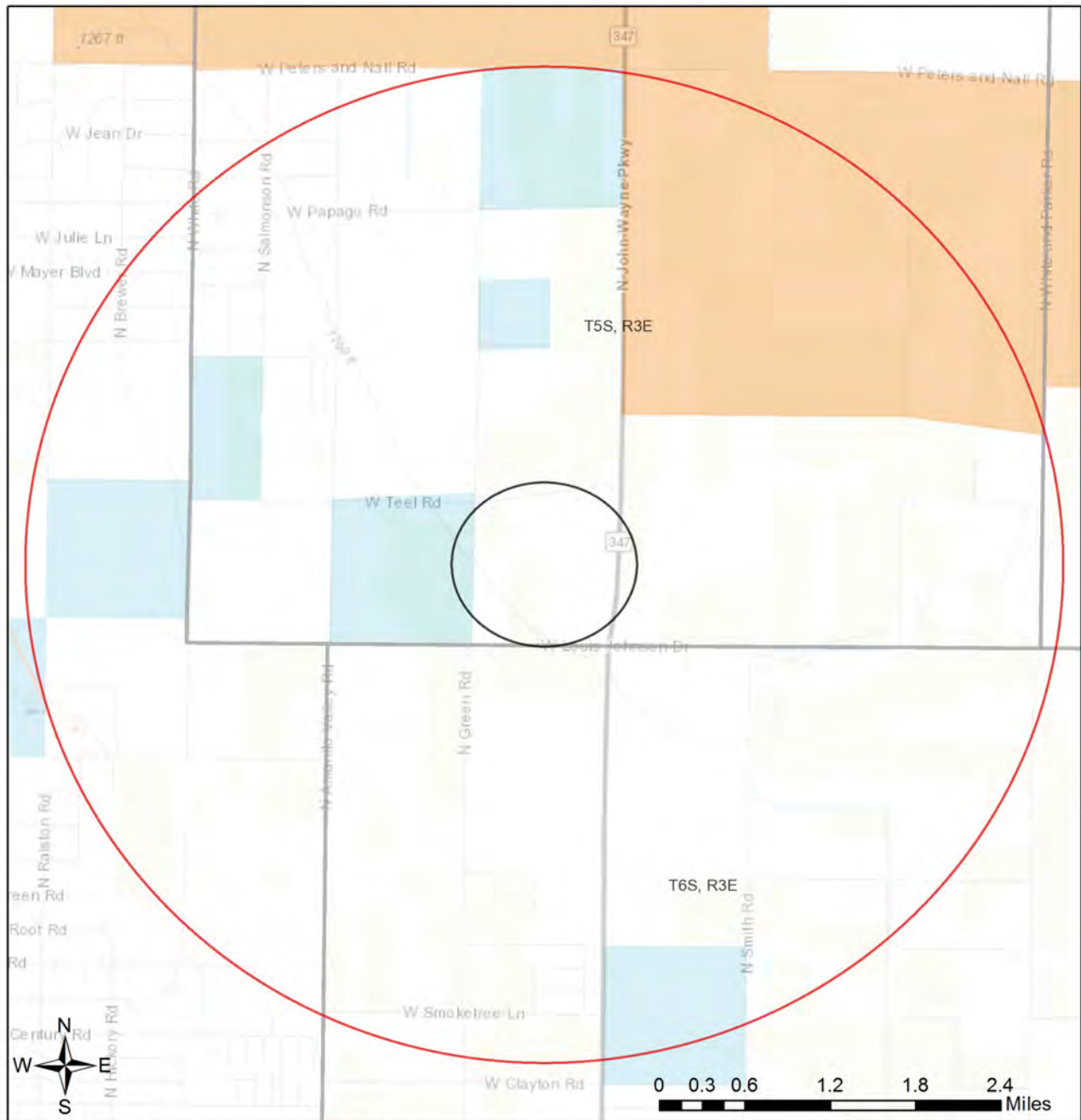


- Project Boundary
- Buffered Project Boundary
- Wildlife Connectivity
- Important Connectivity Zones
- Pinal County Riparian
- Critical Habitat
- Important Bird Areas

Project Size (acres): 775.77
 Lat/Long (DD): 32.9481 / -112.0571
 County(s): Pinal
 AGFD Region(s): Mesa; Yuma
 Township/Range(s): T5S, R3E; T6S, R3E
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Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

Midway Township/Ranges and Land Ownership



- | | |
|---------------------------|------------------------|
| Project Boundary | Military |
| Buffered Project Boundary | Mixed/Other |
| Township/Ranges | National Park/Mon. |
| Land Ownership | |
| AZ Game & Fish Dept. | State & Regional Parks |
| BLM | State Trust |
| BOR | US Forest Service |
| Indian Res. | Wildlife Area/Refuge |

Project Size (acres): 775.77
 Lat/Long (DD): 32.9481 / -112.0571
 County(s): Pinal
 AGFD Region(s): Mesa; Yuma
 Township/Range(s): T5S, R3E; T6S, R3E
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Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

No Documented Occurrences of Special Status Species

No special status species were documented as occurring within the project vicinity; however, further field investigations of the project area are highly recommended. Site visits may reveal previously unrecorded resources of special concern in locations where they are currently undocumented.

Special Areas Documented that Intersect with Project Footprint as Drawn

Scientific Name	Common Name	FWS	USFS	BLM	NPL	SGCN
Riparian Area	Riparian Area					

Note: Status code definitions can be found at <https://www.azgfd.com/wildlife/planning/wildlifeguidelines/statusdefinitions/>

Species of Greatest Conservation Need Predicted that Intersect with Project Footprint as Drawn, based on Predicted Range Models

Scientific Name	Common Name	FWS	USFS	BLM	NPL	SGCN
<i>Ammospermophilus harrisi</i>	Harris' Antelope Squirrel					1B
<i>Athene cunicularia hypugaea</i>	Western Burrowing Owl	SC	S	S		1B
<i>Buteo regalis</i>	Ferruginous Hawk	SC		S		1B
<i>Calypte costae</i>	Costa's Hummingbird					1C
<i>Chilomeniscus stramineus</i>	Variable Sandsnake					1B
<i>Colaptes chrysoides</i>	Gilded Flicker			S		1B
<i>Coluber bilineatus</i>	Sonoran Whipsnake					1B
<i>Corynorhinus townsendii pallescens</i>	Pale Townsend's Big-eared Bat	SC	S	S		1B
<i>Crotalus tigris</i>	Tiger Rattlesnake					1B
<i>Crotaphytus nebrius</i>	Sonoran Collared Lizard					1B
<i>Euderma maculatum</i>	Spotted Bat	SC	S	S		1B
<i>Eumops perotis californicus</i>	Greater Western Bonneted Bat	SC		S		1B
<i>Glaucidium brasilianum cactorum</i>	Cactus Ferruginous Pygmy-owl	SC	S	S		1B
<i>Gopherus morafkai</i>	Sonoran Desert Tortoise	C	S	S		1A
<i>Haliaeetus leucocephalus</i>	Bald Eagle	SC, BGA	S	S		1A
<i>Heloderma suspectum</i>	Gila Monster					1A
<i>Lasiurus xanthinus</i>	Western Yellow Bat		S			1B
<i>Leptonycteris yerbabuenae</i>	Lesser Long-nosed Bat	SC				1A
<i>Lepus alleni</i>	Antelope Jackrabbit					1B
<i>Macrotus californicus</i>	California Leaf-nosed Bat	SC		S		1B
<i>Melanerpes uropygialis</i>	Gila Woodpecker					1B
<i>Melospiza lincolni</i>	Lincoln's Sparrow					1B
<i>Melospiza aberti</i>	Abert's Towhee		S			1B
<i>Micrathene whitneyi</i>	Elf Owl					1C
<i>Micruroides euryxanthus</i>	Sonoran Coralsnake					1B
<i>Myiarchus tyrannulus</i>	Brown-crested Flycatcher					1C
<i>Myotis velifer</i>	Cave Myotis	SC		S		1B
<i>Myotis yumanensis</i>	Yuma Myotis	SC				1B

Species of Greatest Conservation Need Predicted that Intersect with Project Footprint as Drawn, based on Predicted Range Models

Scientific Name	Common Name	FWS	USFS	BLM	NPL	SGCN
Nyctinomops femorosaccus	Pocketed Free-tailed Bat					1B
Oreoscoptes montanus	Sage Thrasher					1C
Oreothlypis luciae	Lucy's Warbler					1C
Passerculus sandwichensis	Savannah Sparrow					1B
Perognathus longimembris	Little Pocket Mouse	No Status				1B
Phrynosoma goodei	Goode's Horned Lizard					1B
Phrynosoma solare	Regal Horned Lizard					1B
Progne subis hesperia	Desert Purple Martin			S		1B
Spizella breweri	Brewer's Sparrow					1C
Sturnella magna	Eastern Meadowlark					1C
Tadarida brasiliensis	Brazilian Free-tailed Bat					1B
Toxostoma lecontei	LeConte's Thrasher			S		1B
Vireo bellii arizonae	Arizona Bell's Vireo					1B
Vulpes macrotis	Kit Fox	No Status				1B

Species of Economic and Recreation Importance Predicted that Intersect with Project Footprint as Drawn

Scientific Name	Common Name	FWS	USFS	BLM	NPL	SGCN
Callipepla gambelii	Gambel's Quail					
Pecari tajacu	Javelina					
Puma concolor	Mountain Lion					
Zenaida asiatica	White-winged Dove					
Zenaida macroura	Mourning Dove					

Project Type: Development Outside Municipalities (Rural Development), Residential subdivision and associated infrastructure, New construction

Project Type Recommendations:

Fence recommendations will be dependant upon the goals of the fence project and the wildlife species expected to be impacted by the project. General guidelines for ensuring wildlife-friendly fences include: barbless wire on the top and bottom with the maximum fence height 42", minimum height for bottom 16". Modifications to this design may be considered for fencing anticipated to be routinely encountered by elk, bighorn sheep or pronghorn (e.g., Pronghorn fencing would require 18" minimum height on the bottom). Please refer to the Department's Fencing Guidelines located on Wildlife Friendly Guidelines page, which is part of the Wildlife Planning button at

<https://www.azgfd.com/wildlife/planning/wildlifeguidelines/>.

During the planning stages of your project, please consider the local or regional needs of wildlife in regards to movement, connectivity, and access to habitat needs. Loss of this permeability prevents wildlife from accessing resources, finding mates, reduces gene flow, prevents wildlife from re-colonizing areas where local extirpations may have occurred, and ultimately prevents wildlife from contributing to ecosystem functions, such as pollination, seed dispersal, control of prey numbers, and resistance to invasive species. In many cases, streams and washes provide natural movement corridors for wildlife and should be maintained in their natural state. Uplands also support a large diversity of species, and should be contained within important wildlife movement corridors. In addition, maintaining biodiversity and ecosystem functions can be facilitated through improving designs of structures, fences, roadways, and culverts to promote passage for a variety of wildlife. Guidelines for many of these can be found at: <https://www.azgfd.com/wildlife/planning/wildlifeguidelines/>.

Consider impacts of outdoor lighting on wildlife and develop measures or alternatives that can be taken to increase human safety while minimizing potential impacts to wildlife. Conduct wildlife surveys to determine species within project area, and evaluate proposed activities based on species biology and natural history to determine if artificial lighting may disrupt behavior patterns or habitat use. Use only the minimum amount of light needed for safety. Narrow spectrum bulbs should be used as often as possible to lower the range of species affected by lighting. All lighting should be shielded, canted, or cut to ensure that light reaches only areas needing illumination.

Minimize the potential introduction or spread of exotic invasive species, including aquatic and terrestrial plants, animals, insects and pathogens. Precautions should be taken to wash and/or decontaminate all equipment utilized in the project activities before entering and leaving the site. See the Arizona Department of Agriculture website for a list of prohibited and restricted noxious weeds at <https://www.invasivespeciesinfo.gov/unitedstates/az.shtml> and the Arizona Native Plant Society <https://aznps.com/invas> for recommendations on how to control. To view a list of documented invasive species or to report invasive species in or near your project area visit iMapInvasives - a national cloud-based application for tracking and managing invasive species at <https://imap.natureserve.org/imap/services/page/map.html>.

- To build a list: zoom to your area of interest, use the identify/measure tool to draw a polygon around your area of interest, and select "See What's Here" for a list of reported species. To export the list, you must have an account and be logged in. You can then use the export tool to draw a boundary and export the records in a csv file.

The construction or maintenance of water developments should include: incorporation of aspects of the natural environment and the visual resources, maintaining the water for a variety of species, water surface area (e.g., bats require a greater area due to in-flight drinking), accessibility, year-round availability, minimizing potential for water quality problems, frequency of flushing, shading of natural features, regular clean-up of debris, escape ramps, minimizing obstacles, and minimizing accumulation of silt and mud.

Minimization and mitigation of impacts to wildlife and fish species due to changes in water quality, quantity, chemistry, temperature, and alteration to flow regimes (timing, magnitude, duration, and frequency of floods) should be evaluated. Minimize impacts to springs, in-stream flow, and consider irrigation improvements to decrease water use. If dredging is a project component, consider timing of the project in order to minimize impacts to spawning fish and other aquatic species (include spawning seasons), and to reduce spread of exotic invasive species. We recommend early direct coordination with Project Evaluation Program for projects that could impact water resources, wetlands, streams, springs, and/or riparian habitats.

The Department recommends that wildlife surveys are conducted to determine if noise-sensitive species occur within the project area. Avoidance or minimization measures could include conducting project activities outside of breeding seasons.

Based on the project type entered, coordination with State Historic Preservation Office may be required (<http://azstateparks.com/SHPO/index.html>).

Trenches should be covered or back-filled as soon as possible. Incorporate escape ramps in ditches or fencing along the perimeter to deter small mammals and herptefauna (snakes, lizards, tortoise) from entering ditches.

Communities can actively support the sustainability and mobility of wildlife by incorporating wildlife planning into their regional/comprehensive plans, their regional transportation plans, and their open space/conservation land system programs. An effective approach to wildlife planning begins with the identification of the wildlife resources in need of protection, an assessment of important habitat blocks and connective corridors, and the incorporation of these critical wildlife components into the community plans and programs. Community planners should identify open spaces and habitat blocks that can be maintained in their area, and the necessary connections between those blocks to be preserved or protected. Community planners should also work with State and local transportation planning entities, and planners from other communities, to foster coordination and cooperation in developing compatible development plans to ensure wildlife habitat connectivity. The Department's guidelines for incorporating wildlife considerations into community planning and developments can be found on the Wildlife Friendly Guidelines portion of the Wildlife Planning page at <https://www.azgfd.com/wildlife/planning/wildlifeguidelines/>.

Design culverts to minimize impacts to channel geometry, or design channel geometry (low flow, overbank, floodplains) and substrates to carry expected discharge using local drainages of appropriate size as templates. Reduce/minimize barriers to allow movement of amphibians or fish (e.g., eliminate falls). Also for terrestrial wildlife, washes and stream corridors often provide important corridors for movement. Overall culvert width, height, and length should be optimized for movement of the greatest number and diversity of species expected to utilize the passage. Culvert designs should consider moisture, light, and noise, while providing clear views at both ends to maximize utilization. For many species, fencing is an important design feature that can be utilized with culverts to funnel wildlife into these areas and minimize the potential for roadway collisions. Guidelines for culvert designs to facilitate wildlife passage can be found on the home page of this application at <https://www.azgfd.com/wildlife/planning/wildlifeguidelines/>.

Based on the project type entered, coordination with Arizona Department of Environmental Quality may be required (<http://www.azdeq.gov/>).

Based on the project type entered, coordination with Arizona Department of Water Resources may be required (<https://new.azwater.gov/>).

Based on the project type entered, coordination with U.S. Army Corps of Engineers may be required (<http://www.usace.army.mil/>)

Based on the project type entered, coordination with County Flood Control district(s) may be required.

Development plans should provide for open natural space for wildlife movement, while also minimizing the potential for wildlife-human interactions through design features. Please contact Project Evaluation Program for more information on living with urban wildlife at PEP@azgfd.gov or at <https://www.azgfd.com/wildlife/planning/wildlifeguidelines/> and <https://www.azgfd.com/Wildlife/LivingWith>.

Vegetation restoration projects (including treatments of invasive or exotic species) should have a completed site-evaluation plan (identifying environmental conditions necessary to re-establish native vegetation), a revegetation plan (species, density, method of establishment), a short and long-term monitoring plan, including adaptive management guidelines to address needs for replacement vegetation.

The Department requests further coordination to provide project/species specific recommendations, please contact Project Evaluation Program directly at PEP@azgfd.gov.

Project Location and/or Species Recommendations:

This review has identified **riparian areas** within the vicinity of your project. During the planning stage of your project, avoid, minimize, or mitigate any potential impacts to riparian areas identified in this report. Riparian areas play an important role in maintaining the functional integrity of the landscape, primarily by acting as natural drainages that convey water through an area, thereby reducing flood events. In addition, riparian areas provide important movement corridors and habitat for fish and wildlife. Riparian areas are channels that contain water year-round or at least part of the year. Riparian areas also include those channels which are dry most of the year, but may contain or convey water following rain events. All types of riparian areas offer vital habitats, resources, and movement corridors for wildlife. The Pinal County Comprehensive Plan (i.e. policies 6.1.2.1 and 7.1.2.4), Open Space and Trails Master Plan, Drainage Ordinance, and Drainage Design Manual all identify riparian area considerations, guidance, and policies. Guidelines to avoid, minimize, or mitigate impacts to riparian habitat can be found

at <https://www.azgfd.com/wildlife/planning/wildlifeguidelines/>. Based on the project type entered, further consultation with the Arizona Game and Fish Department and Pinal County may be warranted.



Technical Memorandum

To: Seth Keeler
Tres Points, LLC
1121 West Warner Road, Suite 109
Tempe, Arizona 85284

From: Maggie Evancho, Staff Archaeologist

Date: December 22, 2021

Re: **A Cultural Resources Records Review (Class I Inventory) for the Midway and McLean Project in Unincorporated Pinal County, Arizona / SWCA Project No. 70873**

INTRODUCTION

Tres Points, LLC, contracted SWCA Environmental Consultants (SWCA) to conduct a cultural resources records review (Class I) of approximately 1,000 acres of private land at the northwest corner of North Maricopa Road (State Route [SR] 347) and West Miller Road, in unincorporated Pinal County, Arizona (Figure 1). The purpose of this review is to determine whether the project area has been previously surveyed for cultural resources and to identify any known archaeological sites or historic-period buildings and structures that may be present within the project area.

PROJECT LOCATION

The project area is located at the northwest corner of North Maricopa Road (SR 347) and West Miller Road, in unincorporated Pinal County, Arizona. It is located in Sections 28 and 33, Township 5 South, Range 3 East, Gila and Salt River Baseline and Meridian, as depicted on the U.S. Geological Survey (USGS) Antelope Peak NE, Arizona, 7.5-minute quadrangle (Figure 2).

ENVIRONMENTAL SETTING

The project area consists of agricultural land approximately 10.0 miles southwest of the Sacaton Mountains, 9.5 miles northeast of Table Top Mountains and 4.1 miles east of the Vekol Wash. The project area is located at an elevation of approximately 1,250 feet above mean sea level. Geologically, the project area consists of Quaternary surficial deposits on alluvial plains (Richard et al. 2000). Soils are Mohall loam, sandy loam, and clay loam; and Cuerda fine sandy loam (Natural Resources Conservation Service 2021). Prior to agricultural use of the project area, it would have contained vegetation characteristic of the Lower Colorado River Valley subdivision of the Sonoran Desertscrub biotic community (Brown 1994).

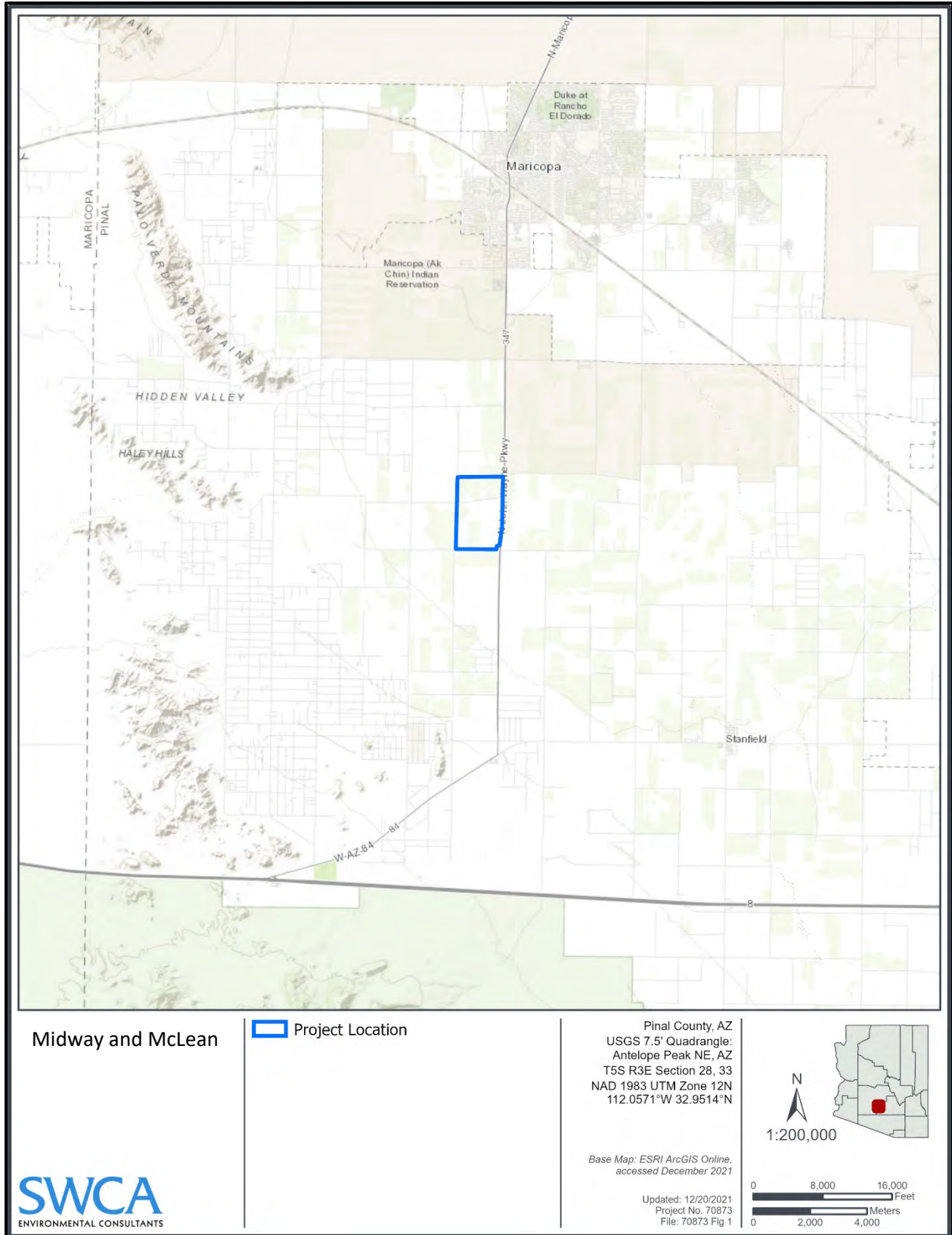


Figure 1. General location of the project area.

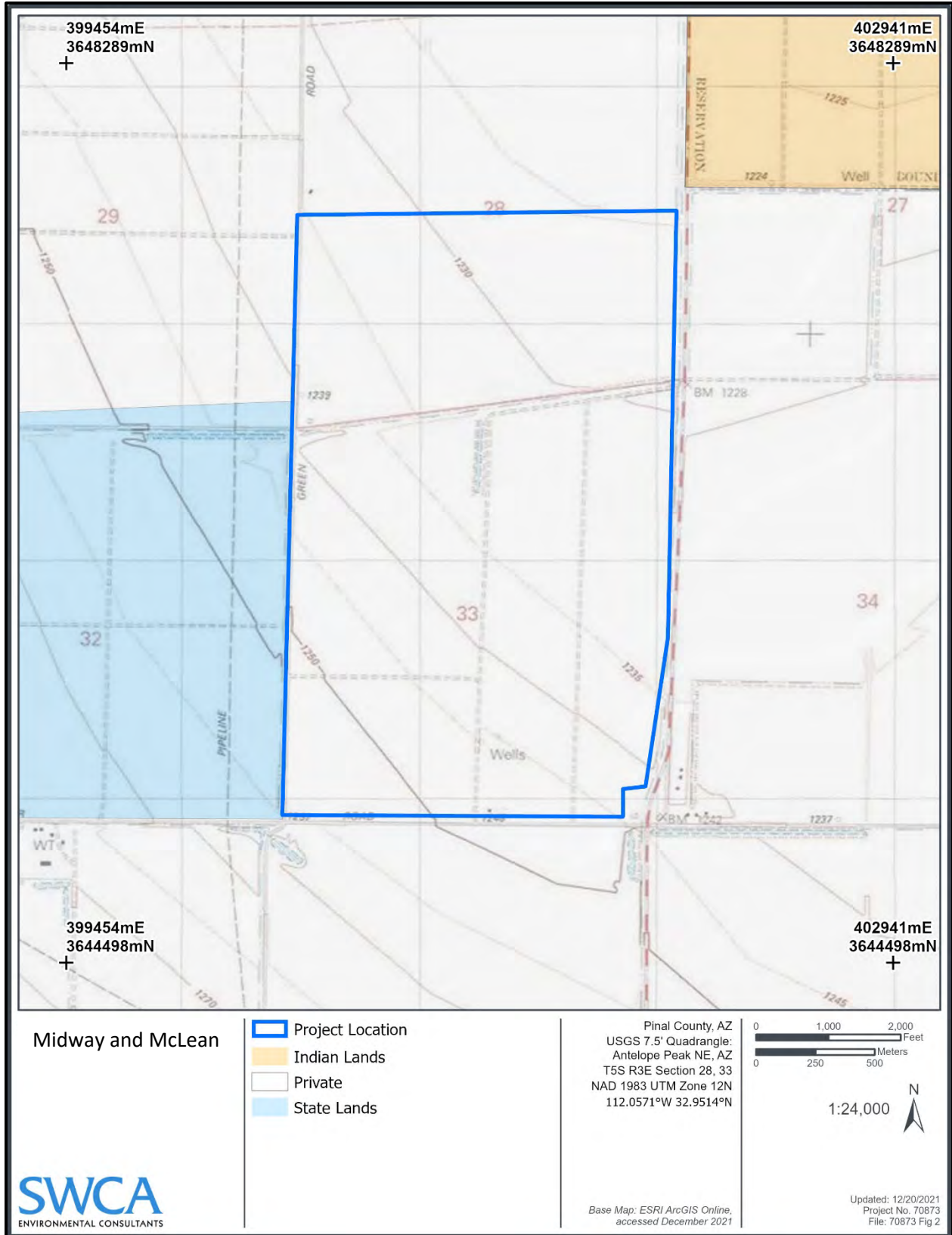


Figure 2. Project location.

ARCHIVAL RECORDS AND PREVIOUS RESEARCH REVIEW

SWCA consulted AZSITE, Arizona's statewide cultural resources database, which includes records from the Arizona State Museum (ASM), Arizona State University, Arizona State Historic Preservation Office, and Bureau of Land Management, for previously conducted projects and previously recorded cultural resources within the project area and a 1-mile radius from the project area.

A review of available records revealed that four projects have been conducted within 1 mile of the project area, three of which appear to have included a small percentage of the current project area (Figure 3). The three projects include: Project 2007-818.ASM, conducted by SWCA for the Arizona Department of Transportation (Doschka 2007); Project 2007-692.ASM, conducted by Desert Archaeology for the Salt River Project (Henderson 2009); and Project 1985-219.ASM, conducted by Archaeological Consulting Service for Arizona Public Service Company (reference not available). The other project conducted adjacent to and east of the current project area was a 4,000-acre survey by SWCA for Engle Homes/Arizona Construction, Inc. (Project 2006-79.ASM) (North et al. 2005).

Within 1 mile of the project area, two cultural resources have been recorded, one being the historic alignment of State Route 347 (also known as AZ Z:4:46[ASM]) that runs alongside the east boundary of the project area (see Figure 3), and the other being the historic alignment of Miller Road. No archaeological sites have been recorded within 1 mile of the project area.

SWCA also reviewed historical General Land Office (GLO) plat maps, historical topographic maps, and historical aerial imagery for the project area to identify any historic-period features that may still exist. The GLO original survey plat map of Township 5 South, Range 3 East, filed in 1869, depicts no cultural features. The historic aerial from 1961 depicts several features within the project area, including a north-south oriented irrigation canal in the center of the project area, a ranch house located just north of the intersection of West Teel Road and North Green Road, and a ranch house and pond located at the south-central end of the project area along West Miller Road. The aerial also shows a pump and well, located approximately 0.2 mile north of West Miller Road and the farm road that travels north into the parcel. All these features are present on modern aerials.

A review of the 1981 USGS Antelope Peak NE, Arizona, 7.5-minute quadrangle, depicts the same features discussed above from the 1961 historic aerial.

The National Register of Historic Places (NRHP) database maintained by the National Park Service was also consulted to ascertain if any cultural resources listed on the NRHP are located in or within 1 mile of the project area. No NRHP-listed properties were identified within the search area.

SUMMARY AND RECOMMENDATIONS

SWCA's due-diligence cultural resources review covered the approximately 1,000-acre project area and a surrounding 1-mile radius of the project area. Very little of the project area has been surveyed for cultural resources. Archival information indicates that historic-era cultural features associated with farming appear to be present on the property; however, it is unlikely that additional research would reveal these features to be eligible for listing in the NRHP. Additionally, we believe that the project area has a low potential for Native American archaeological sites because no archaeological sites have been found within the 1-mile search radius around the property. SWCA's 2005 survey of adjacent lands (all of Sections 34 and 35, and the south half of Sections 26 and 27) did not identify any archaeological sites (North et al. 2005).

In summary, the cultural resources records review indicates that the project area has a low probability of containing cultural resources that are eligible for listing in the NRHP. However, field survey would be needed to confirm the absence of significant cultural resources.

If no further work is requested, it is advisable to halt work if previously undocumented buried cultural resources are identified during ground-disturbing activities. All work in the immediate vicinity of the discovery should stop until the find can be evaluated by a professional archaeologist.

In the event that human remains are identified during ground-disturbing activities, all work must immediately cease within 30 m (100 feet) of the discovery, and the area must be secured. The ASM and appropriate Tribes must be notified of the discovery. All discoveries will be treated in accordance with Arizona Revised Statutes 41-865.

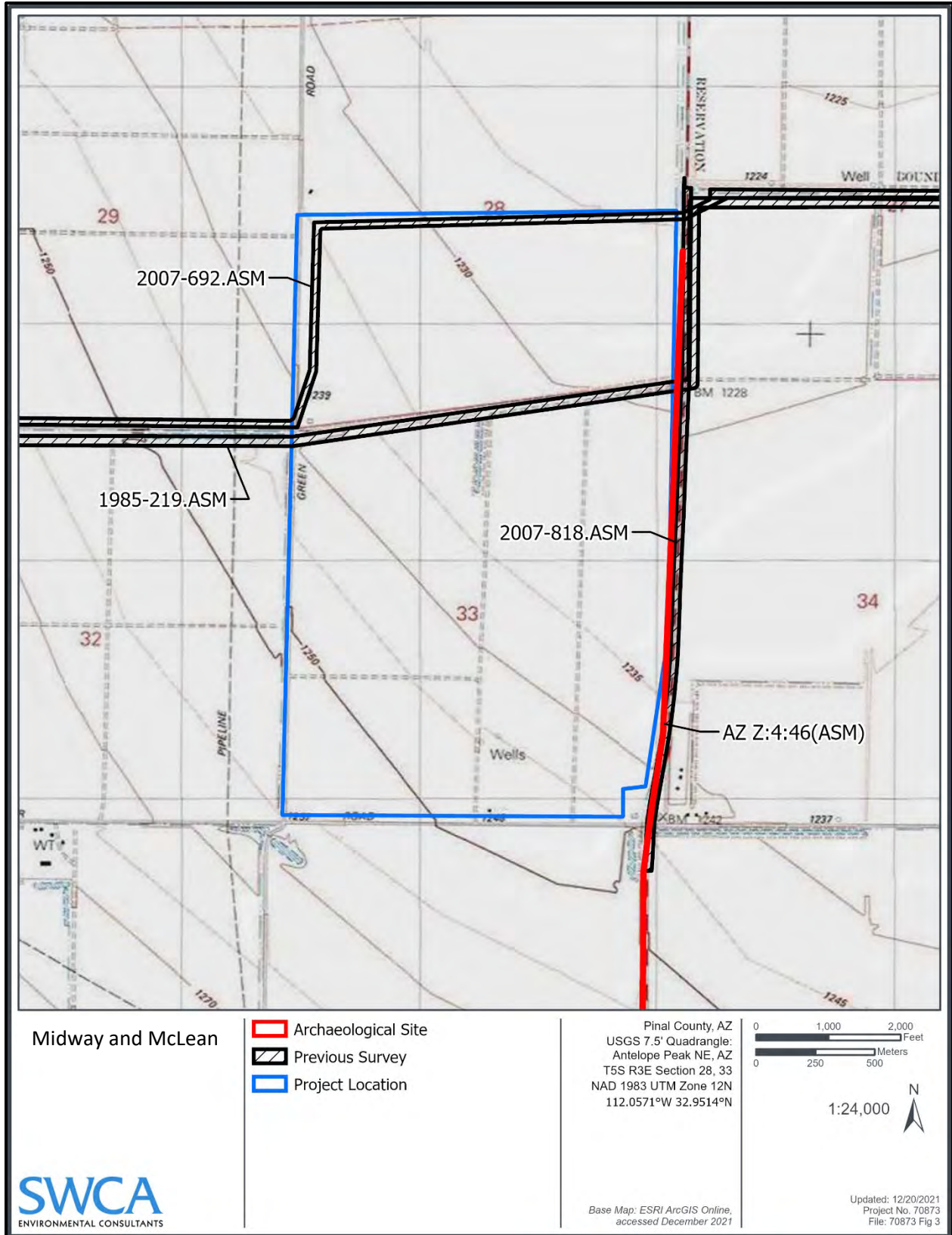


Figure 3. Previously conducted cultural resources surveys within the project area. Archaeological site AZ Z:4:46(ASM) is the historic alignment of State Route 347.

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- 1994 *Biotic Communities: Southwestern United States and Northwestern Mexico*. University of Utah Press, Salt Lake City.

Doschka, Jeremy

- 2007 *Archaeological Survey for the State Route 347 and Teel Road Interim Access ADOT Encroachment Permit, Pinal County, Arizona*. Letter report to Ron Wietzema, Atwell-Hicks, December 11, 2007. SWCA Environmental Consultants, Tucson, Arizona.

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- 2021 Web Soil Survey. Available at: <http://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm>. Accessed December 16, 2021.

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- 2005 *A Cultural Resources Survey of 4000 Acres for the Master-Planned Community of Red River, Pinal County, Arizona*. Cultural Resources Report No. 05-399. SWCA Environmental Consultants, Phoenix, Arizona.

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- 2000 Geologic Map of Arizona: Arizona Geological Survey Map 35, 1 sheet, scale 1:1,000,000.

MASTER TRAFFIC IMPACT ANALYSIS

Midway Development
NWC of State Route 347 and Miller Road
Pinal County, Arizona

February 23, 2021
Revision 1: August 6, 2021
Revision 2: November 12, 2021
Revision 3: March 7, 2022

PREPARED FOR
W Holdings
1121 West Warner Road, Suite 109
Tempe, Arizona 85284

PREPARED BY



APPROVED BY:

PINAL COUNTY ENGINEER
PINAL COUNTY DEPARTMENT OF PUBLIC WORKS

DATE

APPROVAL EXPIRES:

DATE

County Case Number: PZ-PD-006-21

MASTER TRAFFIC IMPACT ANALYSIS

Midway Development
NWC of State Route 347 and Miller Road
Pinal County, Arizona

February 23, 2021
Revision 1: August 6, 2021
Revision 2: November 12, 2021
Revision 3: March 7, 2022

UCG Project Number: TR20072

PREPARED FOR
W Holdings
1121 West Warner Road, Suite 109
Tempe, Arizona 85284

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I. INTRODUCTION AND SUMMARY

A. Purpose of the Report

United Civil Group was retained by W Holdings to perform this Master Traffic Impact Analysis (TIA) for the proposed Midway development. Midway is located north of Miller Road, south of the Teel Road alignment, west of State Route 347 (SR347) and east of Green Road in Pinal County, Arizona. The 709-acre development is planned to include 2,179 single family homes, 667 multi-family units, 17.05 acres of commercial use, and an approximate 10-acre school site with 600 students.

United Civil Group performed this TIA in general accordance with the requirements as specified in the Pinal County *Traffic Impact Assessment Guidelines & Procedures* dated January 2007, Arizona Department of Transportation (ADOT) Traffic Engineering Guidelines and Processes Section 240 Traffic Impact Analyses, locally accepted standards, and industry practice.

B. Study Objectives

This study is intended to investigate the existing and future traffic conditions and identify any potential roadway improvements necessary to serve the Midway development. These improvements include warrant studies and installation of new traffic signals, turn lanes and other off site paving improvements. Major study objectives of this traffic report are as follows:

- Determine the existing morning and evening peak hour traffic volumes at the study area intersections of SR347/Miller Road, SR347/Papago Road, Papago Road/Amarillo Valley Road, Amarillo Valley Road Val Vista Road and Amarillo Valley Road/Miller Road.
- Analyze the existing study area intersections as well as the planned site access intersections for the development.
- Where applicable, recommend safety, intersection and/or roadway improvements sufficient to meet the needs of the development and adjacent roadway network due to the additional site generated traffic volumes.

C. Conclusions and Recommendations

The proposed Midway development will include 2,170 single family homes, 680 multi-family units, 17.05 acres of commercial use, and an approximate 10-acre school site with 600 students constructed in five phases.

- Phase I of the development will be constructed and occupied by 2023 and consists of 543 single family homes.
- Phase II of the development will be constructed and occupied by 2025 and consists of 627 single family homes.
- Phase III of the development will be constructed and occupied by 2027 and consists of 502 single family homes plus the school site with 600 students.
- Phase IV of the development will be constructed and occupied by 2029 and consists of 507 single family homes.
- Phase V of the development will be constructed and occupied by 2030 and consists of 667 multifamily units and 17.05 acres of commercial development.
- Two additional horizon years, 5 years after full buildout (2035) and 10 years after full buildout (2040) were analyzed based on Pinal County Traffic Impact Analysis Guidelines & Procedures to identify any foreseen traffic impacts 10 years after the site is fully constructed and occupied.

The proposed Midway development will have seven accesses, Accesses A, B and G on SR347, Accesses C and D on Green Road, and Accesses E and F on Miller Road. When the commercial development is planned, additional accesses may be necessary to accommodate the development. Because Arizona Department of Transportation owns and maintains SR347, Accesses A, B and G were analyzed in accordance with ADOT's Traffic Policies and Guidelines. Green Road and Miller Road are owned and maintained by Pinal County. Therefore, Accesses C through F were analyzed using Pinal County Traffic Engineering Guidelines.

Forecasted daily and peak hour trip generation estimates were calculated for each phase of development. After full build-out of the development, per ITE's *Trip Generation Manual*, Midway is expected to generate an estimated to generate 32,127 total daily trips, with 2,305 trips in the morning peak hour and 3,144 trips in the evening peak hour.

The school site within phase III and the commercial/multifamily within phase V is not yet planned or designed. When these sites are designed and site plans are available, TIAs should be prepared that address school and commercial development related traffic issues. This Master TIA should be used as a guide when addressing these developments.

When the school site is laid out and designed, this TIA should be updated to address access, site circulation, queuing and parent drop off/pick up requirements. A

preliminary queuing analysis was completed for the school sites. Based on this preliminary analysis, 1,200 feet of queue should be provided on-site at the school to accommodate the parent drop off and pick up procedures. This queue length should be confirmed when the site planning is completed and be based on the school district's assessment of the total student population.

Signals are warranted based on traffic generated by the Midway Development. By Phase II of the development, year 2025, a traffic signal may be needed at SR347/ Access A. By Phase III of the development, year 2027, a traffic signal is warranted at the intersections of SR347/Access B and SR347/Miller Road using projected traffic volumes. Warrants should be completed using actual traffic counts to determine the need for traffic signals in the future. When warranted using actual traffic data, the traffic signals should be installed at the designated intersections.

By 2040, all the intersections analyzed within the study area are expected to operate at acceptable LOS C or better, except for the intersection of Miller Road/Access F. As shown, the southbound left turn experiences delay during the morning and evening peak hours. Left-turning movements on stop-controlled minor roads and driveways that intersect with major streets typically experience greater delay for short periods of time in the peak hours due to the wait for acceptable gaps on the major street, while the free-flowing major streets experience minimal delay. In addition, it is anticipated that additional accesses will be requested on Miller Road that service the multifamily and commercial developments. Therefore, the trips projected at Access F will be disbursed between the other accesses as additional TIAs are prepared once site planning is completed for these developments.

Proper intersection sight distance and sight triangles shall be provided and maintained at all site access driveways of the proposed development to give drivers exiting the site a clear view of oncoming traffic. The landscape and hardscape (monument signs) within the sight triangles must not obstruct the driver's view of the adjacent travel lanes. The sight triangles shall be provided on the developer's landscape and design plans.

Any work performed in ADOT's right of way will require an Encroachment Permit. The Development Agreement between Pinal County and the Developer will need to be coordinated with ADOT to ensure recommendations and mitigations are achieved.

Based on this TIA, the following roadway and intersection improvements are proposed to be constructed by the developer.

PHASE I of the Midway Development– 2023

- Construct the internal collector road (A-C) into the Midway development at Access A from SR347 west to the Phase 2 eastern boundary.
- Construct the intersection of Access A/SR347. Access A should be designed with right and left turn deceleration lanes exiting the development. Right and left turn lanes will be required on SR347 at Access A.
- Construct a temporary secondary access from the Phase I southern boundary south to Miller Road. This access should be used as emergency access only until Phase III is constructed.

PHASE II of the Midway Development– 2025

- Construct the internal collector road (A-C) into the Midway development from the Phase 2 eastern boundary west to Green Road.
- Construct half street improvements along Green Road from the site's northern boundary south to the Phase 4 boundary. This improvement should provide 75 feet of right of way for the future major arterial cross section.
- Construct a northbound exclusive right turn deceleration lane on Green Road at Access C. Provide for a southbound left turn lane on Green Road at Access C for future traffic.
- During Phase II, developer to prepare traffic signal warrant study at SR347/Access A using actual traffic volumes. When warranted, install a traffic signal at the intersection of SR347/Access A. Developer to contribute 50% of signal cost.

PHASE III of the Midway Development– 2027

- Construct the internal collector road (B-D) into the Midway Development from SR347 west to the phase 4 boundary.
- Construct half street improvements along Miller Road from the phase 3 boundary east to SR347. This improvement should provide 75 feet of right of way for the future major arterial cross section.
- Construct the intersection of Access B/SR347. Access B should be designed with right and left turn deceleration lanes exiting the development. Right and left turn lanes will be required on SR347 at Access B.
- Construct westbound dedicated right turn deceleration lanes on Miller Road at Accesses E and F. Provide for eastbound left turn lanes on Miller Road at Accesses E and F for future traffic.
- During Phase III, developer to prepare traffic signal warrant studies at SR347/Access B and SR347/Miller Road. When warranted, install the traffic signals. Developer should contribute 50% of signal cost at intersection of SR347/Access B and 25% of signal cost SR347/Miller Road.
- The intersection of SR347/Miller Road should be designed with dual left turns in the northbound and eastbound directions when signalization occurs.

- Dual left turn lanes may be warranted on SR 347 at the Midway site accesses. Left turn warrants should be prepared to determine when they will be needed. The developer will construct dual left turn lanes when warranted.

PHASE IV of the Midway Development-2029

- Construct the internal collector road (B-D) into the Midway Development from Green Road east to the phase 3 boundary.
- Construct half street improvements along Green Road from the southern Phase 2 boundary to Miller Road. This improvement should provide 75 feet of right of way for the future major arterial cross section.
- Construct half street improvements along Miller Road from Green Road to the Phase 3 boundary.
- Construct a northbound dedicated right turn deceleration lane on Green Road at Access D. Provide for a southbound left turn lane on Green Road at Access D for future traffic.
- Construct the Access B-D internal collector road from Green Road west to the phase 3 boundary.

PHASE V of the Midway Development-2030

- Construct Access G on SR347. Access G should be designed with a right turn deceleration lane that continues southbound to Miller Road.

This report concludes that when constructed, the offsite improvements recommended above will assist in maintaining an acceptable LOS C or better. However, it should be noted that many assumptions were made within this report to forecast traffic volumes and distributions in the future traffic projections. As this area grows, and new development is proposed, traffic may redistribute from what was originally proposed which affects the LOS.

II. PROPOSED DEVELOPMENT

A. Site Location

The Midway development is planned for the undeveloped parcel of land located approximately 1 mile south of Val Vista Road, north of Miller Road, west of SR347 and east of Green Road in Pinal County, Arizona. **Figures 1 and 2** present the location of the proposed Midway development within the context of the immediate area and its location within Pinal County.

B. Land Use

The approximate 709-acre development is currently agricultural land. In the future, Midway is planned as a residential single-family home community with an approximate 10-acre elementary school site located in the center of the development. Commercial development buffered from the single family homes with multifamily development is planned on the southeast corner of the site, near the intersection of SR347/Miller Road.

C. Phasing and Timing

Midway is planned to be developed in five phases.

- **Phase I** will be constructed and occupied by 2023 and consists of 543 single family homes.
- **Phase II** will be constructed and occupied by 2025 and consists of 627 single family homes.
- **Phase III** will be constructed and occupied by 2027 and consists of 502 single family homes plus the school site with 600 students.
- **Phase IV** will be constructed and occupied by 2029 and consists of 507 single family homes.
- **Phase V** will be constructed and occupied by 2030 and consists of 680 multifamily units and 17.05 acres of commercial development.
- Two additional horizon years, **5 years after full buildout (2035)** and **10 years after full buildout (2040)** were analyzed based on Pinal County Traffic Impact Analysis Guidelines & Procedures to identify any foreseen traffic impacts 10 years after the site is fully constructed and occupied.

D. Site Accessibility

The Midway development is planned to have seven accesses.

- **Access A** will be constructed as a collector road into the Midway residential single-family community and is located on SR347 approximately $\frac{3}{4}$ mile north of Miller Road. Access A/SR347 is planned as a full movement intersection to be built with Phase I of the development.
- **Access B** will be constructed as a collector road into the Midway residential single-family community and is located on SR347 approximately $\frac{1}{4}$ mile north of Miller Road. Access B/SR347 is planned as a full movement intersection that will accommodate the commercial and multi-family development to be located on the southeastern portion of the site. Access B is planned for construction with Phase II of the development. With the completion of Phase III, an east-west collector road will run through the southern portion of the Midway development and connect Access B to Access D.
- **Access C** will be constructed as a full access into the Midway residential single-family community and is located on Green Road approximately $\frac{3}{4}$ mile north of Miller Road. Access C/Green Road is planned as a full movement intersection to be built with Phase II of the development. With the completion of Phase II, an east-west collector road will run through the northern portion of the development and connect Access A to Access C. The western portion of the A-C Collector Road to the center of the development will be constructed in Phase I. The remaining portion of A-C Collector Road will be constructed in Phase II. The two north-south collector roads that connect A-C Collector Road to Miller Road will be constructed through phases II through IV, beginning on in the north as the land develops.
- **Access D** will be constructed as a full access into the Midway residential single-family community and is located on Green Road approximately $\frac{1}{4}$ mile north of Miller Road. Access D/Green Road is planned as a full movement intersection to be built with Phase III of development.
- **Access E** will be constructed as a full access into the Midway residential single-family community and is located on Miller Road approximately $\frac{1}{4}$ mile east of Green Road. Access E/Miller Road is planned as a full movement intersection to be built with Phase III of development.
- **Access F** will be constructed as a full access into the Midway residential single-family community and is located on Miller Road approximately $\frac{1}{4}$ mile west of SR347. Access F/Miller Road is planned as a full movement intersection to be built with Phase III of development.
- **Access G** will be constructed as a right in/right out only into and out of the Midway commercial portion of the site. Access G is proposed on SR347.

Site Accesses C through F should be designed per Pinal County Subdivision & Infrastructure Design Manual. Per the Pinal County Access Management Manual Final

Report dated February 2017, driveway spacing criteria per Table 1 (Access Management Manual) is met for the County accesses proposed.

Site Accesses A, B and G should be designed per the per the ADOT Traffic Engineering Guidelines and Processes and current version of the ADOT Roadway Design Guidelines.

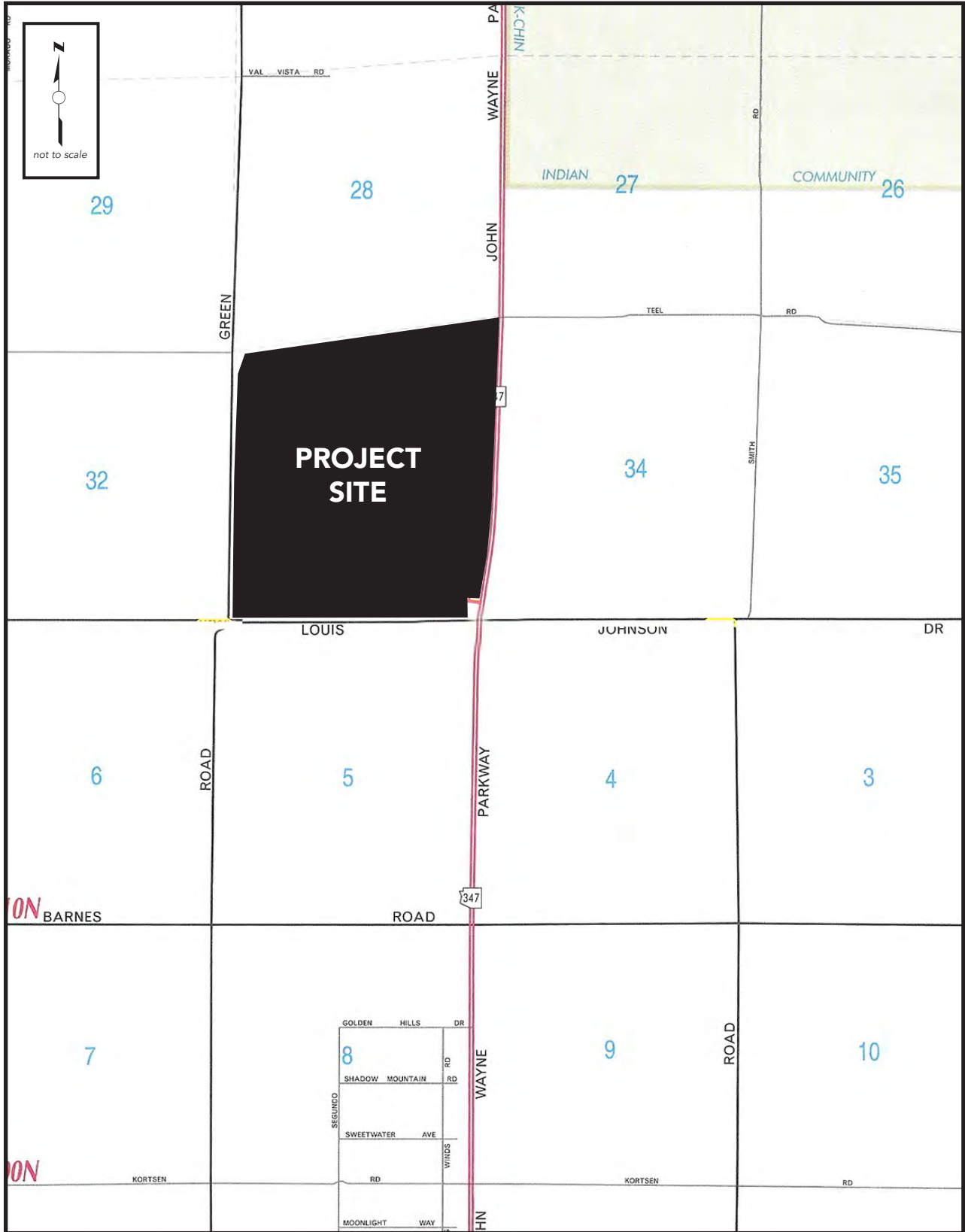
Figure 3 illustrates the layout of the proposed Midway development in relation to the location of the site access points. In addition, Figure 3 shows the driveway spacing dimensions from approximate center line to centerline of the driveways or roadways.

Additional driveways may be requested on Miller Road in the future to accommodate the proposed multifamily and commercial parcels on the southeast corner of the site when planning for these parcels is completed.

Table 1: Phasing for Site Plan

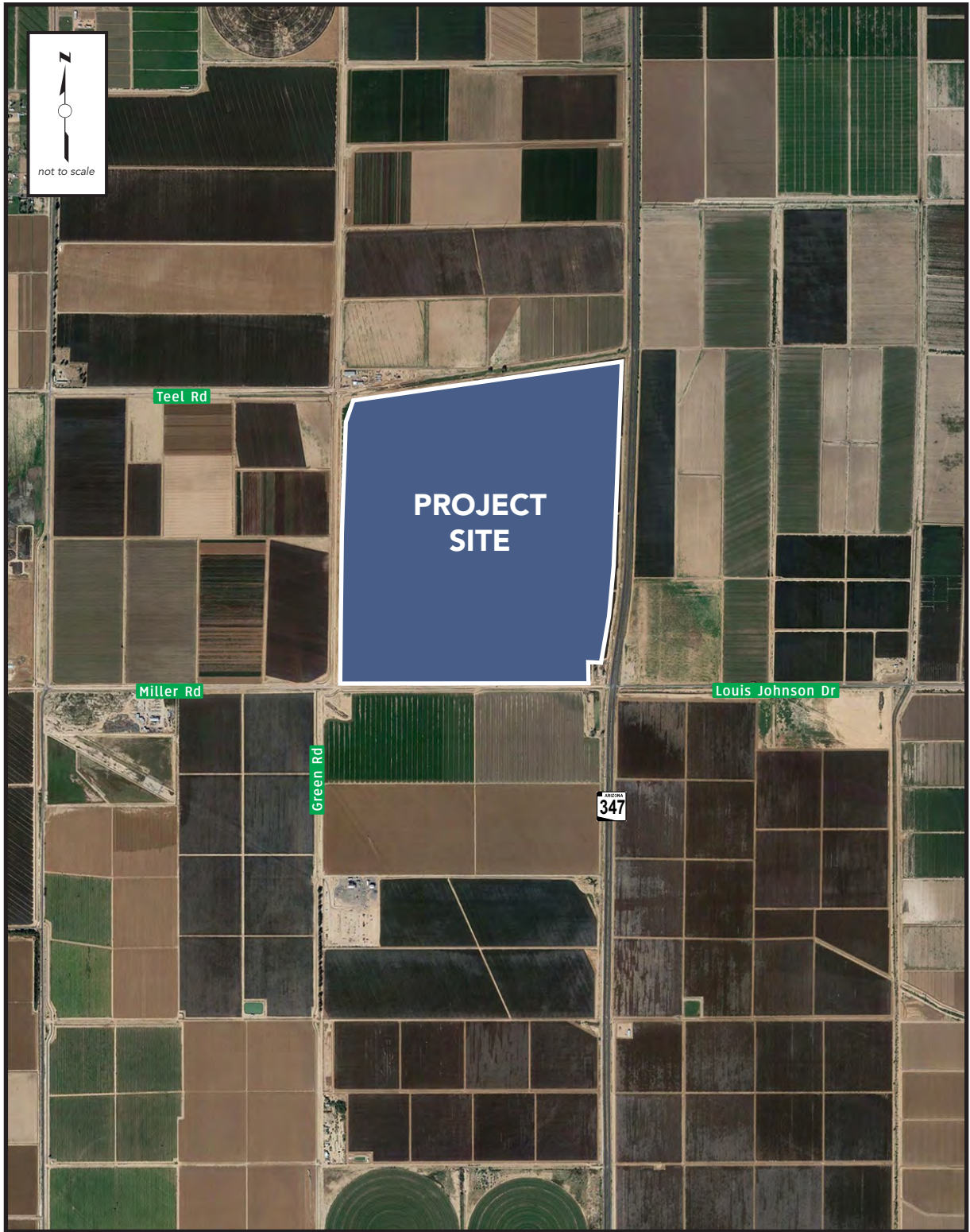
Phase	Parcels	Accesses/Internal Collector Roadways
I	1, 2, 3, 4A, 14 and 15	Access A to SR347 Emergency/Secondary Access to Miller Road Collector A-C from SR347 west ½ mile to Phase I boundary Collector F-C from Collector A-C south 1/8 mile to Phase III boundary
II	13, 16, 17, 18, 19, 25, 26,	Access A to SR347 Emergency/Secondary Access to Miller Road Collector A-C from Phase I boundary to Green Road Collector E-C from Collector A-C south ¼ mile to Phase IV boundary
III	4B, 9, 10, 11, 21	Access A to SR347 Access B to SR347 Access E to Miller Road Access F to Miller Road Collector B-D from SR347 west ¾ mile to phase 4 boundary Collector F-C from Phase 3 boundary to Miller Road
IV	20, 21, 22, 23, 24,	Access A to SR347 Access B to SR347 Access E to Miller Road Access F to Miller Road Access C to Green Road Access D to Green Road Collector Road B-D from Phase 3 boundary to Green Road Collector E-C from Phase IV boundary south to Miller Road
V	5, 6, 7, 8	Access A to SR347 Access B to SR347 Access E to Miller Road Access F to Miller Road Access C to Green Road Access D to Green Road Access G to SR347

The emergency/secondary access will be provided and is shown on the site plan as the green dashed line through parcels 6-5 and 7-8. Emergency secondary access provides the first and second phases of development with a second way out of the development in case of emergency only. Also, this access will allow emergency access into the development if required, or if Access A/SR347 is blocked.



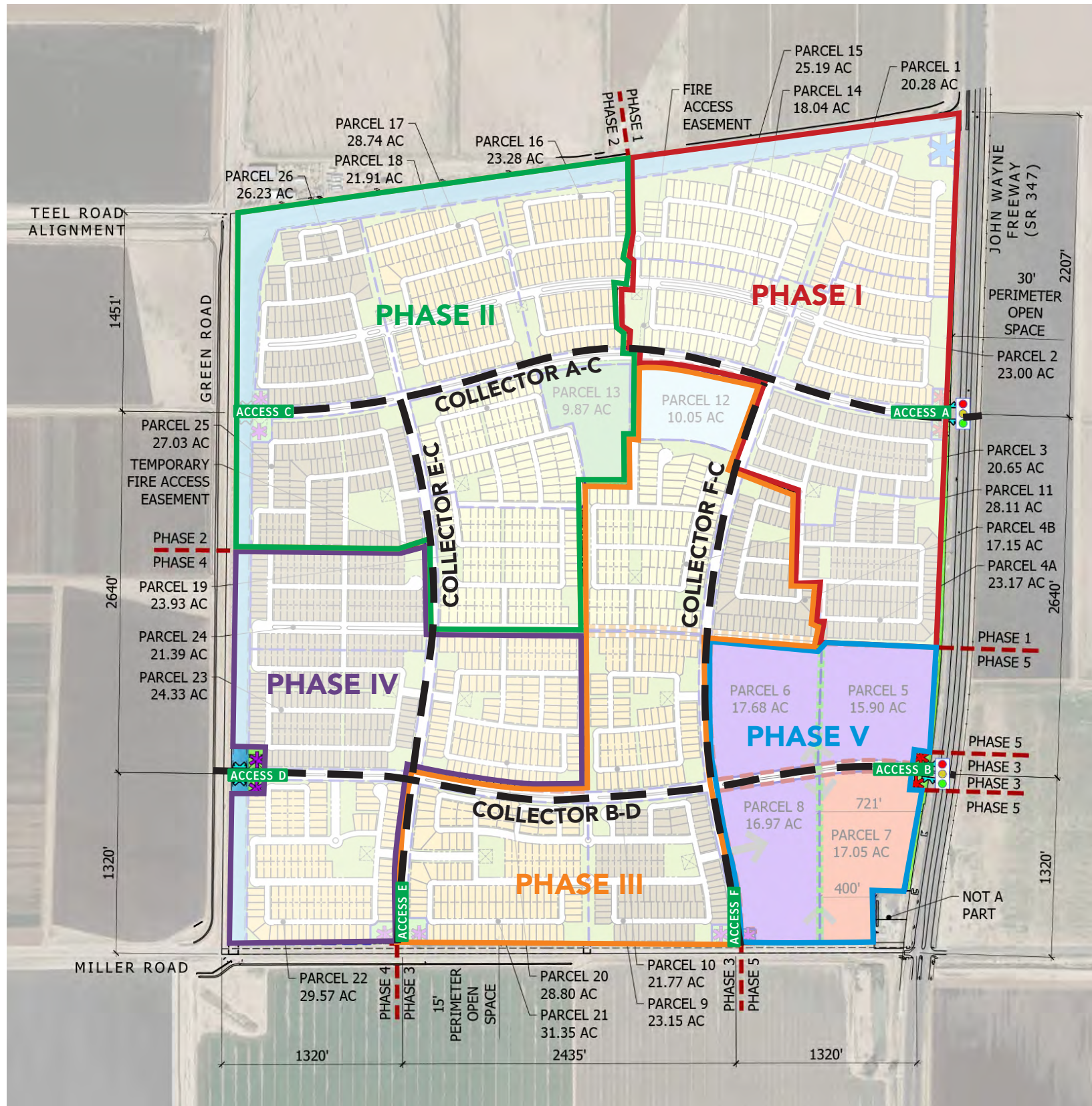
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Figure 1: Vicinity Map



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Figure 2: Aerial View



Phase	Parcels	Accesses/Internal Collector Roadways
I	1, 2, 3, 4A, 14 and 15	Access A to SR347 Emergency/Secondary Access to Miller Road Collector A-C from SR347 west ½ mile to Phase I boundary Collector F-C from Collector A-C south 1/8 mile to Phase III boundary
II	13, 16, 17, 18, 19, 25, 26,	Access A to SR347 Emergency/Secondary Access to Miller Road Collector A-C from Phase I boundary to Green Road Collector E-C from Collector A-C south ¼ mile to Phase IV boundary
III	4B, 9, 10, 11, 21	Access A to SR347 Access B to SR347 Access E to Miller Road Access F to Miller Road Collector B-D from SR347 west ¾ mile to phase 4 boundary Collector F-C from Phase 3 boundary to Miller Road
IV	20, 21, 22, 23, 24,	Access A to SR347 Access B to SR347 Access E to Miller Road Access F to Miller Road Access C to Green Road Access D to Green Road Collector Road B-D from Phase 3 boundary to Green Road Collector E-C from Phase IV boundary south to Miller Road
V	5, 6, 7, 8	Access A to SR347 Access B to SR347 Access E to Miller Road Access F to Miller Road Access C to Green Road Access D to Green Road Access G to SR347

Figure 3: Site Plan

III. STUDY AREA CONDITIONS

A. Study Area

Based on the forecasted trip generation of the Midway development (see Section V. Projected Traffic, Table 6), the proposed development falls under a Category IIc – Regional Development per the County's *Traffic Impact Assessment Guidelines & Procedures, January 2007*, and a Category IIc – Moderate or large multiphase development per ADOT's *Traffic Impact Analyses Guidelines*. According to these guidelines and through discussions with the Pinal County and ADOT staff, the study area includes the intersections of:

- SR347/Miller Road
- SR347/Papago Road
- Papago Road/Amarillo Valley Road
- Amarillo Valley Road Val Vista Road
- Amarillo Valley Road/Miller Road.
- All site access intersections

ADOT's Exhibit 240-A Traffic Impact Analysis Pre-Submittal Form, that was submitted to the ADOT Regional Traffic Engineer on November 20, 2020, is included in Appendix A.

B. Study Area Land Use

The following describes the existing land uses of the subject site and surrounding area:

SUBJECT SITE: Undeveloped agricultural land

NORTH: Undeveloped agricultural land

SOUTH: Miller Road followed by undeveloped agricultural land

EAST: SR347 followed by undeveloped agricultural land

WEST: Green Road followed by developed agricultural land

C. Anticipated Future Development and Planned Improvements

Four new residential developments are planned within the vicinity of the Midway development.

Amarillo Creek is located north of Papago Road, south of the Peters and Nall Road alignment, east of Amarillo Valley Road and west of Green Road in Pinal County, Arizona. The development is planned to include 2,149 single family homes, an approximate 12-acre elementary school site with 600 students, and an approximate 14-acre junior high school site with 600 students.

Tresana is located north of Val Vista Road, south of Papago Road, east of the Liebre Road alignment and west of Green Road in Pinal County, Arizona. The development is planned to include 1,140 single family homes and an approximate 7-acre school site with 600 students.

Pecan Woods is located on the southeast corner of Papago Road and Amarillo Valley Road in Pinal County, Arizona. The development is planned to include 581 single-family detached homes.

Palomino Ranch is located north of Papago Road, south of the Ak-Chin Indian Community, west of Amarillo Valley Road and east of White Road in Pinal County, Arizona. The development is planned to include 2,102 single family homes, an approximate 12-acre elementary school site with 600 students, and an approximate 14-acre junior high school site with 600 students.

Trip generation and recommendations from these four developments are included in the background traffic for this Midway TIA. Trip generation and distribution are included in Appendix E.

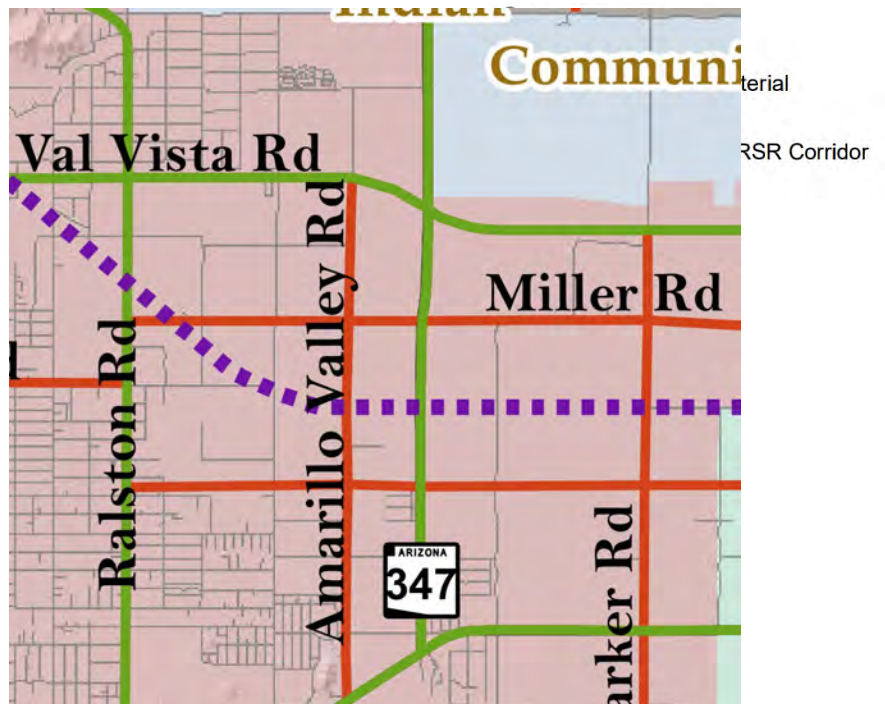
IV. EXISTING ROADWAY CONDITIONS

A. Physical Characteristics

State Route 347 (SR347), located on the mile section, SR347 is an ADOT state owned and maintained highway. SR347 has a north-south alignment in the vicinity of the site and regionally connects Interstate 10 to Interstate 8 via State Route 84. Per the Pinal County Regionally Significant Routes Report for Safety and Mobility, SR347 is shown as a regionally significant parkway. Adjacent to the subject site, SR347 is constructed as a four-lane section with two lanes in the north- and southbound directions, separated by an approximate 46-foot median. The posted speed limit on SR347 is 65 mph.

Miller Road, located on the mile section, is classified as an east-west principal arterial in accordance with Pinal County's Small Area Transportation Study 2006. In the Regionally Significant Routes Report for Safety and Mobility, Miller Road is shown as an RSR principal arterial. Adjacent to the subject site Miller Road is unpaved with one lane in each direction.

Green Road, located on the mile section, is classified as a north-south principal arterial in accordance with Pinal County's Small Area Transportation Study 2006. In the Regionally Significant Routes Report for Safety and Mobility, Green Road is shown as an "other roadway". Adjacent to the subject site, Green Road is unpaved with one-lane in each direction.



Source: Regionally Significant Routes Plan for Safety and Mobility, Update 2017.

The intersection of **SR347/Miller Road** operates as an unsignalized intersection with the stop condition on the east- and westbound approaches. The northbound approach consists of an exclusive left turn lane (150 feet of storage and a 180-foot taper), two through lanes and a dedicated right turn lane (150 feet of storage and a 180-foot taper). The southbound approach consists of an exclusive left turn lane (150 feet of storage and a 180-foot taper), two through lanes and a dedicated right turn lane (150 feet of storage and a 180-foot taper). The east- and westbound approaches consist of one shared left-through-right lane. The west leg of the intersection is

constructed over a box culvert over existing irrigation. Arizona Department of Transportation (ADOT) controls and maintains the intersection of SR347/Miller Road because it is under their jurisdiction.

B. Existing Traffic Volumes

Existing turning movement counts in 15-minute intervals were collected at the study area intersections of SR347/Miller Road, SR347/Papago Road, Papago Road/Amarillo Valley Road, Amarillo Valley Road Val Vista Road and Amarillo Valley Road/Miller Road on Thursday, November 12, 2020, during the morning peak period (7:00AM – 9:00AM) and evening peak period (4:00PM – 6:00PM).

ADOT's Data Analytics Highway Performance Monitoring (HPMS) website was utilized to provide average daily traffic volumes for roadways within the vicinity of the site. The roadways within the study area that are currently included in HPMS are the paved roadways of SR347 and Papago Road.

The resulting morning and evening peak hour traffic volumes at the study area intersections along with the ADTs are presented in **Figure 4**. Complete traffic volume data can be found in *Appendix A: Traffic Counts*.

Figure 4 also graphically depicts the existing intersection geometry and the existing traffic volumes at the study area intersections.

C. Existing Traffic Observations and Issues

Traffic conditions and operations were observed at the intersection of SR347/Miller Road during the study's morning and evening peak periods and no traffic issues were noted.

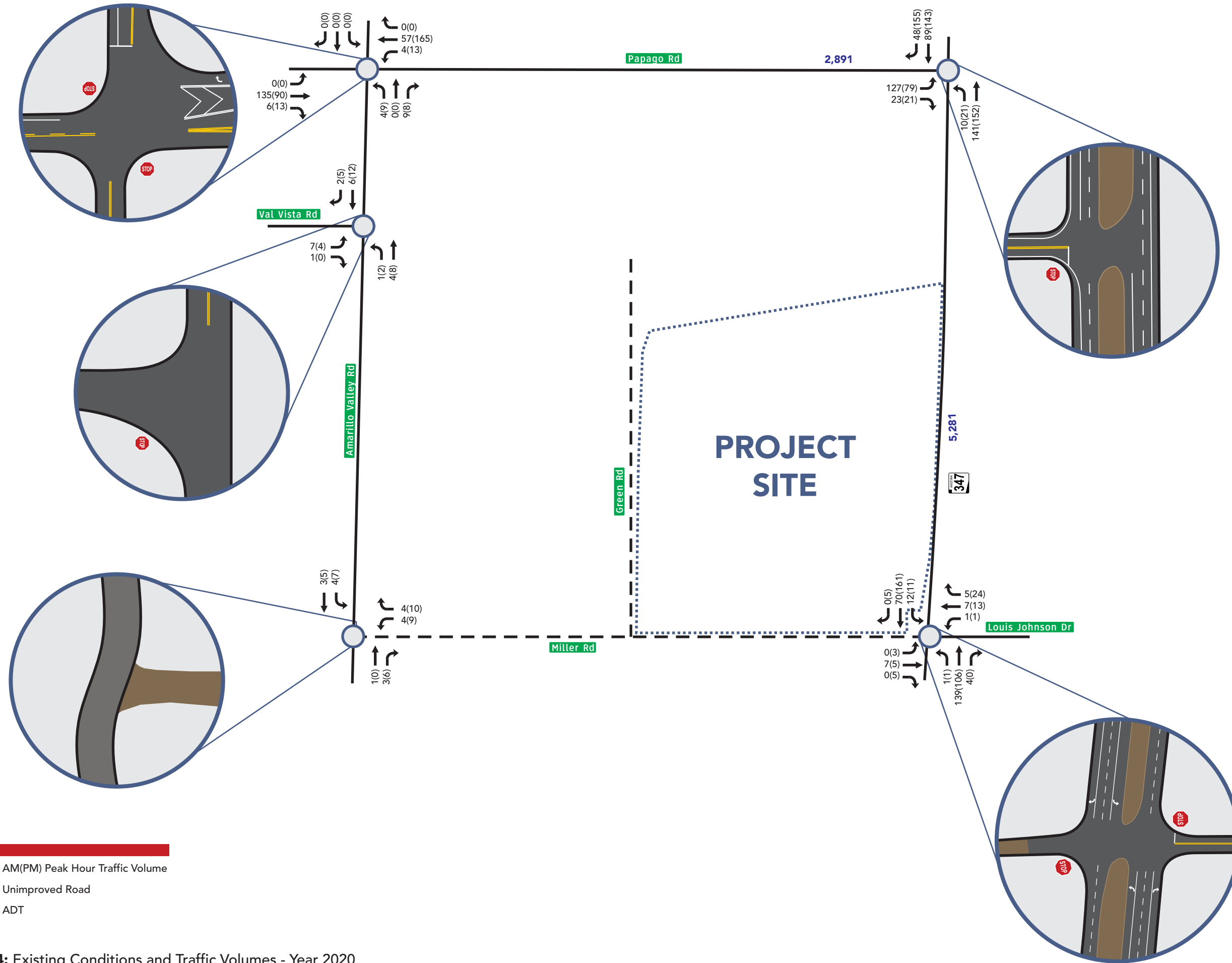


Figure 4: Existing Conditions and Traffic Volumes - Year 2020

D. Crash Data

Five years of crash data (January 2015 – December 2019) were obtained from the Arizona Department of Transportation (ADOT) Arizona Crash Information System (ACIS). The data was queried for the intersection of:

- SR347/Miller Road

An offset of 500 feet was used on all legs of each intersection. A total of 4 crashes were reported at the intersection SR347/Miller Road during the 5-year analysis period. No fatalities were reported at the study intersection. The crash data are summarized in **Tables 2 and 3** for the intersection of SR347/Miller Road/Louis Johnson Drive.

Table 2: Injury Severity

Year	Fatal	Suspected Serious Injury	Suspected Minor Injury	Possible Injury	No Injury	Total
SR347/Miller Road/Louis Johnson Drive						
2015					1	1
2016					1	1
2017						0
2018		1		1		2
2019						0
Total	0	1	0	1	2	4

Table 3: Collision Manner

Year	Single Vehicle	Angle	Left Turn	Rear End	Head On	Sideswipe Same Direction	Sideswipe Opposite Direction	Rear to Side	Unknown /Other	Total
SR347/Miller Road/Louis Johnson Drive										
2015	1									1
2016		1								1
2017										0
2018		1					1			2
2019										0
Total	1	2	0	0	0	0	1	0	0	4

Based on the data provided in ACIS, it is difficult to determine if crash patterns exist at the study area intersection due to the variability in the data. To determine if crash patterns exist, individual crash records would be required.

E. Intersection Level of Service Analyses

E.1 HCM Capacity Analyses and Levels of Service

Intersection capacity analysis is a principal tool used in traffic engineering. Operation is characterized according to the amount of delay at an intersection approach and quantified into a level of service (LOS). The intersection LOS was determined using the methodologies presented in the Transportation Research Board's Highway Capacity Manual (HCM). The LOS grades quantify and categorize a driver's discomfort, frustration, fuel consumption, and travel times experienced because of intersection control and the resulting traffic queuing. Per the HCM, the signalized and unsignalized (all-way stop controlled or two-way stop-controlled intersection) delay and associated LOS is presented in **Table 4**. Pinal County strives to obtain a level of service C or better for both signalized and unsignalized intersection overall operations. Intersections having a LOS D, E, or F may warrant improvements or traffic reductions.

Table 4: Intersection Levels of Service and Delay

Level of Service	Description	Signalized Delay (Sec/Veh)	Unsignalized Delay (Sec/Veh)
A	Minimal control delay, traffic operates at primary free flow conditions, unimpeded movement within traffic stream	≤ 10	≤ 10
B	Minor control delay at signalized intersections, traffic operates at a fairly unimpeded level with slightly restricted movement within traffic stream	> 10 and ≤ 20	> 10 and ≤ 15
C	Moderate control delay, movement within traffic stream more restricted than LOS B, formation of queues contributes to lower average travel speeds	> 20 and ≤ 35	> 15 and ≤ 25
D	Considerable control delay that may be substantially increased by small increases in flow, average travel speeds continue to decrease.	> 35 and ≤ 55	> 25 and ≤ 35
E	High control delay, average travel speed no more than 22 percent of free flow speed	> 55 and ≤ 80	> 35 and ≤ 50
F	Extremely high control	> 80	> 50

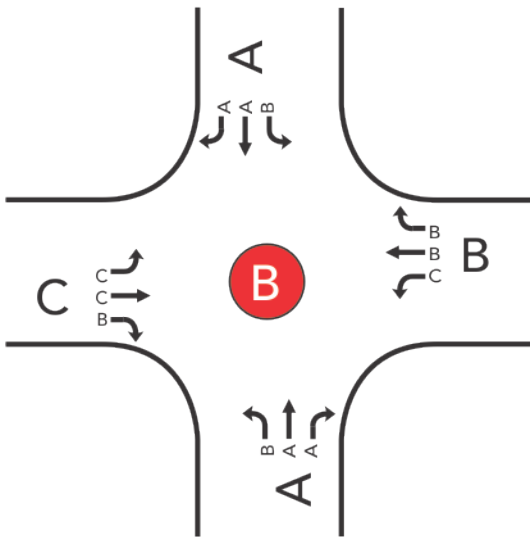
Source: Highway Capacity Manual 2010

For signalized and all-way stop controlled intersections, LOS is calculated for a movement (e.g., left, through, right), for the approach (e.g., northbound, southbound, eastbound, westbound) and for the overall intersection.

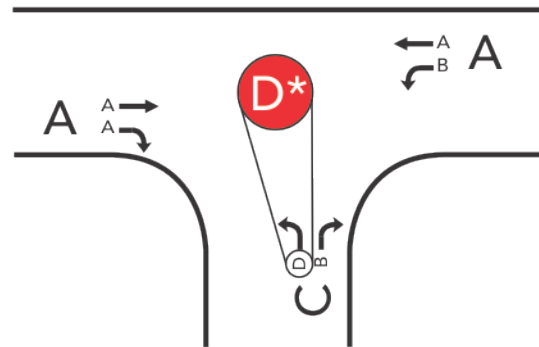
For two-way stop-controlled intersections, LOS is calculated for a movement and for the approach. However, for the overall intersection, LOS is reported as the lowest movement within the intersection. This is because most drivers are on the major roadway and do not experience delay traversing through the intersection. The example below illustrates the various LOS calculations completed for intersections.

EXAMPLE:

Signalized & All-Way Stop Controlled



Two-Way Stop Controlled



*Reported as lowest movement LOS

Source: United Civil Group, 2019

E.2 Existing Intersection Level of Service

The level of service (LOS) and average delay at the existing study area intersections were evaluated using the 2020 intersection volumes, lane geometry, and existing traffic control as presented in Figure 4. PTV Vistro traffic modeling software, employing the methodologies as presented in the Highway Capacity Manual (HCM), was utilized for the capacity analyses to obtain the existing conditions levels of service. Summaries of the Vistro output calculations are included in *Appendix B: Capacity Analyses*.

The results of the existing levels of service analysis are presented in **Table 5**.

Table 5: 2020 Existing Conditions Intersection Levels of Service

Intersection Location	NB LOS				SB LOS				EB LOS				WB LOS				Overall Intersection AvgDelay/ LOS*
	L	T	R	to	L	T	R	to	L	T	R	to	L	T	R	to	
SR347/Miller Road/Louis Johnson Drive – Two Way Stop Controlled																	
AM Peak Hour	A	A	A	A	A	A	-	A	-	B	-	B	B	B	A	A	10.75 B*
PM Peak Hour	A	A	-	A	A	A	A	A	B	B	A	B	B	B	A	A	10.23 B*
SR347/Papago Road – One Way Stop Controlled																	
AM Peak Hour	A	A	-	A	-	A	A	A	B	-	A	B	-	-	-	-	10.33 B*
PM Peak Hour	A	A	-	A	-	A	A	A	B	-	A	B	-	-	-	-	10.30 B*
Amarillo Valley Road/Papago Road – Two Way Stop Controlled																	
AM Peak Hour	A	-	A	A	-	-	-	-	-	B	A	A	B	A	-	A	9.97 A*
PM Peak Hour	A	-	A	A	-	-	-	-	-	A	A	A	B	B	-	B	10.43 B*
Amarillo Valley Road/Val Visa Road – One Way Stop Controlled																	
AM Peak Hour	A	A	-	A	-	A	A	A	A	-	A	A	-	-	-	-	8.59 A*
PM Peak Hour	A	A	-	A	-	A	A	A	A	-	-	A	-	-	-	-	8.67 A*
Amarillo Valley Road/Miller Road – One Way Stop Controlled																	
AM Peak Hour	-	A	A	A	A	A	-	A	-	-	-	-	A	-	A	A	8.49 A*
PM Peak Hour	-	-	A	A	A	A	-	A	-	-	-	-	A	-	A	A	8.56 A*

*The overall LOS letter grade for two-way stop-controlled intersections is shown as the worst approach.

As shown, the study area intersections currently operate at acceptable levels of service, LOS B, in the morning and evening peak hours.

V. PROJECTED TRAFFIC

A. Trip Generation

Estimates of the traffic volumes that will be generated by the development were determined from transportation planning data taken from the Institute of Transportation Engineers (ITE) *Trip Generation Manual, 10th Edition, 2017*. The ITE rates are based on studies that measure trip generation characteristics for various types of land uses. The rates are expressed in terms of trips per unit of land use type.

Due to the 10-acre school site within the Midway development not having a final layout at this time, this parcel has been analyzed as an elementary school with 600 students. Once the actual layout of the school has been completed, a revised TIA may be necessary to include actual trip generation values for the school site within the development.

Single-family Detached Housing (210) - includes all single-family detached homes on individual lots. A typical site surveyed is a suburban subdivision.

Elementary School (520) – typically serves students attending kindergarten through the fifth or sixth grade. Elementary schools are usually centrally located in residential communities to facilitate student access and have no student drivers. This land use consists of schools where bus service is usually provided to students living beyond a specified distance from the school. Both public and private elementary schools are included in this land use.

Multi-Family Housing (Low Rise) (220) – includes apartments, townhouses, and condominiums located within the same building with at least three other dwelling units and that have one or two levels.

Shopping Center (820) – an integrated group of commercial establishments that is planned, developed, owned, and managed as a unit. Shopping center's composition is related to its market area in terms of size, location, and type of store. A shopping center also provides on-site parking facilities sufficient to serve its own parking demands.

A 50% reduction in school trips was assumed within the trip generation calculations due to internal capture of school trips from the Midway single family and multi-family residential homes. A 15% reduction in external trips was proposed for the shopping center traffic, as residents will be able to use the southern site collector to access the shopping area. **Table 6** presents the estimated daily and peak hour vehicle trips generated by the Midway development for a typical weekday after full build out of each phase. The 50% school reduction and the 15% shopping reduction are based on other planned residential developments with similar nearby facilities.

Table 6: Proposed Development Trip Generation

Land Use	ITE Code	Units	Total Size	Daily	AM Peak			PM Peak		
					In	Out	Total	In	Out	Total
PHASE I										
Single-Family Detached Housing	210	Dwelling Units	543	5,126	100	302	402	339	199	538
PHASE II										
Single-Family Detached Housing	210	Dwelling Units	627	5,919	116	348	464	391	230	621
PHASE III										
Single-Family Detached Housing	210	Dwelling Units	502	4,739	92	279	371	313	184	497
Elementary School	520	Students	600	1,134	217	185	402	49	53	102
50% Reduction of School Trips				(567)	(108)	(92)	(201)	(24)	(26)	(51)
<i>Phase III Subtotal</i>				5,306	201	372	572	338	211	548
PHASE IV										
Single-Family Detached Housing	210	Dwelling Units	507	4,786	94	281	375	316	186	502
PHASE V										
Multi-Family Housing (Low-Rise)	220	Dwelling Units	667	4,882	71	236	307	235	139	374
Shopping Center	820	1,000 sqft	130	7,186	134	83	217	317	343	660
15% Reduction of Shopping Trips				(1,078)	(20)	(12)	(32)	(48)	(51)	(99)
<i>Phase IV Subtotal</i>				10,990	185	307	492	504	431	935
FULL BUILD OUT TOTAL				32,127	696	1,610	2,305	1,888	1,257	3,144

Single-Family Detached Housing – ITE LUC 210

Daily	T = 9.44 (X)	50% entering, 50% exiting
AM Peak Hour	T = 0.74 (X)	25% entering, 75% exiting
PM Peak Hour	T = 0.99 (X)	63% entering, 37% exiting

Multi Family – ITE LUC 220

Daily	T = 7.32 (X)	50% entering, 50% exiting
AM Peak Hour	T = 0.45 (X)	23% entering, 77% exiting
PM Peak Hour	T = 0.56 (X)	63% entering, 37% exiting

Elementary School – ITE LUC 520

Daily	$T = 1.89 \times (\text{Students})$	50% entering, 50% exiting
AM Peak Hour	$T = 0.67 \times (\text{Students})$	54% entering, 46% exiting
PM Peak Hour	$T = 0.17 \times (\text{Students})$	48% entering, 52% exiting

Shopping Center – ITE LUC 820

Daily	$\ln(T) = 0.68 \ln(X) + 5.57$	50% entering, 50% exiting
AM Peak Hour	$T = 0.50(X) + 151.78$	62% entering, 38% exiting
PM Peak Hour	$\ln(T) = 0.74 \ln(X) + 2.89$	48% entering, 52% exiting

On a typical weekday, after full build-out, the Midway development is forecasted to generate 32,127 total daily trips, with 2,305 trips in the morning peak hour and 3,144 trips in the evening peak hour.

B. Trip Distribution

The trip distribution procedure determines the general pattern of travel for vehicles entering and leaving the subject site and the study area. The assumed trip distribution percentages for the development are shown in **Table 7**. For a development of this type, these percentages are mainly based on the type of land uses of the development, the location of the site within Pinal County, and the connectivity of the site to the region.

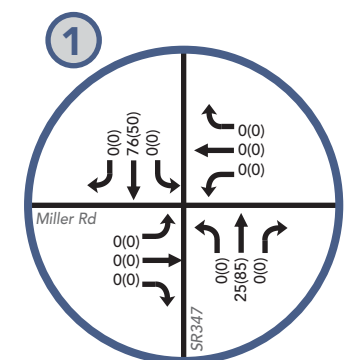
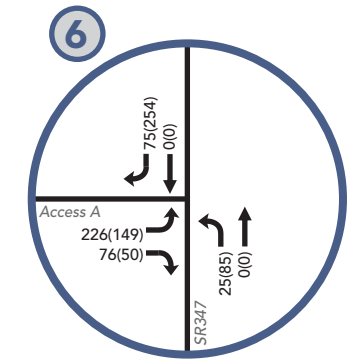
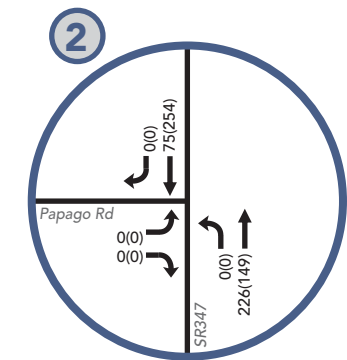
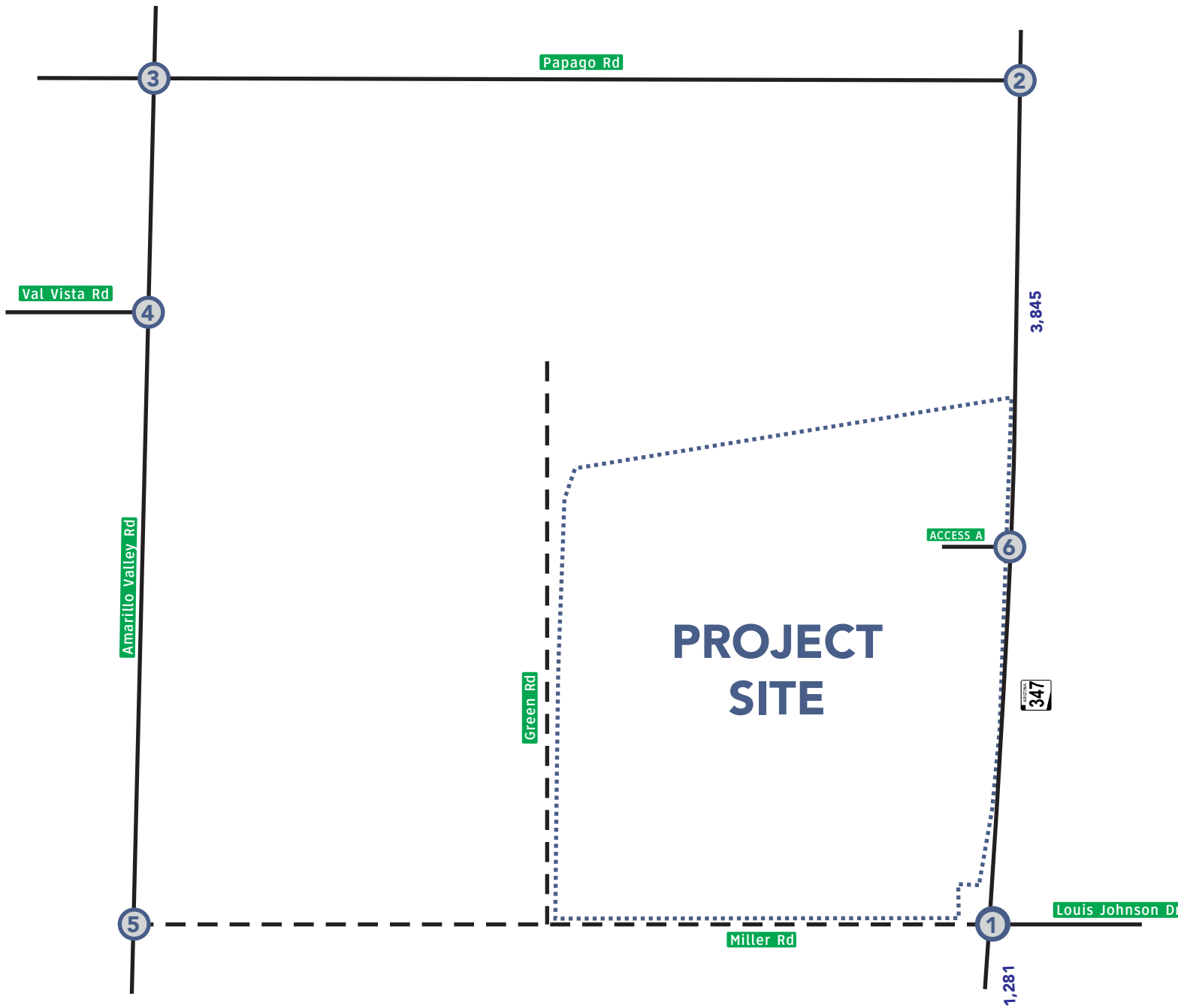
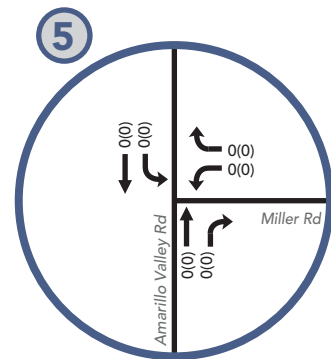
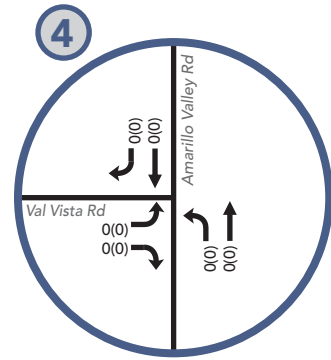
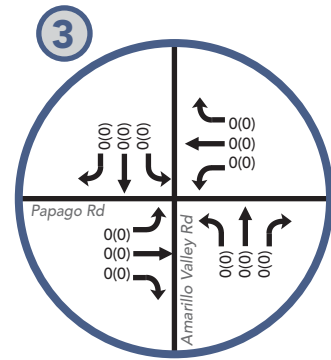
For the residential components, distribution of the home-to-work trips is generally based on the roadway connectivity and employment centers within 15 miles of the development. For the school component, distribution of trips is generally based on existing and future residential developments within the vicinity of the school site. Pinal County's Small Area Study was utilized to determine future employment and residential areas surrounding the Midway development. Trips generated from the single-family residential component of the development were routed to and from future employment areas surrounding Midway while trips generated by the school site were routed to and from future residential areas.

According to the City of Maricopa Future Land Use Map as presented in Appendix C, low density residential, industrial/manufacturing, and open space is planned west of Midway development. In addition, Val Vista Road (future parkway) is planned one mile north of the Midway development. Therefore, it is assumed that 10 percent of future residential trips will travel west to employment and shopping areas both north and south of the site via Miller Road. As development occurs within the Midway development study area, the trip distribution will balance both north and south of the development. Therefore, two trip distribution percentages are proposed for this study.

Table 7: Trip Distribution Percentages

Direction	Trip Distribution Percentage	
	Arriving From	Departing To
Phases I and II 2020 - 2025		
SR347 north of site	75%	75%
SR347 south of Miller Road	25%	25%
Phases III through V 2027 - 2030		
SR347 north of site	35%	35%
SR347 south of Miller Road	30%	30%
Miller Road west of Green Road	10%	10%
Miller Road east of SR347	25%	25%

Figures 5 through 9 present the assigned site generated traffic to and from Midway for each phase of the proposed development.



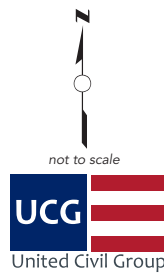
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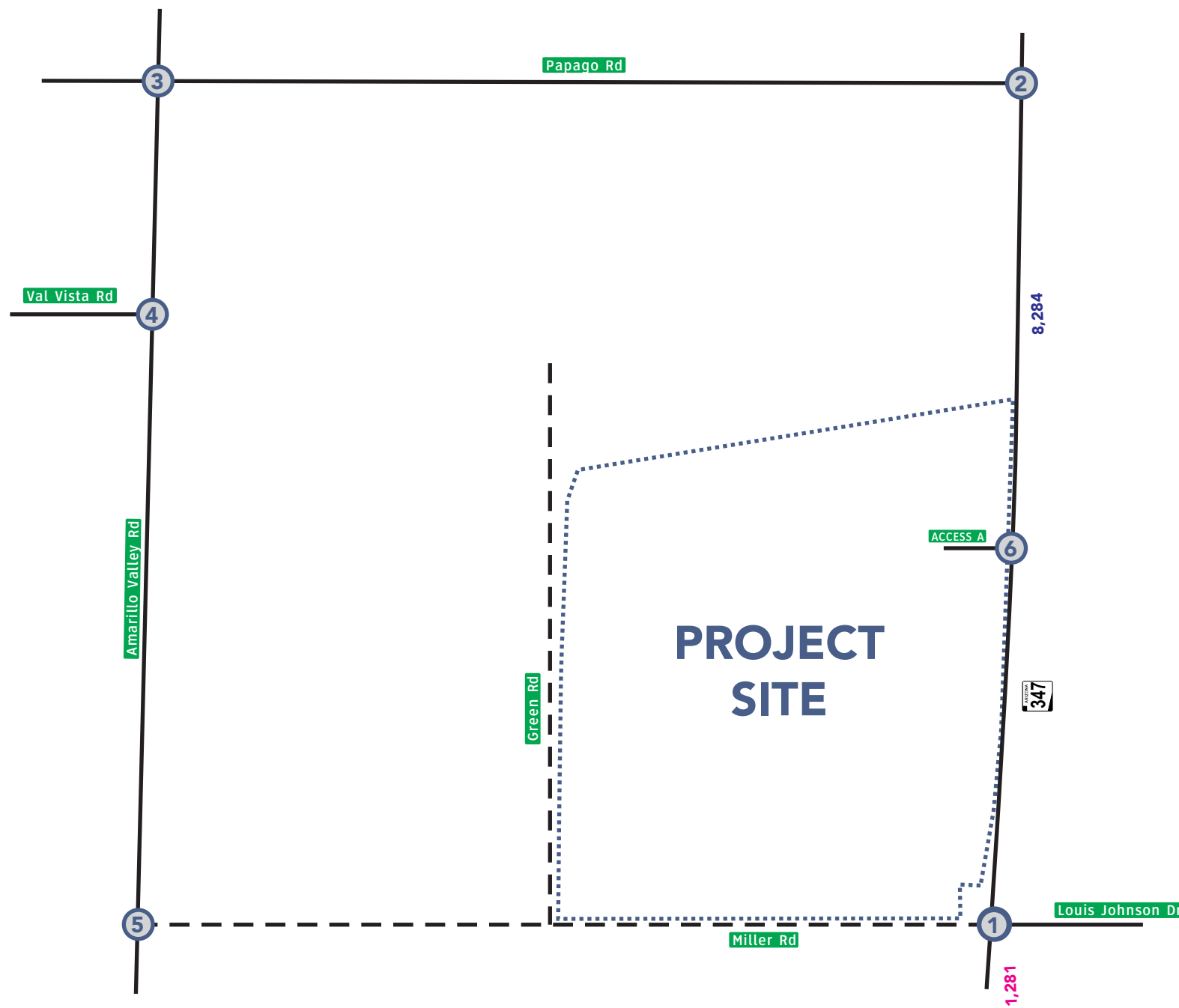
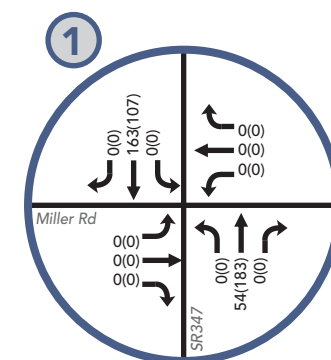
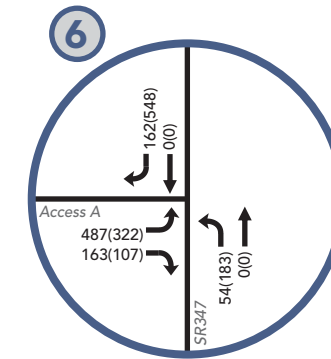
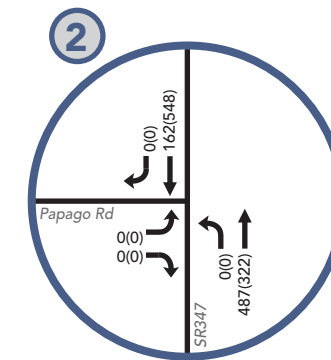
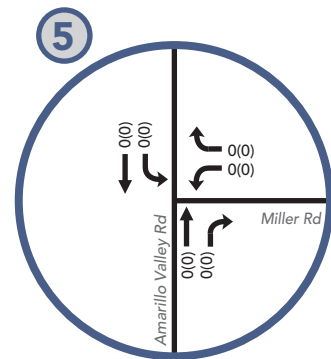
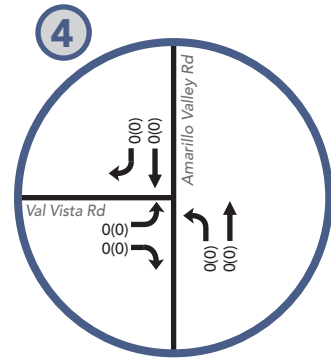
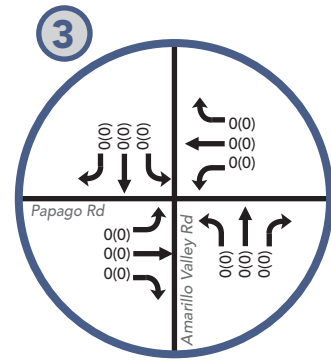
XX(XX) AM(PM) Peak Hour Traffic Volume

--- Unimproved Road

XX ADT

Figure 5: Site Generated Traffic and Trip Distribution - Phase 1





- LEGEND**
- XX(XX) AM(PM) Peak Hour Traffic Volume
 - Unimproved Road
 - XX ADT

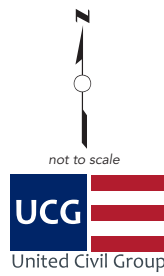
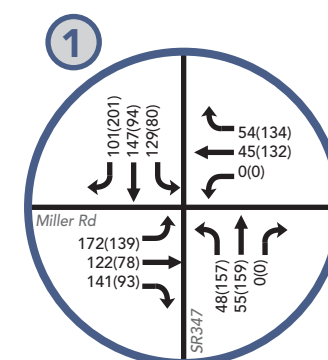
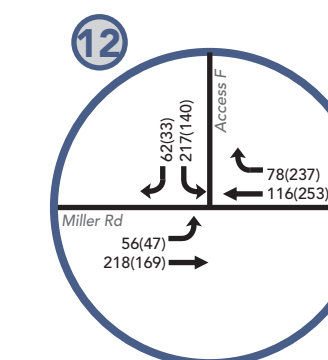
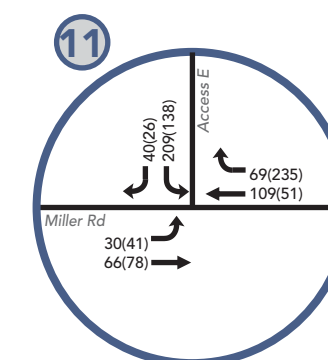
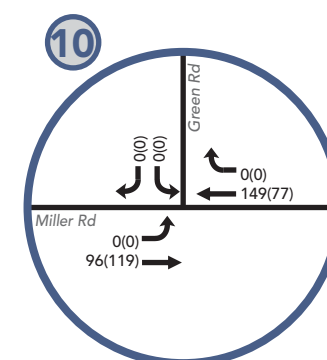
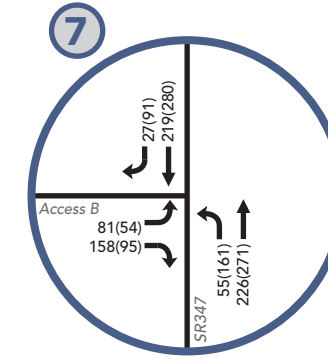
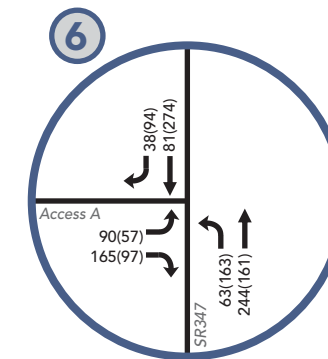
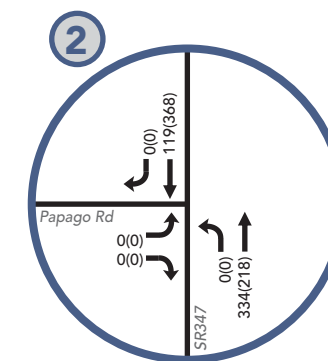
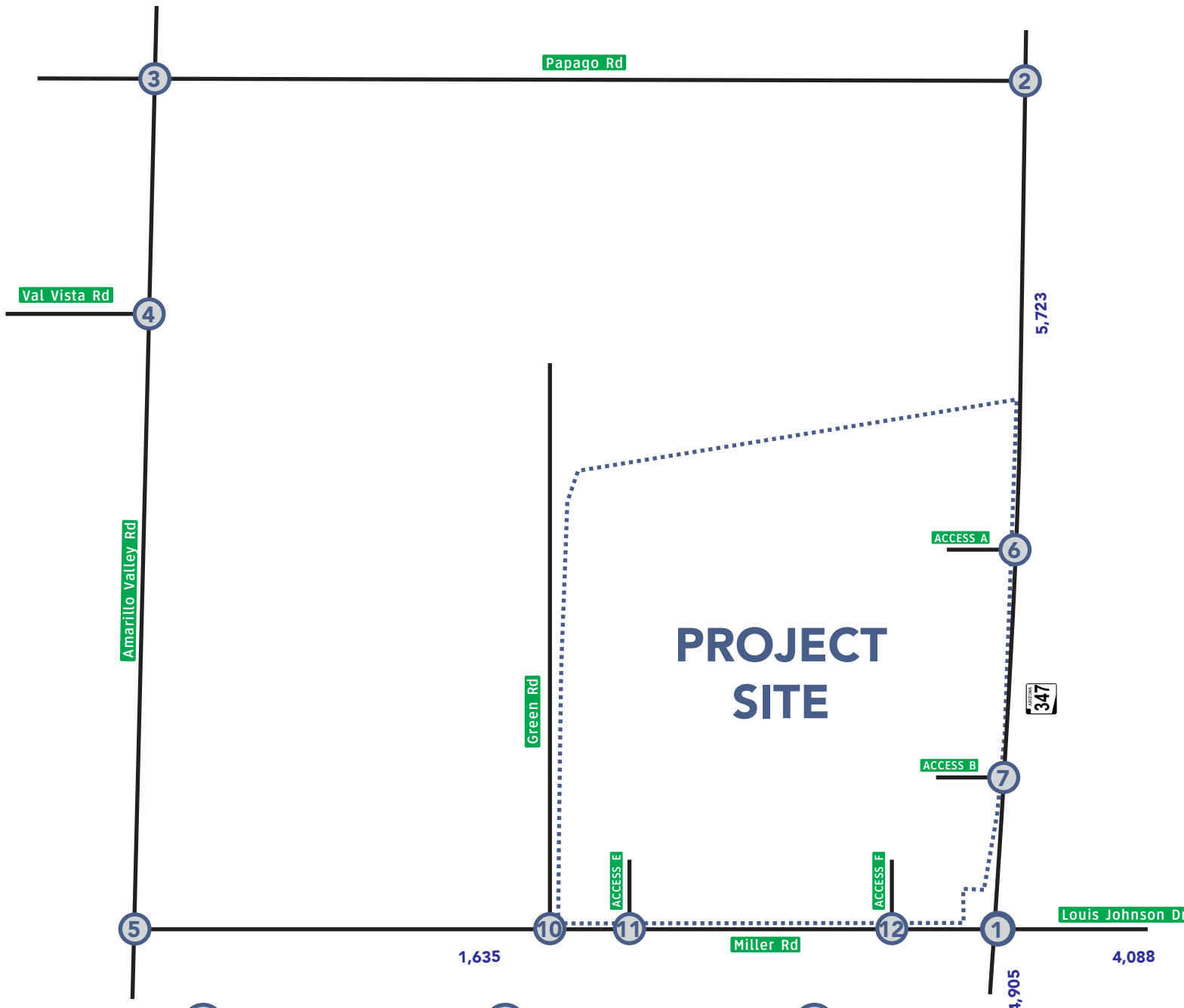
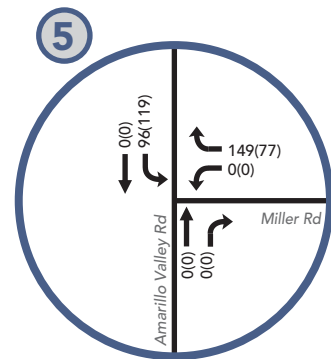
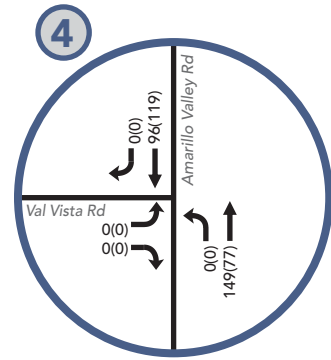
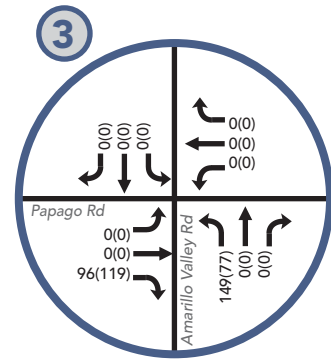


Figure 6: Site Generated Traffic and Trip Distribution - Phases 1 & 2

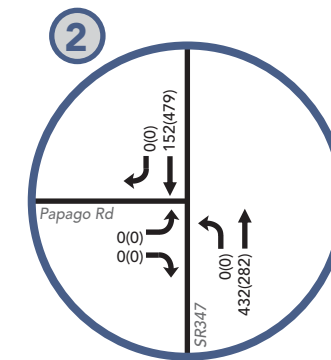
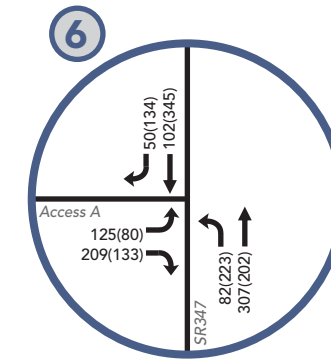
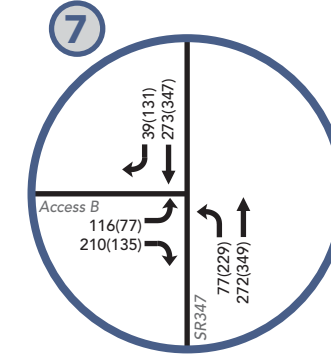
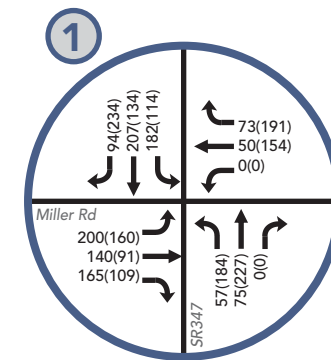
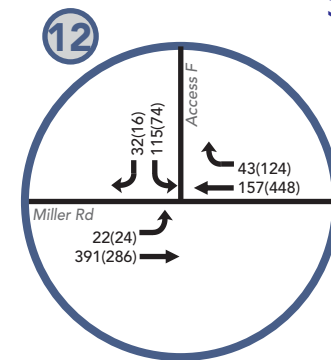
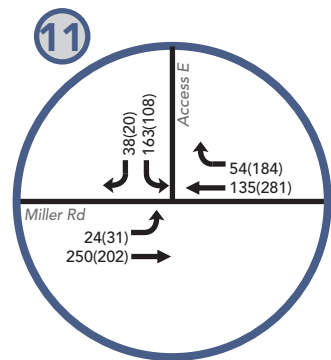
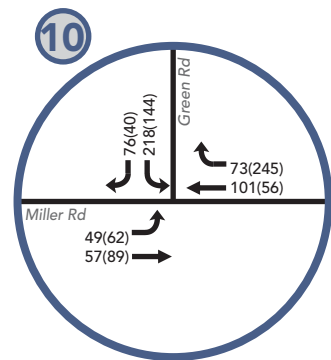
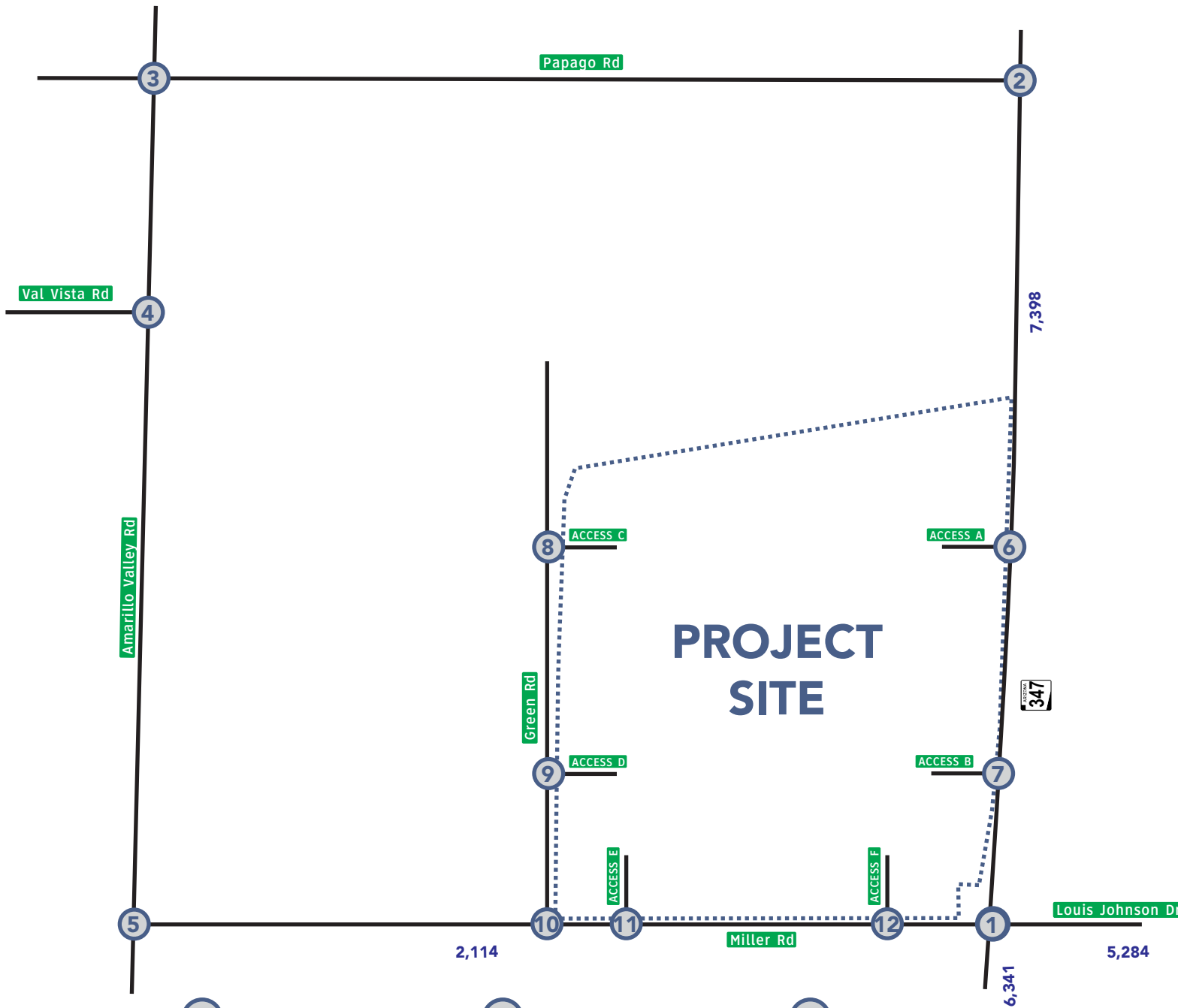
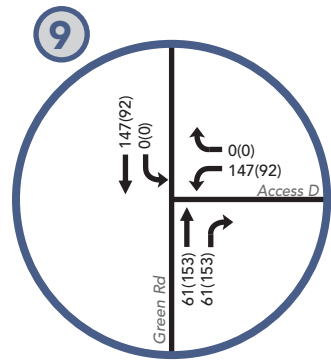
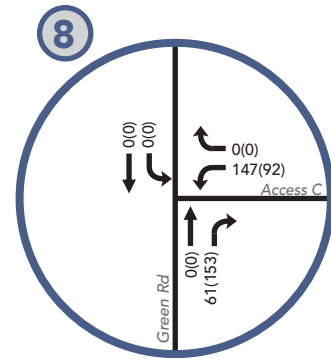
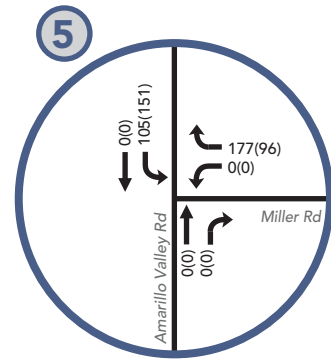
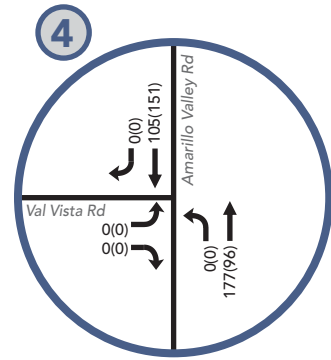
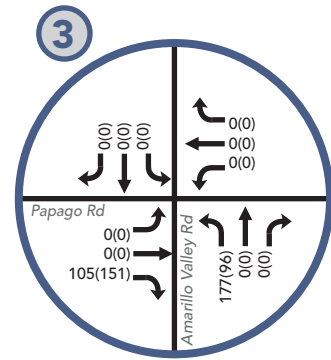


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XX(XX) AM(PM) Peak Hour Traffic Volume

XX ADT

Figure 7: Site Generated Traffic and Trip Distribution - Phases 1-3

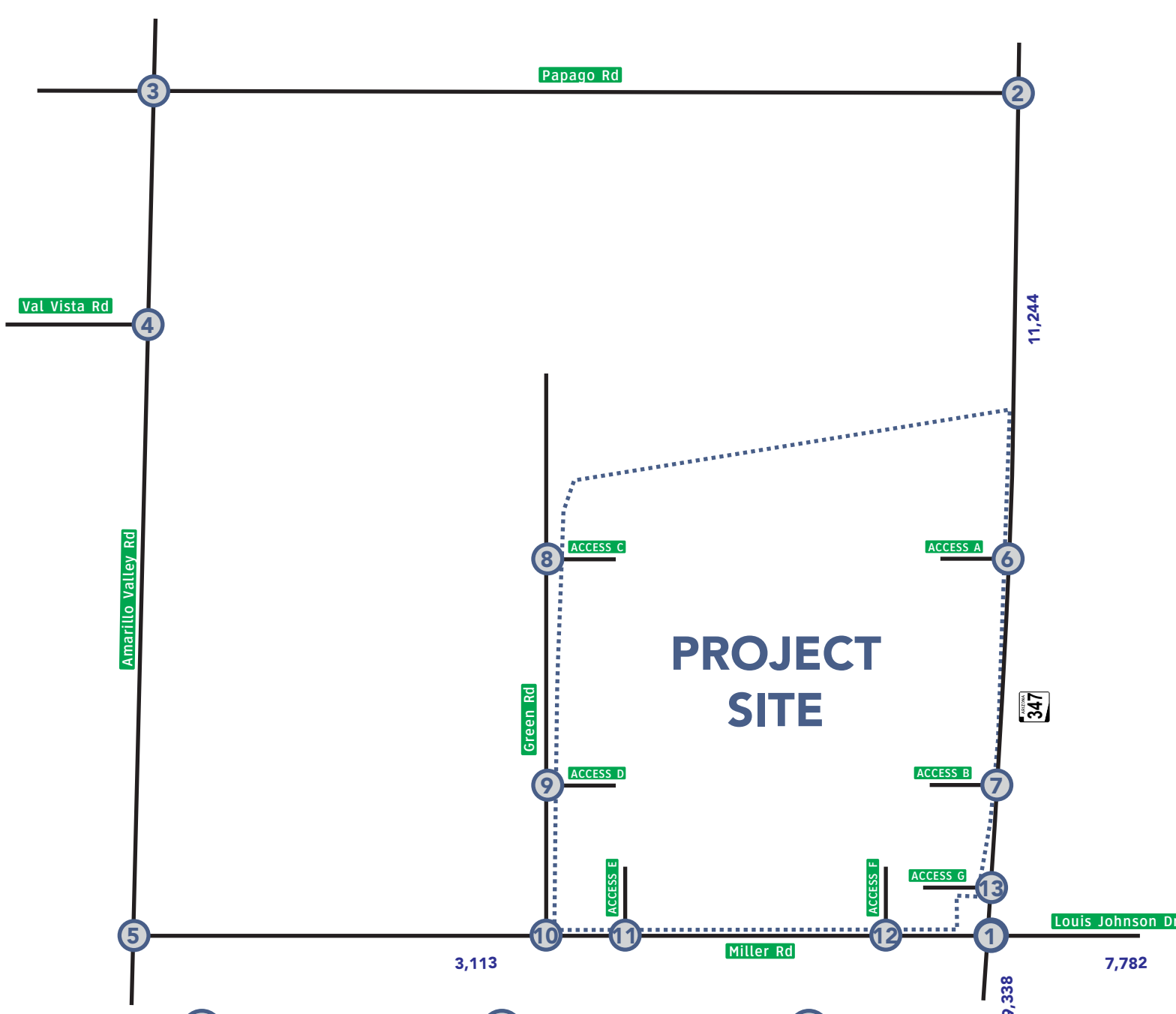
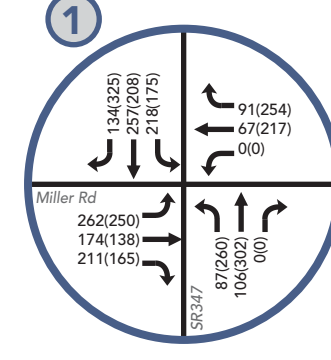
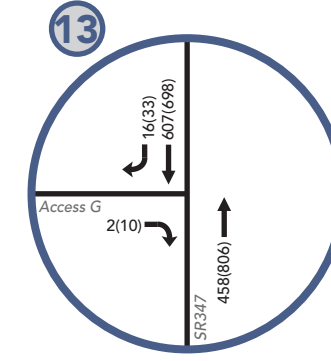
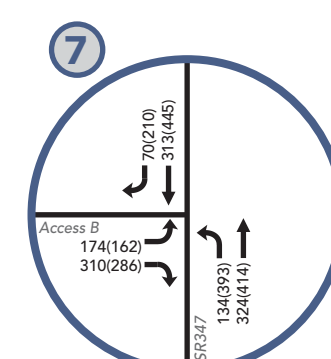
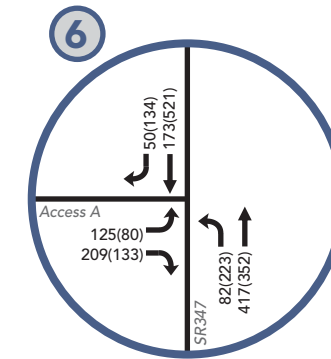
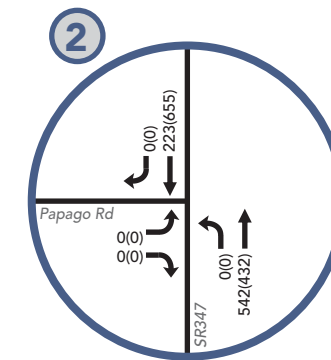
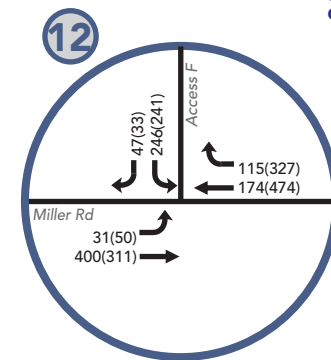
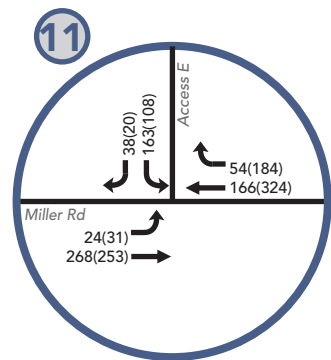
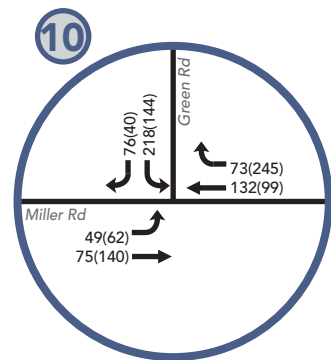
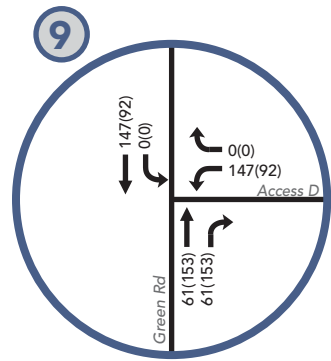
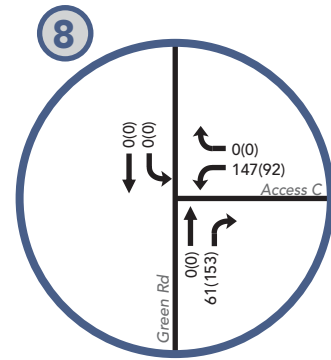
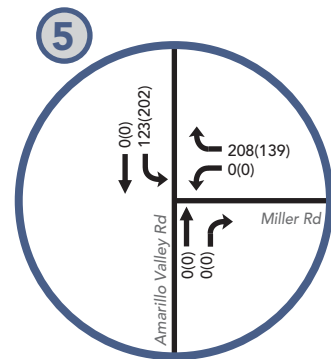
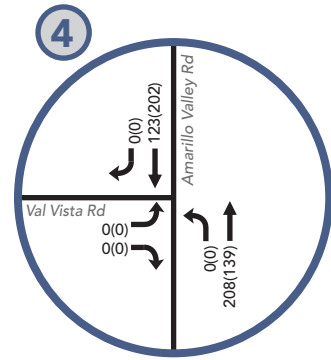
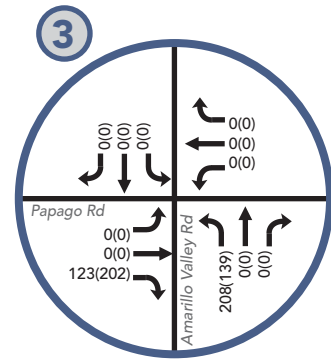


LEGEND

XX(XX) AM(PM) Peak Hour Traffic Volume

XX ADT

Figure 8: Site Generated Traffic and Trip Distribution - Phases 1-4



LEGEND

XX(XX) AM(PM) Peak Hour Traffic Volume

XX ADT

Figure 9: Site Generated Traffic and Trip Distribution - Full Build Out

C. Projected Background Traffic

Non-site or background traffic volumes representing the amount of traffic estimated to be on the area roadway network without the proposed development within the study area were projected for the horizon years of the development, year 2023 (Phase I), year 2025 (Phase II), year 2027 (Phase III), year 2029 (Phase IV), year 2030 (Phase V) and years 2035 and 2040 (five years and 10 years after full build-out). A yearly ambient growth rate for the area of two percent was assumed through each horizon year.

Capacity analyses at the existing study area intersections were performed for the forecasted background traffic for the horizon years of the study, as presented in **Figures 10 through 16. Tables 8 through 14** below present the background levels of service at the study area intersection without the proposed development and without any of the recommended improvements. Complete capacity analyses are provided in *Appendix B: Capacity Analyses*.

Table 8: 2023 Background Conditions Intersection Levels of Service

Intersection Location	NB LOS				SB LOS				EB LOS				WB LOS				Overall Intersection
	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	AvgDelay/LOS*
SR347/Miller Road/Louis Johnson Drive – Two Way Stop Controlled																	
AM Peak Hour	A	A	A	A	A	A	-	A	-	B	-	B	B	B	A	B	11.11 B*
PM Peak Hour	A	A	-	A	A	A	A	A	B	B	A	B	B	B	A	B	10.48 B*
SR347/Papago Road – One Way Stop Controlled																	
AM Peak Hour	A	A	-	A	-	A	A	A	B	-	B	B	-	-	-	-	13.17 B*
PM Peak Hour	A	A	-	A	-	A	A	A	B	-	B	B	-	-	-	-	13.11 B*
Amarillo Valley Road/Papago Road – Two Way Stop Controlled																	
AM Peak Hour	A	-	A	A	-	-	-	-	-	B	A	B	B	A	-	A	10.06 B*
PM Peak Hour	A	-	A	A	-	-	-	-	-	A	A	A	B	B	-	B	10.70 B*
Amarillo Valley Road/Val Visa Road – One Way Stop Controlled																	
AM Peak Hour	A	A	-	A	-	A	A	A	A	-	A	A	-	-	-	-	8.65 A*
PM Peak Hour	A	A	-	A	-	A	A	A	A	-	-	A	-	-	-	-	8.77 A*
Amarillo Valley Road/Miller Road – One Way Stop Controlled																	
AM Peak Hour	-	A	A	A	A	A	-	A	-	-	-	-	A	-	A	A	8.52 A*
PM Peak Hour	-	A	A	A	A	A	-	A	-	-	-	-	A	-	A	A	8.64 A*

*The overall LOS letter grade for two-way stop-controlled intersections is shown as the worst approach.

Table 9: 2025 Background Conditions Intersection Levels of Service

Intersection Location	NB LOS				SB LOS				EB LOS				WB LOS				Overall Intersection
	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	AvgDelay/LOS*
SR347/Miller Road/Louis Johnson Drive – Two Way Stop Controlled																	
AM Peak Hour	A	A	A	A	A	A	-	A	-	B	-	B	B	B	A	B	13.29 B*
PM Peak Hour	A	A	-	A	A	A	A	A	B	B	A	B	B	C	B	B	12.53 B*
SR347/Papago Road – Signalized																	
AM Peak Hour	C	C	-	C	-	D	D	D	F	-	A	D	-	-	-	-	44.12 D
PM Peak Hour	B	B	-	B	-	B	F	F	F	-	C	F	-	-	-	-	108.26 F
Amarillo Valley Road/Papago Road – Signalized																	
AM Peak Hour	C	A	D	D	D	A	C	D	A	A	A	A	A	A	A	A	16.73 B
PM Peak Hour	C	A	D	D	D	A	C	D	A	A	A	A	A	A	A	A	11.65 B
Amarillo Valley Road/Val Visa Road – One Way Stop Controlled																	
AM Peak Hour	A	A	-	A	-	A	A	A	A	-	A	A	-	-	-	-	9.64 A*
PM Peak Hour	A	A	-	A	-	A	A	A	B	-	-	B	-	-	-	-	10.14 B*
Amarillo Valley Road/Miller Road – One Way Stop Controlled																	
AM Peak Hour	-	A	A	A	A	A	-	A	-	-	-	-	A	-	A	A	9.35 A*
PM Peak Hour	-	A	A	A	A	A	-	A	-	-	-	-	B	-	A	A	9.55 A*

Table 10: 2027 Background Conditions Intersection Levels of Service

Intersection Location	NB LOS				SB LOS				EB LOS				WB LOS				Overall Intersection
	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	AvgDelay/LOS*
SR347/Miller Road/Louis Johnson Drive – Two Way Stop Controlled																	
AM Peak Hour	A	A	A	A	A	A	-	A	-	B	-	B	B	B	A	B	13.42 B*
PM Peak Hour	A	A	-	A	A	A	A	A	B	B	A	B	B	C	B	B	12.63 B*
SR347/Papago Road – Signalized																	
AM Peak Hour	C	C	-	C	-	D	D	D	F	-	A	D	-	-	-	-	45.04 D
PM Peak Hour	B	B	-	B	-	B	F	F	F	-	C	F	-	-	-	-	109.83 F
Amarillo Valley Road/Papago Road – Signalized																	
AM Peak Hour	C	A	D	D	D	A	C	D	A	A	A	A	A	A	A	A	19.32 B
PM Peak Hour	C	A	D	D	D	A	C	D	A	A	A	A	A	A	A	A	12.98 B
Amarillo Valley Road/Val Visa Road – One Way Stop Controlled																	
AM Peak Hour	A	A	-	A	-	A	A	A	A	-	A	A	-	-	-	-	9.65 A*
PM Peak Hour	A	A	-	A	-	A	A	A	B	-	-	B	-	-	-	-	10.16 B*
Amarillo Valley Road/Miller Road – One Way Stop Controlled																	
AM Peak Hour	-	A	A	A	A	A	-	A	-	-	-	-	A	-	A	A	9.39 A*
PM Peak Hour	-	A	A	A	A	A	-	A	-	-	-	-	B	-	A	A	9.55 A*

*The overall LOS letter grade for two-way stop-controlled intersections is shown as the worst approach.

Table 11: 2029 Background Conditions Intersection Levels of Service

Intersection Location	NB LOS				SB LOS				EB LOS				WB LOS				Overall Intersection
	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	AvgDelay/LOS*
SR347/Miller Road/Louis Johnson Drive – Two Way Stop Controlled																	
AM Peak Hour	A	A	A	A	A	A	-	A	-	B	-	B	B	B	A	B	13.49 B*
PM Peak Hour	A	A	-	A	A	A	A	A	B	C	A	B	B	C	B	B	12.81 B*
SR347/Papago Road – Signalized																	
AM Peak Hour	C	C	-	C	-	D	D	D	F	-	A	D	-	-	-	-	43.75 D
PM Peak Hour	B	B	-	B	-	B	F	F	F	-	C	F	-	-	-	-	111.16 F
Amarillo Valley Road/Papago Road – Signalized																	
AM Peak Hour	C	A	D	D	D	A	C	D	A	A	A	A	A	A	A	A	16.66 B
PM Peak Hour	C	A	D	D	D	A	C	D	A	A	A	A	A	A	A	A	11.57 B
Amarillo Valley Road/Val Visa Road – One Way Stop Controlled																	
AM Peak Hour	A	A	-	A	-	A	A	A	A	-	A	A	-	-	-	-	9.65 A*
PM Peak Hour	A	A	-	A	-	A	A	A	B	-	-	B	-	-	-	-	10.17 B*
Amarillo Valley Road/Miller Road – One Way Stop Controlled																	
AM Peak Hour	-	A	A	A	A	A	-	A	-	-	-	-	A	-	A	A	9.40 A*
PM Peak Hour	-	A	A	A	A	A	-	A	-	-	-	-	B	-	A	A	9.57 A*

Table 12: 2030 Background Conditions Intersection Levels of Service

Intersection Location	NB LOS				SB LOS				EB LOS				WB LOS				Overall Intersection
	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	AvgDelay/LOS*
SR347/Miller Road/Louis Johnson Drive – Two Way Stop Controlled																	
AM Peak Hour	A	A	A	A	A	A	-	A	-	C	-	C	B	C	A	B	16.16 C*
PM Peak Hour	A	A	-	A	A	A	A	A	C	C	B	C	C	C	B	B	15.40 C*
SR347/Papago Road – Signalized																	
AM Peak Hour	C	C	-	C	-	C	D	D	F	-	B	D	-	-	-	-	40.35 D
PM Peak Hour	B	A	-	B	-	A	F	F	F	-	D	F	-	-	-	-	244.37 F
Amarillo Valley Road/Papago Road – Signalized																	
AM Peak Hour	B	D	D	C	D	C	C	D	B	B	B	B	B	B	B	B	24.06 C
PM Peak Hour	C	D	D	D	D	C	C	D	A	B	B	B	A	B	B	B	18.68 B
Amarillo Valley Road/Val Visa Road – One Way Stop Controlled																	
AM Peak Hour	A	A	-	A	-	A	A	A	B	-	A	B	-	-	-	-	10.32 B*
PM Peak Hour	A	A	-	A	-	A	A	A	B	-	-	B	-	-	-	-	10.39 B*
Amarillo Valley Road/Miller Road – One Way Stop Controlled																	
AM Peak Hour	-	A	A	A	A	A	-	A	-	-	-	-	B	-	A	B	10.04 B*
PM Peak Hour	-	A	A	A	A	A	-	A	-	-	-	-	B	-	A	A	9.73 A*

*The overall LOS letter grade for two-way stop-controlled intersections is shown as the worst approach.

Table 13: 2035 Background Conditions Intersection Levels of Service

Intersection Location	NB LOS				SB LOS				EB LOS				WB LOS				Overall Intersection
	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	AvgDelay/LOS*
SR347/Miller Road/Louis Johnson Drive – Two Way Stop Controlled																	
AM Peak Hour	B	A	A	A	A	A	-	A	-	C	-	C	C	C	B	C	21.99 C*
PM Peak Hour	A	A	-	A	B	A	A	A	D	D	B	C	D	D	C	C	21.70 C*
SR347/Papago Road – Signalized																	
AM Peak Hour	E	C	-	D	-	C	D	D	C	-	C	C	-	-	-	-	32.53 C
PM Peak Hour	F	A	-	F	-	B	F	F	F	-	F	F	-	-	-	-	263.19 F
Amarillo Valley Road/Papago Road – Signalized																	
AM Peak Hour	B	C	D	D	D	C	C	C	B	C	B	C	B	C	C	C	26.70 C
PM Peak Hour	C	D	D	D	D	D	C	D	B	B	B	B	B	B	B	B	22.74 C
Amarillo Valley Road/Val Visa Road – One Way Stop Controlled																	
AM Peak Hour	A	A	-	A	-	A	A	A	C	-	B	C	-	-	-	-	19.06 C*
PM Peak Hour	A	A	-	A	-	A	A	A	C	-	-	C	-	-	-	-	24.95 C*
Amarillo Valley Road/Miller Road – One Way Stop Controlled																	
AM Peak Hour	-	A	A	A	A	A	-	A	-	-	-	-	C	-	B	C	15.05 C*
PM Peak Hour	-	A	A	A	A	A	-	A	-	-	-	-	D	-	B	C	20.1 C*

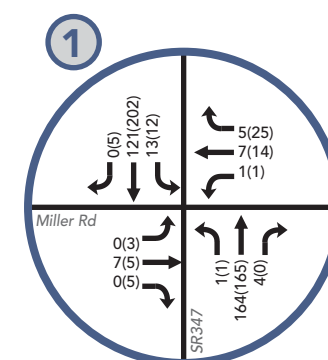
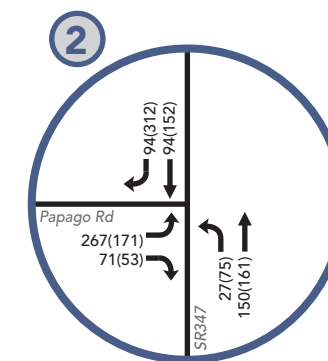
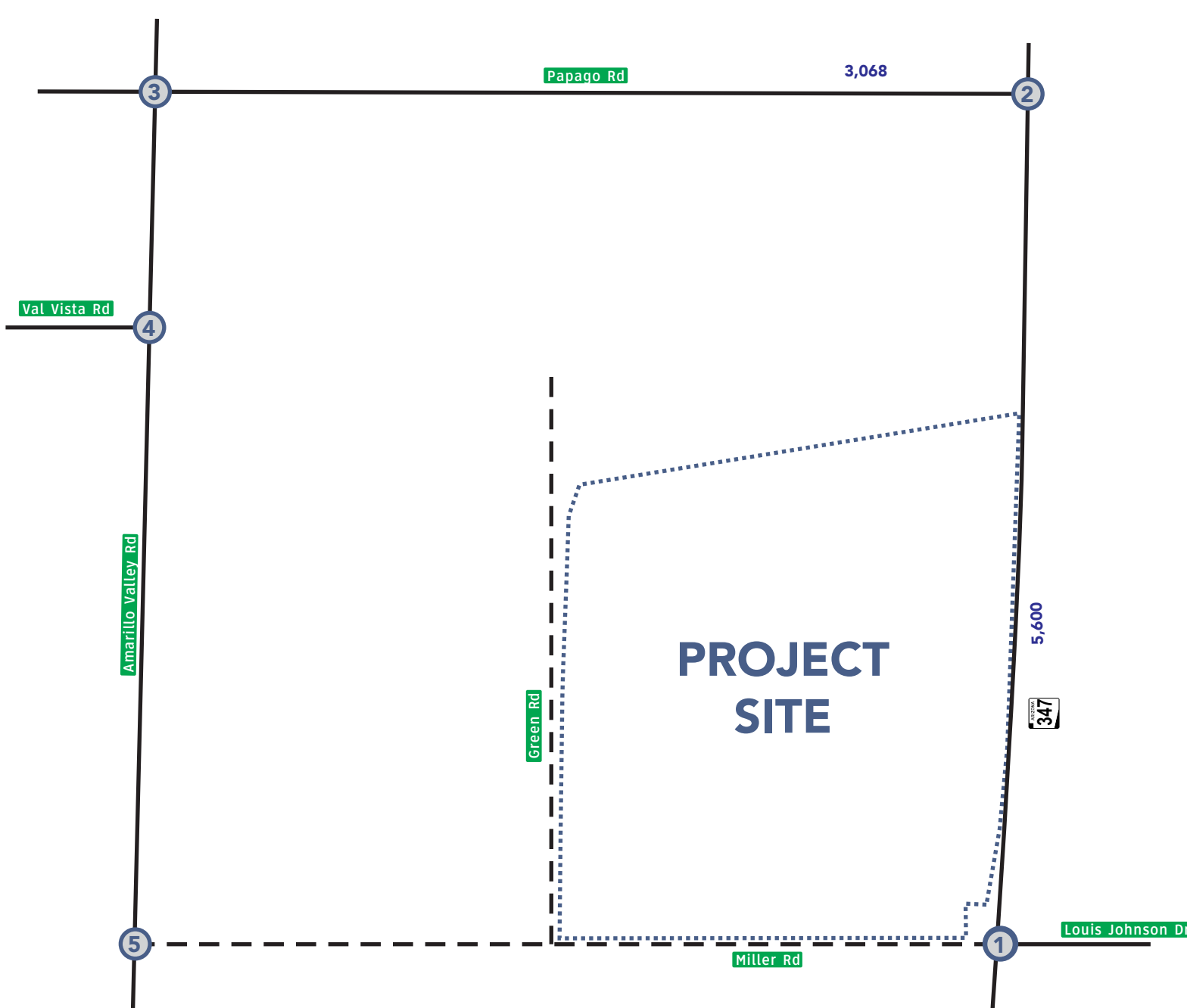
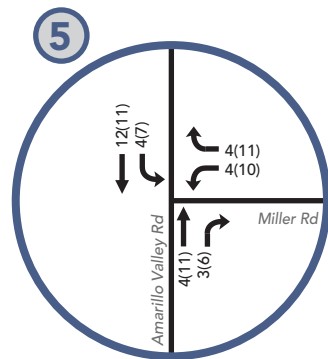
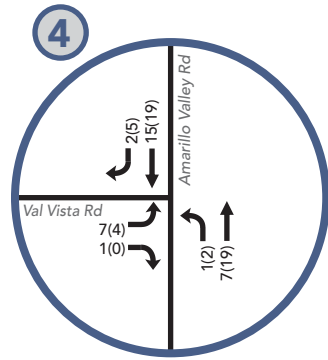
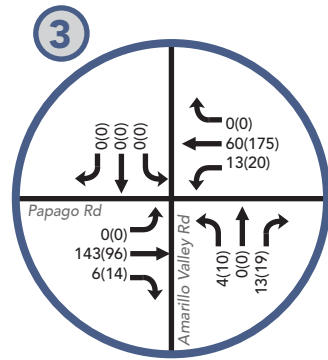
Table 14: 2040 Background Conditions Intersection Levels of Service

Intersection Location	NB LOS				SB LOS				EB LOS				WB LOS				Overall Intersection
	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	AvgDelay/LOS*
SR347/Miller Road/Louis Johnson Drive – Two Way Stop Controlled																	
AM Peak Hour	B	A	A	A	A	A	-	A	-	C	-	C	C	C	B	C	22.59 C*
PM Peak Hour	A	A	-	A	B	A	A	A	D	D	B	C	D	D	C	C	22.33 C*
SR347/Papago Road – Signalized																	
AM Peak Hour	E	B	-	D	-	C	D	C	D	-	C	D	-	-	-	-	37.78 D
PM Peak Hour	F	A	-	F	-	B	F	F	F	-	F	F	-	-	-	-	270.19 F
Amarillo Valley Road/Papago Road – Signalized																	
AM Peak Hour	B	D	D	C	D	C	C	D	B	C	B	B	B	B	B	B	24.80 C
PM Peak Hour	C	D	D	D	D	D	C	D	B	B	B	B	B	B	B	B	22.77 C
Amarillo Valley Road/Val Visa Road – One Way Stop Controlled																	
AM Peak Hour	A	A	-	A	-	A	A	A	C	-	B	C	-	-	-	-	19.23 C*
PM Peak Hour	A	A	-	A	-	A	A	A	D	-	-	D	-	-	-	-	25.18 D*
Amarillo Valley Road/Miller Road – One Way Stop Controlled																	
AM Peak Hour	-	A	A	A	A	A	-	A	-	-	-	-	C	-	B	C	15.13 B*
PM Peak Hour	-	A	A	A	A	A	-	A	-	-	-	-	D	-	C	C	20.07 C*

*The overall LOS letter grade for two-way stop-controlled intersections is shown as the worst approach.

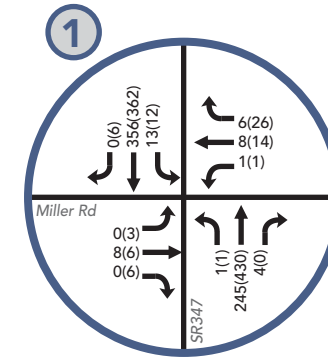
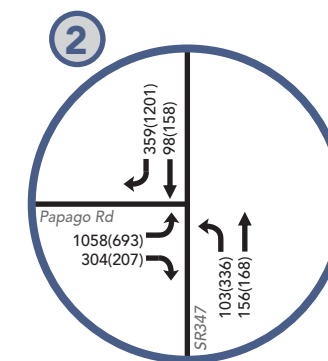
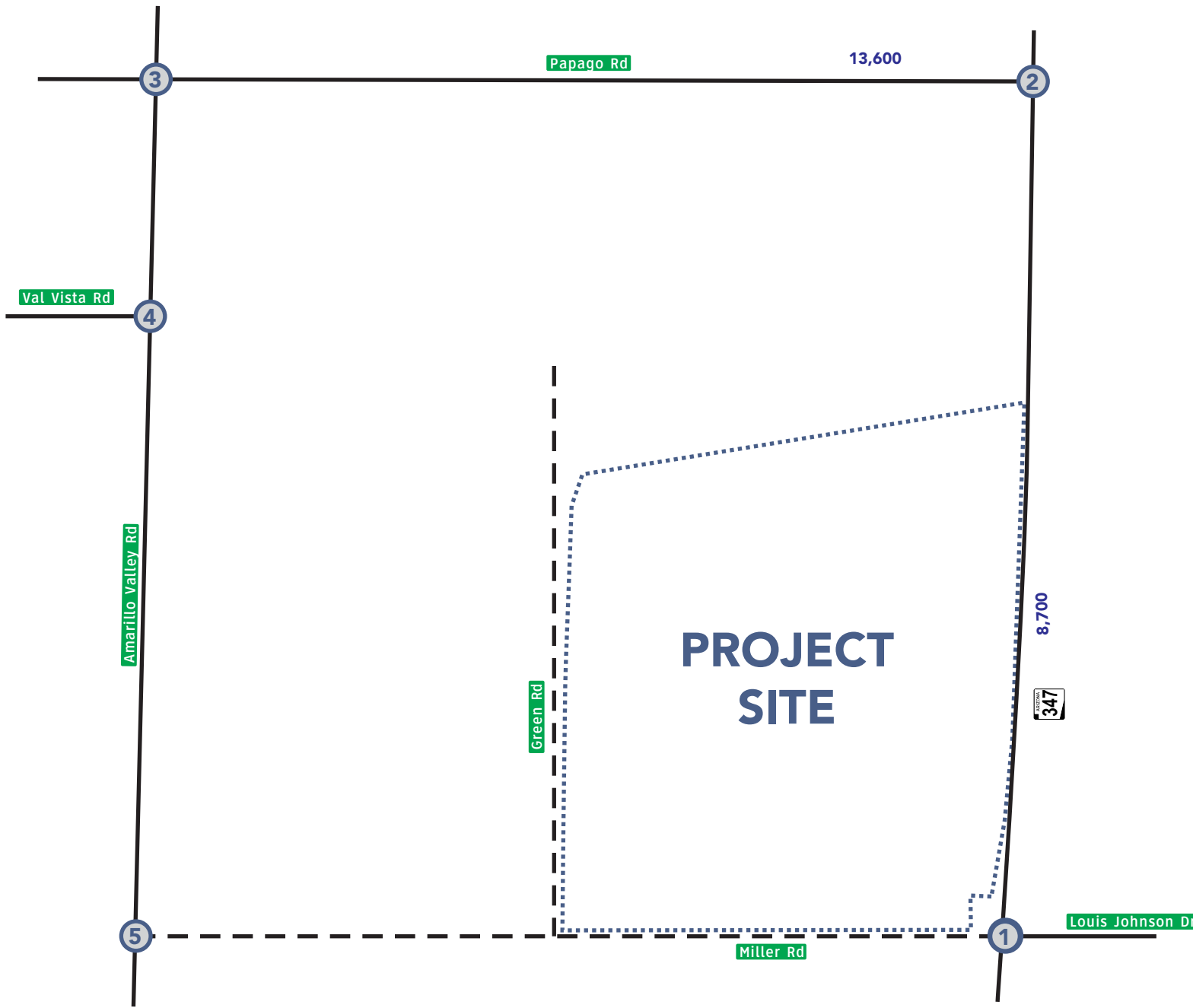
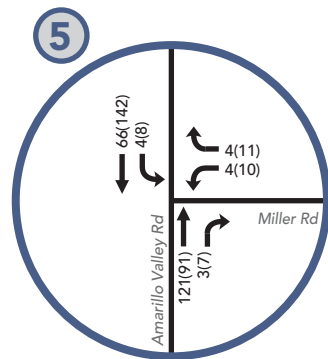
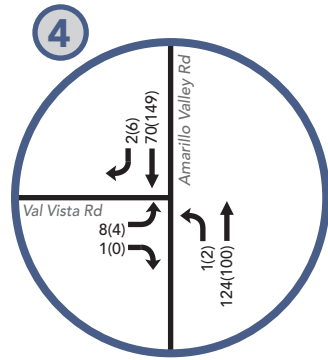
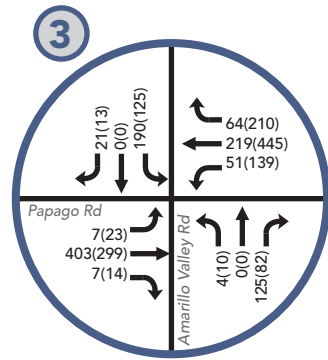
As shown, the existing study area intersections are projected to operate at an acceptable LOS C during the morning peak hours and evening peak hours in the background condition through year 2040 except for the intersection of SR347/Papago Road which produces unacceptable LOS F in the evening peak hour.

When additional infrastructure is constructed throughout the study area, traffic will redistribute on the roadway network and balance, likely improving the LOS at the intersection of Papago Road/SR347.



- LEGEND**
- XX(XX) AM(PM) Peak Hour Traffic Volume
 - Unimproved Road
 - XX ADT

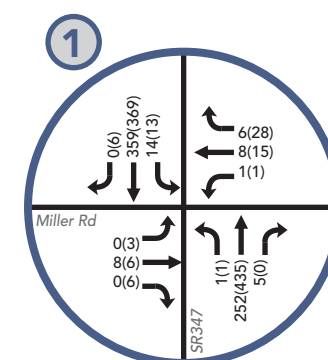
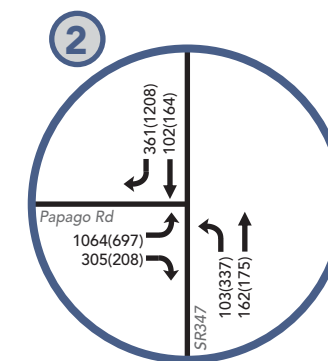
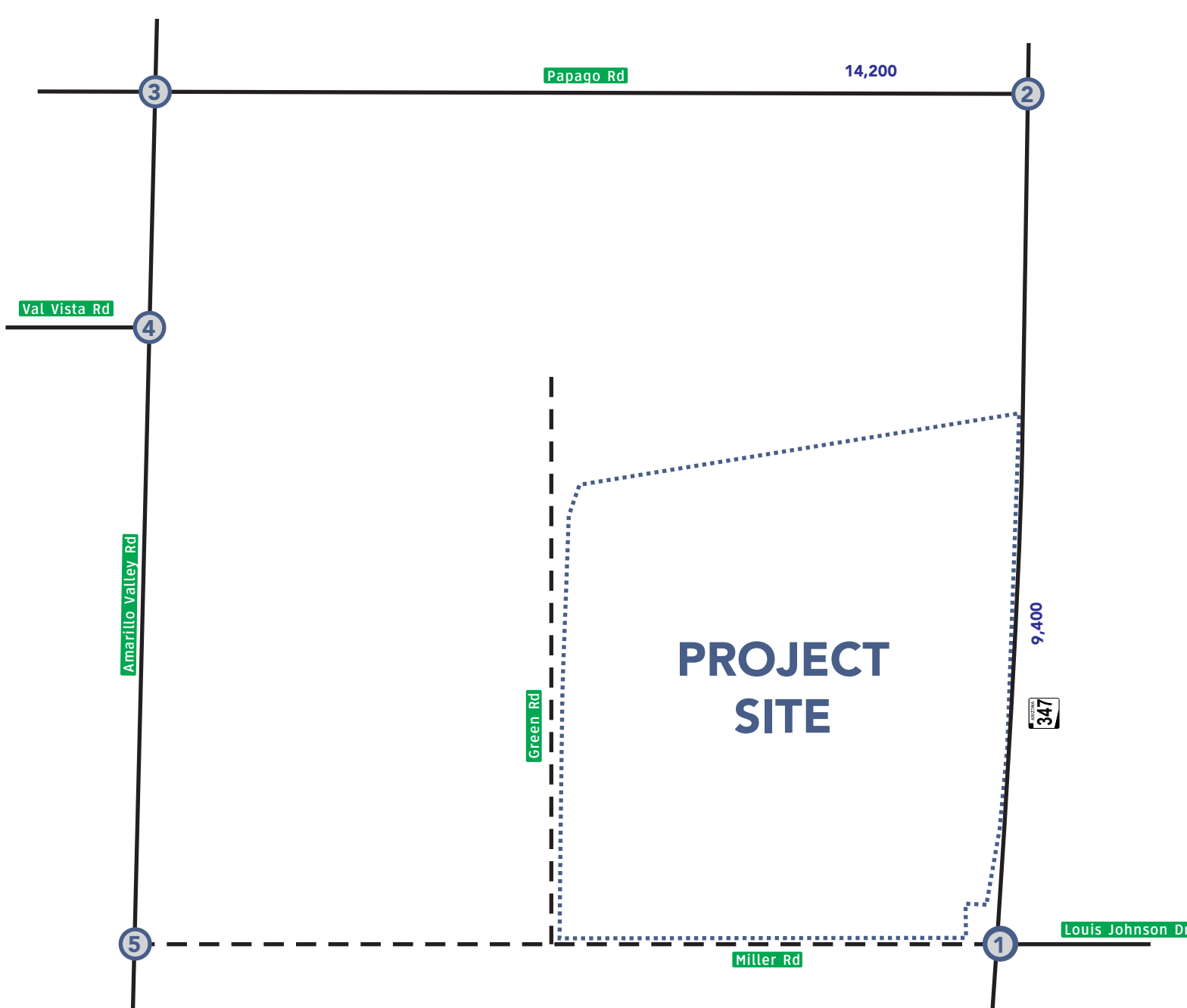
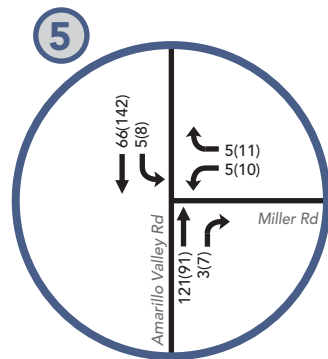
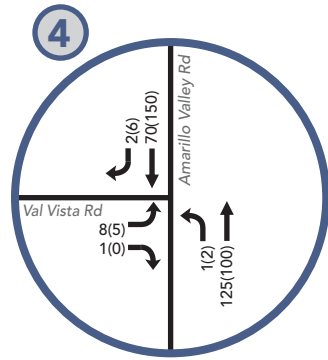
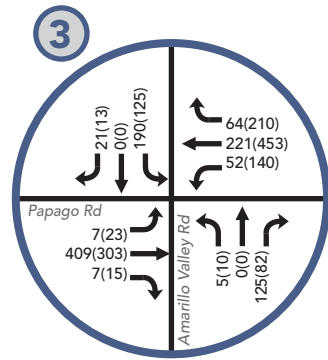
Figure 10: Background Traffic - Year 2023



LEGEND

- XX(XX) AM(PM) Peak Hour Traffic Volume
- Unimproved Road
- XX ADT

Figure 11: Background Traffic - Year 2025



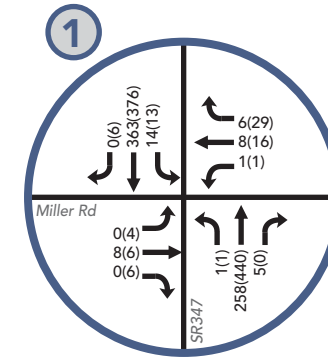
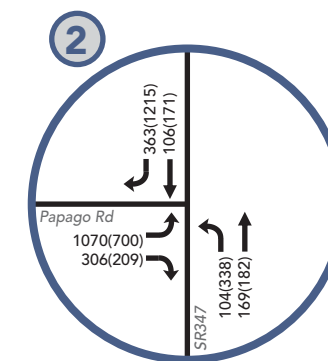
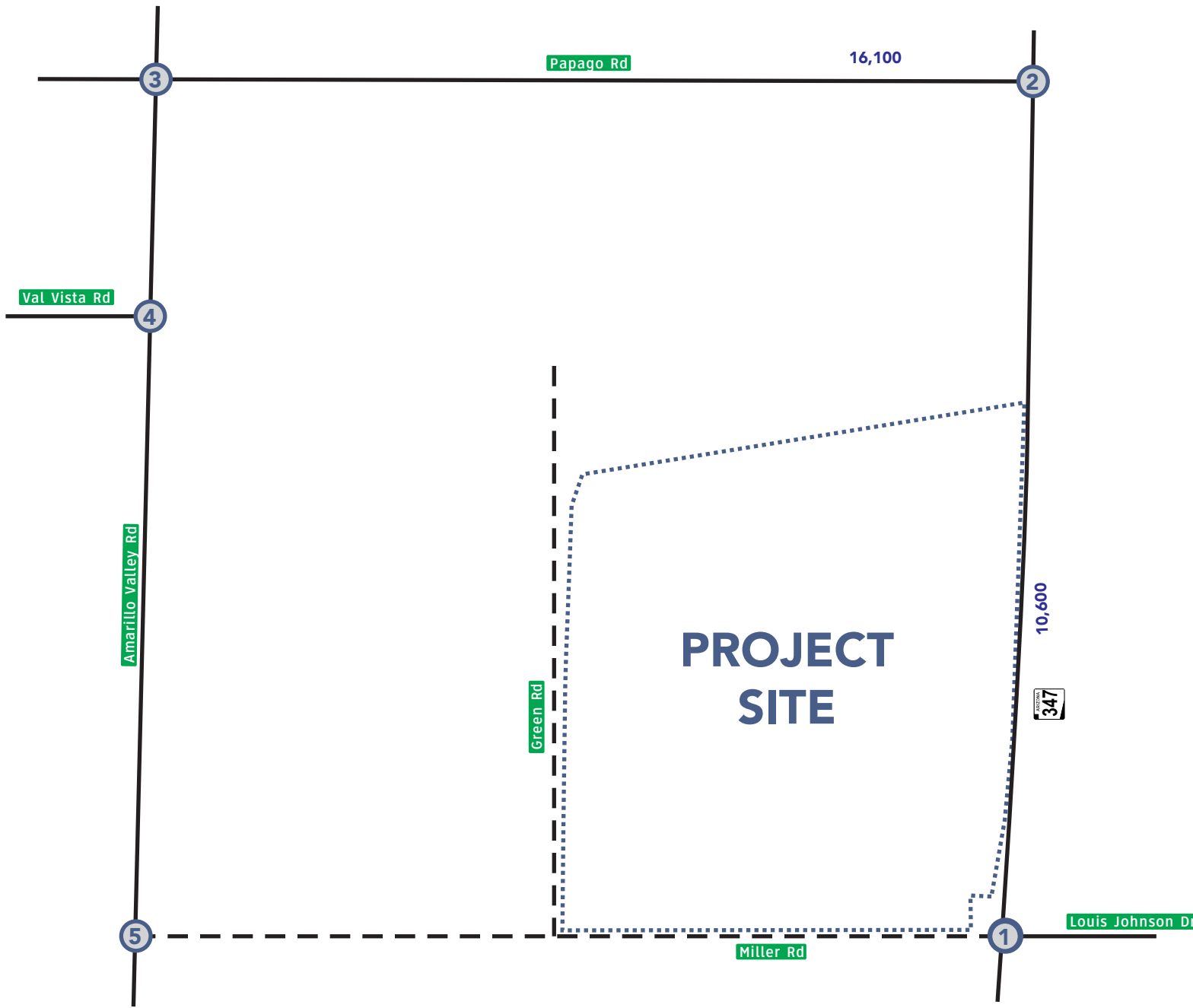
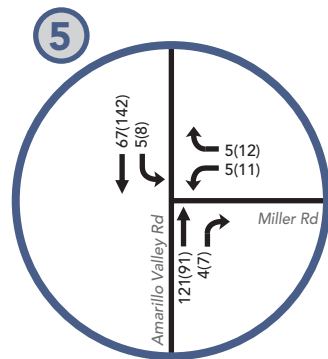
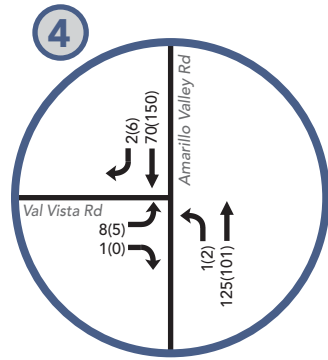
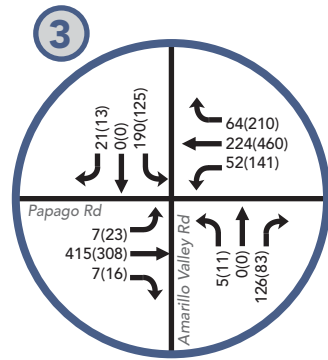
LEGEND

XX(XX) AM(PM) Peak Hour Traffic Volume

--- Unimproved Road

XX ADT

Figure 12: Background Traffic - Year 2027



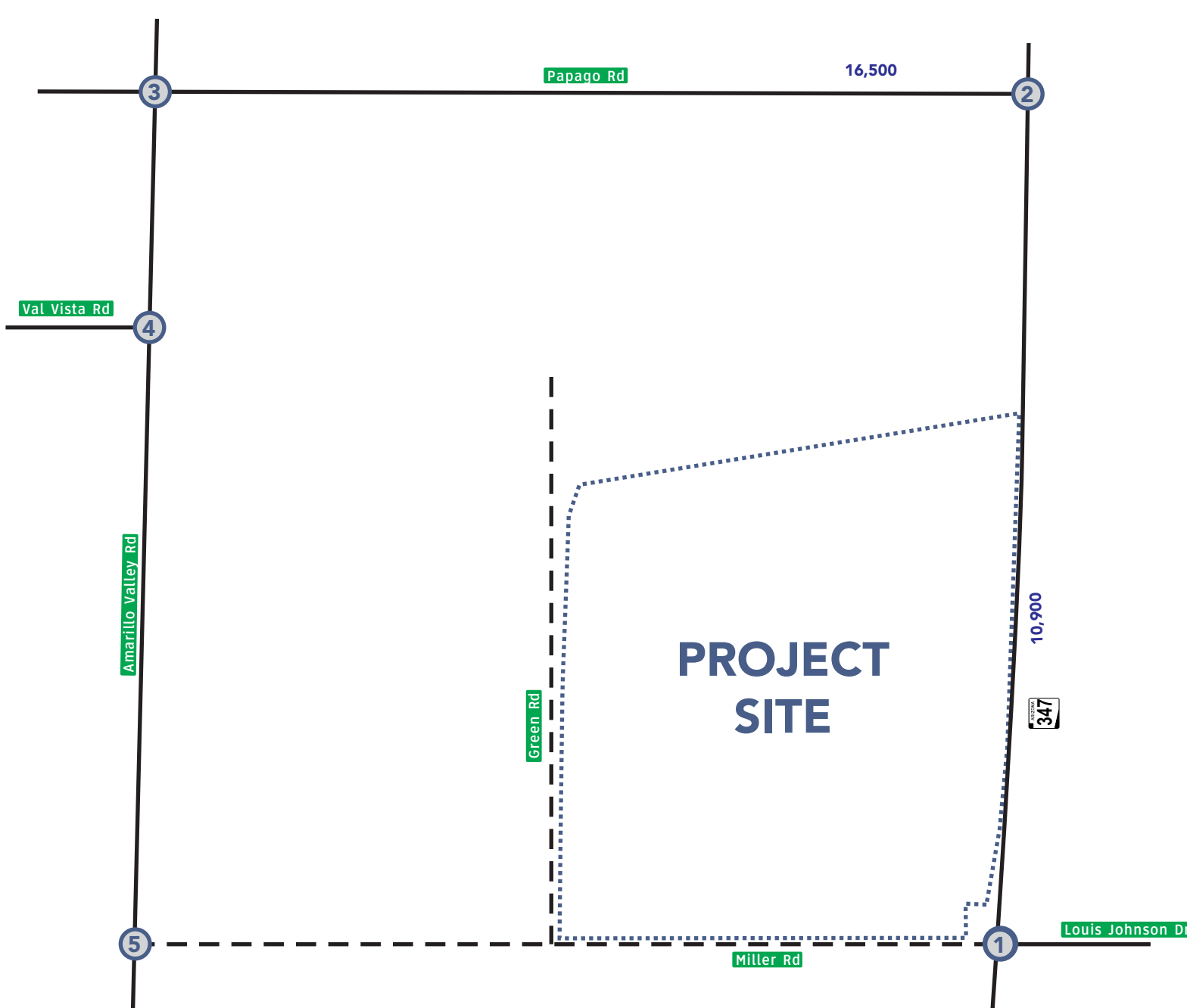
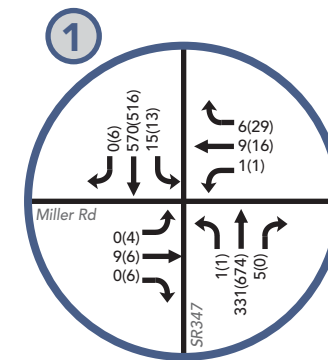
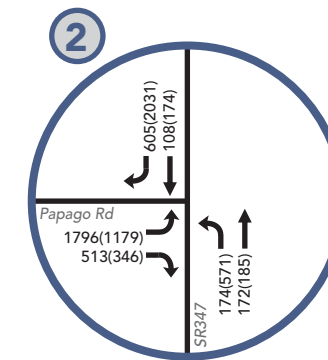
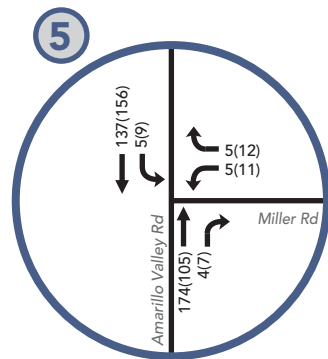
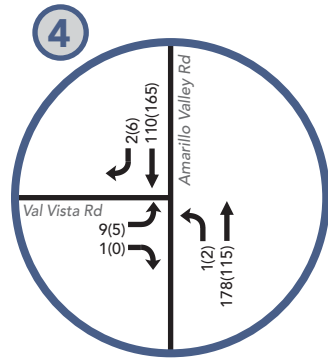
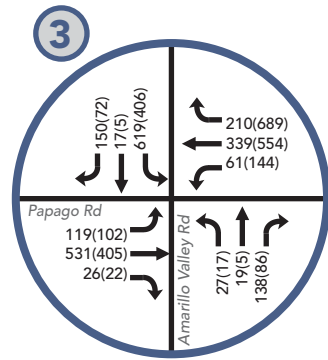
LEGEND

XX(XX) AM(PM) Peak Hour Traffic Volume

--- Unimproved Road

XX ADT

Figure 13: Background Traffic - Year 2029



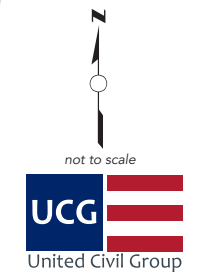
LEGEND

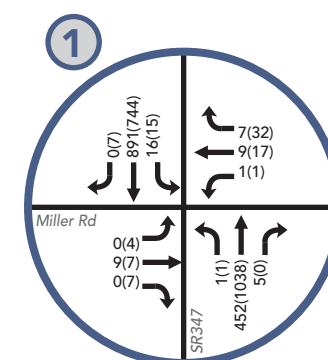
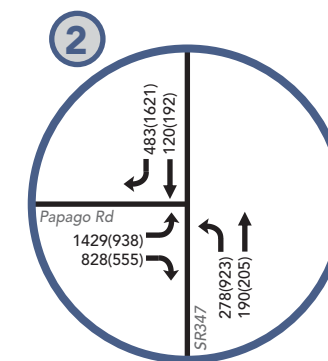
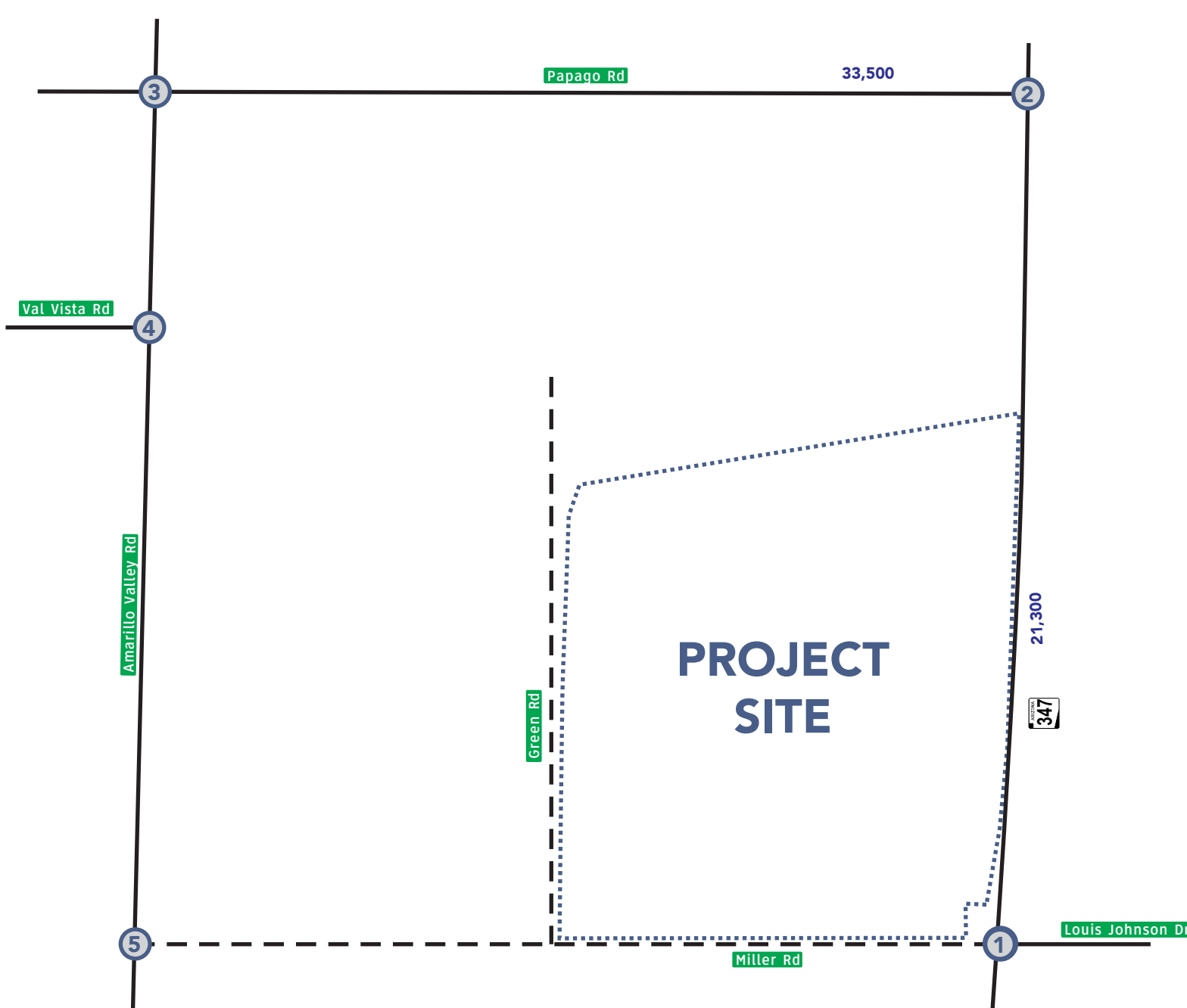
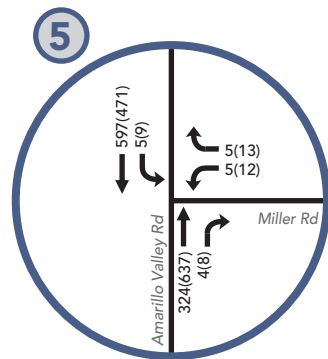
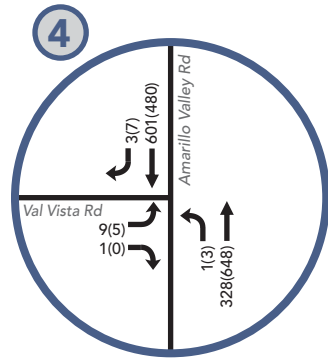
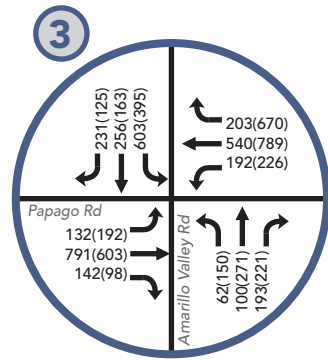
XX(XX) AM(PM) Peak Hour Traffic Volume

--- Unimproved Road

XX ADT

Figure 14: Background Traffic - Year 2030





- LEGEND**
- XX(XX) AM(PM) Peak Hour Traffic Volume
 - Unimproved Road
 - XX ADT

Figure 15: Background Traffic - Year 2035

VI. TRAFFIC AND IMPROVEMENT ANALYSIS

The purpose of this section is to show the relations between traffic operations and roadway geometrics; identify needs pertaining to progressive traffic flow and safety; and identify alternatives for further consideration, where applicable.

Figure 24 illustrates the recommendations from this section.

A. Accessibility to Midway Development

Access to the Midway development is provided via SR347, Miller Road, and Green Road through a collector road network. Access A is located on SR347 approximately $\frac{3}{4}$ mile north of Miller Road and planned as a full movement access to be built with Phase I of the development. Secondary emergency access for phase I is planned to Miller Road. Access B is located on SR347 approximately $\frac{1}{4}$ mile north of Miller Road and is planned as a full movement access to be built with Phase II of the development. Access C will be constructed in Phase II and is on Green Road approximately $\frac{3}{4}$ mile north of Miller Road. Access D is located approximately $\frac{1}{4}$ mile north of Miller Road on Green Road and will be constructed with Phase III. In addition, during Phase III, Access E will be constructed on Miller Road and is located $\frac{1}{4}$ mile east of Green Road. By Phase IV, the sixth access, Access F, will be constructed on Miller Road approximately $\frac{1}{4}$ mile west of SR347. Access G will be constructed as a right in/right out only into and out of the Midway commercial portion of the site. Access G is proposed on SR347.

When Phase IV develops as multifamily and commercial uses, it is assumed that additional access will be requested on Miller Road. These accesses could be proposed as full movements at the $\frac{1}{8}$ mile or limited to right in/right out as required by the development site planning.

B. Auxiliary Lane Analyses

B.1. Right Turn Lane Warrants

Per Pinal County Traffic Impact Assessment Guidelines & Procedures dated January 2007, right-turn lanes are warranted based on the right lane warrant chart which incorporates the right turn volume, the design hourly volume of the roadway and the posted speed. Therefore, exclusive right turn lanes are recommended in the following locations:

- Northbound on Green Road at Access C
- Northbound on Green Road at Access D
- Westbound on Miller Road at Access E
- Westbound on Miller Road at Access F
- Westbound on Miller Road at Green Road

Because ADOT controls and maintains the intersection of SR347/Miller Road, SR347/Access A, SR347/Access B, and SR347/Access G ADOT Traffic Guidelines and Processes Section 245 – Turn Lane Warrants were used to determine the need for right turn lanes per the Right Turn Lane Warrants Table on Page 245-1. Given the volume of right turning traffic at the three accesses, right turn lanes are required at the following locations:

- Southbound on SR347 at Access A
- Southbound on SR347 at Access B
- Southbound on SR347 at Access G
- Southbound on 347 at Miller Road
- Eastbound on Access A at SR347
- Eastbound on Access B at SR347
- Eastbound on Miller Road at SR347

B.2. Right Lane Queue and Storage Length Analysis

Per Section 5.12 Queuing Analysis of the Pinal County Traffic Impact Assessment Guidelines & Procedures dated January 2007, desirable storage lengths for right turn lanes on arterials and major collectors were calculated per Pinal County requirements. The queuing analysis was conducted for all turn lanes under stop or signal control using the methodology presented by the County.

Per ADOT Traffic Engineering Guidelines and Processes Section 430 Turn Lane Design the desirable storage lengths for the study intersections on SR347 and the accesses were calculated.

Table 15 presents the calculated desirable queue lengths and recommended storage lane lengths for the right turn deceleration lanes at the study intersections and site accesses.

Table 15: Right Turn Lane Analysis

Location		Turn Volume 2040	Calculated Storage (feet)	Desirable Braking Distance (feet)	Recommended Storage (feet)	Taper (feet)
On	At					
<i>Pinal County Methodology – Section 5.12 Queuing Analysis</i>						
Green Road	Access C	NB Right: 153	127	-	150	120
Green Road	Access D	NB Right: 215	178	-	200	120
Miller Road	Access E	WB Right: 245	203	-	225	120
Miller Road	Access F	WB Right: 504**	420	-	250	120
Miller Road	Green Road	WB Right: 306	254	-	275	120
<i>ADOT Methodology – Section 430 Turn Lane Design*</i>						
SR347 (65 mph)	Access A	SB Right: 134	182	415	600	140
SR347 (65 mph)	Access B	SB Right: 210	255	415	675	140
SR347 (65 mph)	Access G	SB Right: 33	69	415	500	140
SR347 (65 mph)	Miller Road	SB Right: 332	365	415	780	140
Access A (35 mph)	SR347	EB Right: 209	254	115	370	60
Access B (35 mph)	SR347	EB Right: 312	348	115	475	60
Miller Road (45 mph)	SR347	EB Right: 209	254	200	475	90

*Storage calculated based on signalization with C = 90 sec with 0.7 g/C on the minor leg and demand of 1.5

**Additional TIAs should be performed when commercial/multifamily develop for turn lane lengths as additional driveways will be needed to accommodate the site

B.3. Left Turn Lane Warrants

Per Pinal County Traffic Impact Assessment Guidelines & Procedures dated January 2007, left-turn lanes are warranted based on the left lane warrant chart which incorporates the left turn volume, the design hourly volume of the roadway and the posted speed. By 2040 it is assumed that Green Road will traverse north of the Midway boundary. Therefore, because Green Road is planned as an arterial roadway, exclusive left turn lanes are recommended. Exclusive left turn lanes are recommended in the following locations:

- Southbound on Green Road at Access C
- Southbound on Green Road at Access D
- Southbound on Green Road at Miller Road
- Eastbound on Miller Road at Access E
- Eastbound on Miller Road at Access F

Because ADOT controls and maintains the intersections of SR347/Access A, SR347/Access B and SR347/ Miller Road, *ADOT Traffic Guidelines and Processes Section 245 – Turn Lane Warrants* were used to determine the need for exclusive left turn lanes per the Left Turn Lane Warrants Table on Page 245-2. Given the volume of left turning traffic at the three accesses, left turn lanes are required at the following locations:

- Northbound on SR347 at Access A
- Northbound on SR347 at Access B
- Northbound on SR347 at Miller Road
- Eastbound on Access A at SR347
- Eastbound on Access B at SR347
- Eastbound on Miller Road at SR347

B.4. Left Lane Queue and Storage Length Analysis

Per *Section 5.12 Queuing Analysis* of the Pinal County Traffic Impact Assessment Guidelines & Procedures dated January 2007, desirable storage lengths for left turn lanes on arterials and major collectors were calculated per Pinal County requirements. The queuing analysis was conducted for all turn lanes under stop or signal control using the methodology presented by the County.

Per *ADOT Traffic Engineering Guidelines and Processes Section 430 Turn Lane Design* the desirable storage lengths for SR347 and the accesses were calculated.

Table 16 presents the calculated desirable queue lengths and recommended storage lane lengths for the right turn deceleration lanes at the study intersections and site accesses.

Table 16: Left Turn Lane Analysis

Location		Turn Volume	Calculated Storage (feet)	Desirable Braking Distance (feet)	Recommended Storage (feet)	Opening (feet)
On	At					
<i>Pinal County Methodology – Section 5.12 Queuing Analysis</i>						
Green Road	Access C	SB Left: 0	0	-	100	90
Green Road	Access D	SB Left: 0	0	-	100	90
Green Road	Miller Road	SB Left: 272	225	-	225	90
Miller Road	Access E	EB Left: 31	26	-	100	90
Miller Road	Access F	EB Left: 50	42	-	100	90
Access C	Green Road	WB Left: 147	122	-	125	90
Access D	Green Road	WB Left: 202	168	-	175	90
Access E	Miller Road	SB Left: 218	181	-	200	90
Access F	Miller Road	SB Left: 363	302	-	200**	90
<i>ADOT Methodology - Section 430 Turn Lane Design</i>						
SR347 (65 mph)	Access A	NB Left: 223	267	415	700*	140
SR347 (65 mph)	Access B	NB Left: 393	418	415	825*	140
SR347 (65 mph)	Miller Road	NB Left: 261	302	415	725*	140
Access A (35 mph)	SR 347	EB Left: 125	173	115	300	60
Access B (35 mph)	SR 347	EB Left: 172	220	115	325	60
Miller Road (45 mph)	SR 347	EB Left: 260	301	200	500	90

*Dual lefts are recommended by 2040. Storage calculated based on signalization C = 90 sec. For the left turn, it is assumed that braking begins 2/3 into the gap.

** Assume additional accesses will be provided as part of commercial/multifamily development

The taper for left turn lanes is based on the width of the transition x speed. For all tapers on SR347, the minimum would be passed on a 12-foot lane and a speed of 65 mph. If the taper is symmetrical, then a taper length of 390 will be required. Actual taper lengths should be calculated when the civil design/signing and striping plans are completed.

C. Traffic Signal Warrant Analysis

The 2009 *Manual on Uniform Traffic Control Devices* (MUTCD) was used as the primary tool to determine if a traffic signal is warranted at the intersections of SR347/Miller Road, SR347/Access A and SR347/Access B by full buildout.

There are nine specific signal warrants in the MUTCD; however, not all warrants are applicable to this study. The warrants used in this analysis include:

Warrant 1 – Eight-Hour Vehicular Volume

Warrant 2 – Four-Hour Vehicular Volume

Appendix C: Traffic Signal Warrant Analyses presents the results of the signal warrant analyses.

Warrant 1 – Eight-Hour Vehicular Volume

The Minimum Vehicular Volume, Condition A, is intended for application where the volume of intersecting traffic from a side street or driveway is the principal reason for considering installation of a traffic signal. In this condition, the warrant would be satisfied when, for each of any eight hours of an average day, the traffic volumes on the major and minor approach are equal to or exceeds specified limits located on *Table 4C-1 Warrant 1 Eight-Hour Vehicular Volume* in the *MUTCD 2009*.

The Interruption of Continuous Traffic, Condition B, is intended for application where the traffic volume on a major street is so heavy that the traffic on a minor intersection street or driveway has excessive delay or hazard in entering or crossing the major street. This warrant is met when, for each of any eight hours of an average day, the traffic volumes on the major and minor approach is equal to or exceeds specified limits located on *Table 4C-1 Warrant 1, Eight-Hour Vehicular Volume* in the *MUTCD 2009*.

Volume projections for the eight highest hours on an average day were determined by applying hourly adjustment factors calculated from the available peak hour turning movement count data.

Warrant 1 Results:

SR347/Miller Road - Warrant 1 is met for both Condition A and Condition B by 2027

SR347/Access A - Warrant 1 is met for both Condition A and Condition B by 2025

SR347/Access B - Warrant 1 is met for both Condition A and Condition B by 2027

Warrant 2 – Four-Hour Vehicular Volume

The four-hour vehicular volume signal warrant conditions are intended to be applied where the volume of intersecting traffic is the principal reason to consider installing a traffic control signal. This warrant is satisfied when, for each of any four hours of an

average day, plotted points representing vehicles per hour on the major street (total of both approaches) and the vehicles per hour on the minor street approach (one direction only) all fall above the appropriate curve located on *Figure 4C-2 Warrant 2, Four-Hour Vehicular Volume* in the *MUTCD 2009*.

Warrant 2 Results:

SR347/Miller Road - Warrant 2 is met by 2027

SR347/Access A - Warrant 2 is met by 2025

SR347/Access B - Warrant 2 is met by 2027

Signal Warrant Summary

The intersection of SR 347/Access A meets signal warrants 1 and 2 by year 2025 with the Midway development site buildout Phase I.

The intersection of SR 347/Access B meets signal warrants 1 and 2 by year 2027 with the Midway development site buildout Phases I and II.

The intersection of SR 347/Access B meets signal warrants 1 and 2 by year 2027 with the Midway development site buildout Phases I and II.

The traffic signal warrant analyses within this TIA are based on forecasted traffic volumes and conceptual land plans, site access, and assumed land uses.

The developer will complete traffic signal warrant analyses once actual development is realized to confirm traffic signal needs at the study intersections. The developer will commit to performing the signal warrant analyses using actual traffic counts prior to completion of the phase of development at the time it is expected traffic is estimated to meet the warrants as presented in the recommendations of this report.

The developer is responsible for the completion of the signal design plans when the signal warrants are met.

Developer is responsible for their proportional share of the signal costs based on the development:

SR347/Access A – 50%

SR347/Access B – 50%

SR347/Miller Road – 25%

D. Intersection Sight Distance

Proper intersection sight distance and sight triangles shall be provided and maintained at all site access driveways of the proposed development to give drivers exiting the site a clear view of oncoming traffic. The landscape and hardscape within the sight triangles must not obstruct the driver's view of the adjacent travel lanes. To ensure adequate sight distances and sight distance triangles are provided at the site access driveways per the most current edition of the American Association of State Highway and Transportation Officials, A Policy on Geometric Design of Highways and Streets and the Pinal County TIA Guidelines.

To ensure proper sight distance triangles are provided, design plans for landscape and hardscape shall include sight triangle provisions where needed prior to construction. Plans should not be approved that are exempt from these requirements.

E. School Queue Requirements

Morning drop-off and afternoon pick-up at school facilities create long queues for short amounts of time. These queues are the result of parents driving their children to and from school. Based on a review of the Institute of Transportation Engineers School Site Planning, Design and Transportation a desired queue length was calculated as 8 percent of the students for schools with one dismissal.

Because the site planning has not yet been performed for the elementary school, it was assumed that the schools would have approximately 600 students.

600 elementary students (.08 queue) (25 feet per vehicle) = 1,200 feet of on-site queue

When the school reaches 600 students, the desired queue per the ITE School Planning Report is 1,200 feet. Once site planning is complete and the actual number of maximum students in attendance is determined, the queue lengths should be confirmed.

F. Total Traffic

Total traffic projections for the horizon years were determined by adding the proposed development's site generated traffic to the forecasted background traffic volumes for the corresponding phase. **Figures 17 through 23** present the total traffic volumes during the morning and evening peak hours.

Capacity analyses at the study area intersections and site access intersections were performed using the recommended geometric infrastructure and forecasted total traffic for each horizon year of the study.

Tables 17 through 23 on the following pages present the total levels of service utilizing the recommended improvements. Capacity analyses are in Appendix B.

Table 17: 2023 Total Conditions Intersection Levels of Service

Intersection Location	NB LOS				SB LOS				EB LOS				WB LOS				Overall Intersection AvgDelay/ LOS*
	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	
SR347/Miller Road/Louis Johnson Drive – Two Way Stop Controlled																	
AM Peak Hour	A	A	A	A	A	A	-	A	-	B	-	B	B	B	A	B	11.73 B*
PM Peak Hour	A	A	-	A	A	A	A	A	B	B	A	B	B	B	A	B	11.06 B*
SR347/Papago Road – One Way Stop Controlled																	
AM Peak Hour	A	A	-	A	-	A	A	A	C	-	B	C	-	-	-	-	16.07 C*
PM Peak Hour	A	A	-	A	-	A	A	A	C	-	C	C	-	-	-	-	17.64 C*
Amarillo Valley Road/Papago Road – Two Way Stop Controlled																	
AM Peak Hour	A	-	A	A	-	-	-	-	-	B	A	B	B	A	-	A	10.06 B*
PM Peak Hour	A	-	A	A	-	-	-	-	-	A	A	A	B	B	-	B	10.70 B*
Amarillo Valley Road/Val Visa Road – One Way Stop Controlled																	
AM Peak Hour	A	A	-	A	-	A	A	A	A	-	A	A	-	-	-	-	8.65 A*
PM Peak Hour	A	A	-	A	-	A	A	A	A	-	-	A	-	-	-	-	8.77 A*
Amarillo Valley Road/Miller Road – One Way Stop Controlled																	
AM Peak Hour	-	A	A	A	A	A	-	A	-	-	-	-	A	-	A	A	8.52 A*
PM Peak Hour	-	A	A	A	A	A	-	A	-	-	-	-	A	-	A	A	8.64 A*
SR347/Access A – One Way Stop Controlled																	
AM Peak Hour	A	A	-	A	-	A	A	A	B	-	A	B	-	-	-	-	12.74 B*
PM Peak Hour	A	A	-	A	-	A	A	A	C	-	A	C	-	-	-	-	16.20 C*

*The overall LOS letter grade for two-way stop-controlled intersections is shown as the worst approach.

Table 18: 2025 Total Conditions Intersection Levels of Service

Intersection Location	NB LOS				SB LOS				EB LOS				WB LOS				Overall Intersection
	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	
SR347/Miller Road/Louis Johnson Drive – Two Way Stop Controlled																	
AM Peak Hour	A	A	A	A	A	A	-	A	-	C	-	C	B	C	A	B	15.21 C*
PM Peak Hour	A	A	-	A	A	A	A	A	C	C	B	B	C	C	B	B	14.38 B*
SR347/Papago Road – Signalized																	
AM Peak Hour	C	D	-	D	-	D	D	D	F	-	A	D	-	-	-	-	45.12 D
PM Peak Hour	D	B	-	C	-	C	F	F	F	-	C	F	-	-	-	-	87.01 F
Amarillo Valley Road/Papago Road – Signalized																	
AM Peak Hour	C	A	D	D	D	A	C	D	A	A	A	A	A	A	A	A	16.73 B
PM Peak Hour	C	A	D	D	D	A	C	D	A	A	A	A	A	A	A	A	13.03 B
Amarillo Valley Road/Val Visa Road – One Way Stop Controlled																	
AM Peak Hour	A	A	-	A	-	A	A	A	A	-	A	A	-	-	-	-	9.64 A*
PM Peak Hour	A	A	-	A	-	A	A	A	B	-	-	B	-	-	-	-	10.14 B*
Amarillo Valley Road/Miller Road – One Way Stop Controlled																	
AM Peak Hour	-	A	A	A	A	A	-	A	-	-	-	-	A	-	A	A	9.35 A*
PM Peak Hour	-	A	A	A	A	A	-	A	-	-	-	-	B	-	A	A	9.55 A*
SR347/Access A – Signalized																	
AM Peak Hour	A	A	-	A	-	B	B	B	C	-	C	C	-	-	-	-	20.48 C
PM Peak Hour	A	A	-	A	-	A	B	B	D	-	C	D	-	-	-	-	16.01 B

*The overall LOS letter grade for two-way stop-controlled intersections is shown as the worst approach.

Using the projected total traffic volumes for 2023 and 2025 and the improvements proposed for year 2025, all the study intersections will operate at an acceptable LOS C or better after the first and second phases of the Midway development are constructed and occupied. This includes signaling the intersection of SR347/Access A.

Table 19: 2027 Total Conditions Intersection Levels of Service

Intersection Location	NB LOS				SB LOS				EB LOS				WB LOS				Overall Intersection AvgDelay/ LOS*
	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	
SR347/Miller Road/Louis Johnson Drive – Signalized																	
AM Peak Hour	D	B	B	B	D	A	A	B	D	C	C	D	F	D	D	D	23.39 C
PM Peak Hour	D	B	A	B	D	B	B	B	D	C	C	D	F	D	D	D	25.16 C
SR347/Papago Road – Signalized																	
AM Peak Hour	C	D	-	D	-	D	D	D	F	-	A	D	-	-	-	-	44.66 D
PM Peak Hour	C	B	-	C	-	B	F	F	F	-	C	F	-	-	-	-	92.92 F
Amarillo Valley Road/Papago Road – Signalized																	
AM Peak Hour	C	A	D	C	D	A	D	D	A	A	A	A	A	A	A	A	18.11 B
PM Peak Hour	D	A	D	D	D	A	D	D	A	A	A	A	A	A	A	A	12.92 B
Amarillo Valley Road/Val Visa Road – One Way Stop Controlled																	
AM Peak Hour	A	A	-	A	-	A	A	A	B	-	A	B	-	-	-	-	11.58 B*
PM Peak Hour	A	A	-	A	-	A	A	A	B	-	-	B	-	-	-	-	11.91 B*
Amarillo Valley Road/Miller Road – One Way Stop Controlled																	
AM Peak Hour	-	A	A	A	A	A	-	A	-	-	-	-	B	-	A	B	10.03 B*
PM Peak Hour	-	A	A	A	A	A	-	A	-	-	-	-	B	-	A	A	9.84 A*
SR347/Access A – Signalized																	
AM Peak Hour	A	A	-	A	-	A	A	A	D	-	D	D	-	-	-	-	11.41 B
PM Peak Hour	A	A	-	A	-	A	A	A	D	-	D	D	-	-	-	-	7.13 A
SR347/Access B – Signalized																	
AM Peak Hour	A	A	-	A	-	A	A	A	D	-	D	D	-	-	-	-	10.82 B
PM Peak Hour	A	A	-	A	-	A	A	A	D	-	D	D	-	-	-	-	6.77 A
Miller Road/Access E – One Way Stop Controlled																	
AM Peak Hour	-	-	-	-	B	-	A	B	A	A	-	A	-	A	A	A	11.24 B*
PM Peak Hour	-	-	-	-	B	-	A	B	A	A	-	A	-	A	A	A	10.67 B*
Miller Road/Access F – One Way Stop Controlled																	
AM Peak Hour	-	-	-	-	B	-	A	B	A	A	-	A	-	A	A	A	13.47 B*
PM Peak Hour	-	-	-	-	B	-	B	B	A	A	-	A	-	A	A	A	12.60 B*

*The overall LOS letter grade for two-way stop-controlled intersections is shown as the worst approach.

With the addition of Phase III of Midway, the intersections will continue to perform at acceptable LOS C or better in the morning and evening peak hours once the intersection of SR347/Access B is signalized.

Signalization of the intersections shown should be installed once warrants are met to reduce the likelihood of unacceptable LOS at the intersection.

Table 20: 2029 Total Conditions Intersection Levels of Service

Intersection Location	NB LOS				SB LOS				EB LOS				WB LOS				Overall Intersection AvgDelay/ LOS*
	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	
SR347/Miller Road/Louis Johnson Drive – Signalized																	
AM Peak Hour	D	B	B	B	D	B	A	B	D	C	C	D	E	D	D	D	24.80 C
PM Peak Hour	D	B	A	C	D	B	B	B	D	C	C	D	E	C	D	D	26.27 C
SR347/Papago Road – Signalized																	
AM Peak Hour	C	D	-	D	-	D	D	D	F	-	A	D	-	-	-	-	44.84 D
PM Peak Hour	D	B	-	C	-	B	F	F	F	-	C	F	-	-	-	-	91.12 F
Amarillo Valley Road/Papago Road – Signalized																	
AM Peak Hour	C	A	D	C	D	A	D	D	A	A	A	A	A	A	A	A	18.38 B
PM Peak Hour	D	A	D	D	D	A	D	D	A	A	A	A	A	A	A	A	13.20 B
Amarillo Valley Road/Val Visa Road – One Way Stop Controlled																	
AM Peak Hour	A	A	-	A	-	A	A	A	B	-	A	B	-	-	-	-	11.84 B*
PM Peak Hour	A	A	-	A	-	A	A	A	B	-	-	B	-	-	-	-	12.47 B*
Amarillo Valley Road/Miller Road – One Way Stop Controlled																	
AM Peak Hour	-	A	A	A	A	A	-	A	-	-	-	-	B	-	B	B	10.17 B*
PM Peak Hour	-	A	A	A	A	A	-	A	-	-	-	-	B	-	A	B	10.07 B*
SR347/Access A – Signalized																	
AM Peak Hour	A	A	-	A	-	A	A	A	C	-	D	D	-	-	-	-	12.85 B
PM Peak Hour	A	A	-	A	-	A	A	A	D	-	D	D	-	-	-	-	8.64 A
SR347/Access B – Signalized																	
AM Peak Hour	A	A	-	A	-	A	A	A	C	-	D	D	-	-	-	-	12.64 B
PM Peak Hour	A	A	-	A	-	A	A	A	D	-	D	D	-	-	-	-	8.27 A
Green Road/Access C – One Way Stop Controlled																	
AM Peak Hour	-	-	A	A	-	-	-	-	-	-	-	-	A	-	-	A	9.45 A*
PM Peak Hour	-	-	A	A	-	-	-	-	-	-	-	-	A	-	-	A	9.14 A*
Green Road/Access D – One Way Stop Controlled																	
AM Peak Hour	-	A	A	A	-	A	-	A	-	-	-	-	B	-	-	B	10.60 B*
PM Peak Hour	-	A	A	A	-	A	-	A	-	-	-	-	B	-	-	B	10.26 B*
Miller Road/Access E – One Way Stop Controlled																	
AM Peak Hour	-	-	-	-	B	-	A	B	A	A	-	A	-	A	A	A	12.14 B*
PM Peak Hour	-	-	-	-	B	-	B	B	A	A	-	A	-	A	A	A	12.30 B*
Miller Road/Access F – One Way Stop Controlled																	
AM Peak Hour	-	-	-	-	B	-	A	B	A	A	-	A	-	A	A	A	12.59 B*
PM Peak Hour	-	-	-	-	B	-	B	B	A	A	-	A	-	A	A	A	13.47 B*
Green Road/Miller Road – One Way Stop Controlled																	
AM Peak Hour	-	-	-	-	B	-	A	B	A	A	-	A	-	A	A	A	12.44 B*
PM Peak Hour	-	-	-	-	B	-	A	B	A	A	-	A	-	A	A	A	12.02 B*

*The overall LOS letter grade for two-way stop-controlled intersections is shown as the worst approach.

With the addition of Phase III of Midway, the intersections will continue to perform at acceptable LOS C or better in the morning and evening peak hours once the intersection of SR347/Access B is signalized.

Table 21: 2030 Total Conditions Intersection Levels of Service

Intersection Location	NB LOS				SB LOS				EB LOS				WB LOS				Overall Intersection
	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	
SR347/Miller Road/Louis Johnson Drive – Signalized																	
AM Peak Hour	D	B	B	C	D	B	B	B	D	C	C	D	F	D	D	D	25.67 C
PM Peak Hour	D	C	A	C	E	C	C	C	D	C	C	D	E	C	D	D	33.34 C
SR347/Papago Road – Signalized																	
AM Peak Hour	C	C	-	C	-	C	D	D	F	-	B	D	-	-	-	-	39.50 D
PM Peak Hour	F	A	-	F	-	B	F	F	F	-	D	F	-	-	-	-	210.61 F
Amarillo Valley Road/Papago Road – Signalized																	
AM Peak Hour	C	D	D	C	D	C	C	D	B	B	B	B	B	B	B	B	23.68 C
PM Peak Hour	C	D	D	C	D	C	C	D	A	B	B	B	A	B	B	B	18.87 B
Amarillo Valley Road/Val Visa Road – One Way Stop Controlled																	
AM Peak Hour	A	A	-	A	-	A	A	A	B	-	A	B	-	-	-	-	13.62 B*
PM Peak Hour	A	A	-	A	-	A	A	A	B	-	-	B	-	-	-	-	14.00 B*
Amarillo Valley Road/Miller Road – One Way Stop Controlled																	
AM Peak Hour	-	A	A	A	A	A	-	A	-	-	-	-	C	-	B	B	11.17 B*
PM Peak Hour	-	A	A	A	A	A	-	A	-	-	-	-	C	-	B	B	10.63 B*
SR347/Access A – Signalized																	
AM Peak Hour	A	A	-	A	-	A	A	A	C	-	D	D	-	-	-	-	11.87 B
PM Peak Hour	A	A	-	A	-	A	A	A	D	-	D	D	-	-	-	-	8.71 A
SR347/Access B – Signalized																	
AM Peak Hour	A	A	-	A	-	B	A	B	C	-	D	D	-	-	-	-	15.74 B
PM Peak Hour	C	A	-	B	-	B	B	B	C	-	D	D	-	-	-	-	18.08 B
Green Road/Access C – One Way Stop Controlled																	
AM Peak Hour	-	-	A	A	-	-	-	-	-	-	-	-	A	-	-	A	9.45 A*
PM Peak Hour	-	-	A	A	-	-	-	-	-	-	-	-	A	-	-	A	9.14 A*
Green Road/Access D – One Way Stop Controlled																	
AM Peak Hour	-	A	A	A	-	A	-	A	-	-	-	-	B	-	-	B	10.60 B*
PM Peak Hour	-	A	A	A	-	A	-	A	-	-	-	-	B	-	-	B	10.26 B*
Miller Road/Access E – One Way Stop Controlled																	
AM Peak Hour	-	-	-	-	B	-	A	B	A	A	-	A	-	A	A	A	12.50 B*
PM Peak Hour	-	-	-	-	B	-	B	B	A	A	-	A	-	A	A	A	12.99 B*

Intersection Location	NB LOS				SB LOS				EB LOS				WB LOS				Overall Intersection
Miller Road/Access F – One Way Stop Controlled																	
AM Peak Hour	-	-	-	-	C	-	A	C	A	A	-	A	-	A	A	A	17.44 C*
PM Peak Hour	-	-	-	-	C	-	B	C	B	A	-	A	-	A	A	A	23.42 C*
Green Road/Miller Road – One Way Stop Controlled																	
AM Peak Hour	-	-	-	-	B	-	A	B	A	A	-	A	-	A	A	A	13.31 B*
PM Peak Hour	-	-	-	-	B	-	A	B	A	A	-	A	-	A	A	A	13.40 B*
SR 347/Access G – One Way Stop Controlled																	
AM Peak Hour	-	A	-	A	-	A	A	A	-	-	B	B	-	-	-	-	13.99 B*
PM Peak Hour	-	A	-	A	-	A	A	A	-	-	B	B	-	-	-	-	14.49 B*

*The overall LOS letter grade for two-way stop-controlled intersections is shown as the worst approach.

By 2030, all the intersections perform at acceptable LOS in the morning and evening peak hours except for the intersection of Miller Road/Access F. Southbound left turn movements from the minor road begin to experience longer delay in the morning and evening peak hours. Stop-controlled minor roads and driveways that intersect with major streets typically experience greater delay for short periods of time in the peak hours due to the wait time experienced for acceptable gaps on the major street, while the free-flowing major streets experience minimal to no delay.

By 2030, when phase V is constructed, it is assumed that additional accesses will be constructed on Miller Road to provide access to the multifamily and commercial developments. Therefore, the traffic volumes shown at Access F will be distributed between multiple accesses not shown in this Master TIA.

Table 22: 2035 Total Conditions Intersection Levels of Service

Intersection Location	NB LOS				SB LOS				EB LOS				WB LOS				Overall Intersection AvgDelay/ LOS*
	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	
SR347/Miller Road/Louis Johnson Drive – Signalized																	
AM Peak Hour	D	B	B	C	D	B	B	B	D	C	D	D	F	D	D	D	25.68 C
PM Peak Hour	D	F	A	E	E	C	C	C	F	C	C	D	F	D	F	D	47.08 D
SR347/Papago Road – Signalized																	
AM Peak Hour	E	C	-	C	-	C	D	D	C	-	C	C	-	-	-	-	32.16 C
PM Peak Hour	F	A	-	F	-	C	F	F	F	-	F	F	-	-	-	-	207.61 F
Amarillo Valley Road/Papago Road – Signalized																	
AM Peak Hour	C	D	D	C	D	D	C	D	B	B	B	B	B	B	B	B	25.46 C
PM Peak Hour	C	C	D	C	D	C	C	D	B	B	B	B	B	B	B	B	24.85 C
Amarillo Valley Road/Val Visa Road – One Way Stop Controlled																	
AM Peak Hour	A	A	-	A	-	A	A	A	C	-	B	C	-	-	-	-	15.42 C*
PM Peak Hour	A	A	-	A	-	A	A	A	C	-	-	C	-	-	-	-	16.99 C*
Amarillo Valley Road/Miller Road – One Way Stop Controlled																	
AM Peak Hour	-	A	A	A	A	A	-	A	-	-	-	-	C	-	B	B	13.55 B*
PM Peak Hour	-	A	A	A	B	A	-	A	-	-	-	-	D	-	C	C	20.87 C*
SR347/Access A – Signalized																	
AM Peak Hour	A	A	-	A	-	B	A	A	C	-	D	D	-	-	-	-	12.04 B
PM Peak Hour	B	A	-	A	-	A	A	A	D	-	D	D	-	-	-	-	9.61 A
SR347/Access B – Signalized																	
AM Peak Hour	B	A	-	A	-	B	A	B	C	-	D	D	-	-	-	-	17.21 B
PM Peak Hour	D	B	-	B	-	C	B	C	C	-	D	D	-	-	-	-	22.92 C
Green Road/Access C – One Way Stop Controlled																	
AM Peak Hour	-	-	A	A	-	-	-	-	-	-	-	-	A	-	-	A	9.45 A*
PM Peak Hour	-	-	A	A	-	-	-	-	-	-	-	-	A	-	-	A	9.14 A*
Green Road/Access D – One Way Stop Controlled																	
AM Peak Hour	-	A	A	A	-	A	-	A	-	-	-	-	B	-	-	B	10.60 B*
PM Peak Hour	-	A	A	A	-	A	-	A	-	-	-	-	B	-	-	B	10.26 B*
Miller Road/Access E – One Way Stop Controlled																	
AM Peak Hour	-	-	-	-	B	-	A	B	A	A	-	A	-	A	A	A	12.50 B*
PM Peak Hour	-	-	-	-	B	-	B	B	A	A	-	A	-	A	A	A	13.02 B*

Intersection Location	NB LOS				SB LOS				EB LOS				WB LOS				Overall Intersection
Miller Road/Access F – One Way Stop Controlled																	
AM Peak Hour	-	-	-	-	C	-	A	C	A	A	-	A	-	A	A	A	17.46 C*
PM Peak Hour	-	-	-	-	D	-	B	C	B	A	-	A	-	A	A	A	23.57 C*
Green Road/Miller Road – One Way Stop Controlled																	
AM Peak Hour	-	-	-	-	B	-	A	B	A	A	-	A	-	A	A	A	13.32 B*
PM Peak Hour	-	-	-	-	B	-	A	B	A	A	-	A	-	A	A	A	13.47 B*
SR 347/Access G – One Way Stop Controlled																	
AM Peak Hour	-	A	-	A	-	A	A	A	-	-	C	C	-	-	-	-	16.83 C*
PM Peak Hour	-	A	-	A	-	A	A	A	-	-	C	C	-	-	-	-	16.59 C*

*The overall LOS letter grade for two-way stop-controlled intersections is shown as the worst approach.

By 2035 total traffic conditions, delay is slightly increased at all the analyzed intersections because the traffic is increasing with the geometric improvements as outlined in the 2030 total conditions.

Table 23: 2040 Total Conditions Intersection Levels of Service

Intersection Location	NB LOS				SB LOS				EB LOS				WB LOS				Overall Intersection
	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	L	T	R	Tot	
SR347/Miller Road/Louis Johnson Drive – Signalized																	
AM Peak Hour	D	B	B	C	D	B	B	B	D	C	D	D	F	D	D	D	25.72 C
PM Peak Hour	D	F	A	E	E	C	C	C	F	C	C	D	F	D	F	E	48.77 D
SR347/Papago Road – Signalized																	
AM Peak Hour	E	C	-	C	-	C	D	C	D	-	C	D	-	-	-	-	35.76 D
PM Peak Hour	F	A	-	F	-	C	F	F	F	-	F	F	-	-	-	-	213.87 F
Amarillo Valley Road/Papago Road – Signalized																	
AM Peak Hour	C	D	D	C	D	D	C	D	B	C	B	B	B	B	B	B	25.51 C
PM Peak Hour	C	D	D	D	D	D	D	D	B	B	B	B	B	B	B	B	23.26 C
Amarillo Valley Road/Val Visa Road – One Way Stop Controlled																	
AM Peak Hour	A	A	-	A	-	A	A	A	C	-	B	C	-	-	-	-	15.48 C*
PM Peak Hour	A	A	-	A	-	A	A	A	C	-	-	C	-	-	-	-	17.06 C*
Amarillo Valley Road/Miller Road – One Way Stop Controlled																	
AM Peak Hour	-	A	A	A	A	A	-	A	-	-	-	-	C	-	B	B	13.66 B*
PM Peak Hour	-	A	A	A	B	A	-	A	-	-	-	-	D	-	C	C	21.21 C*
SR347/Access A – Signalized																	
AM Peak Hour	B	B	-	B	-	C	B	C	E	-	C	D	-	-	-	-	24.77 C
PM Peak Hour	B	A	-	A	-	A	A	A	D	-	D	D	-	-	-	-	9.76 A

Intersection Location	NB LOS				SB LOS				EB LOS				WB LOS				Overall Intersection
SR347/Access B – Signalized																	
AM Peak Hour	B	A	-	A	-	B	A	B	C	-	D	D	-	-	-	-	17.26 B
PM Peak Hour	D	B	-	B	-	C	B	C	C	-	D	D	-	-	-	-	24.07 C
Green Road/Access C – One Way Stop Controlled																	
AM Peak Hour	-	-	A	A	-	-	-	-	-	-	-	-	A	-	-	A	9.45 A*
PM Peak Hour	-	-	A	A	-	-	-	-	-	-	-	-	A	-	-	A	9.14 A*
Green Road/Access D – One Way Stop Controlled																	
AM Peak Hour	-	A	A	A	-	A	-	A	-	-	-	-	B	-	-	B	10.60 B*
PM Peak Hour	-	A	A	A	-	A	-	A	-	-	-	-	B	-	-	B	10.26 B*
Miller Road/Access E – One Way Stop Controlled																	
AM Peak Hour	-	-	-	-	B	-	A	B	A	A	-	A	-	A	A	A	12.51 B*
PM Peak Hour	-	-	-	-	B	-	B	B	A	A	-	A	-	A	A	A	13.05 B*
Miller Road/Access F – One Way Stop Controlled																	
AM Peak Hour	-	-	-	-	C	-	A	C	A	A	-	A	-	A	A	A	17.52 C*
PM Peak Hour	-	-	-	-	D	-	B	C	B	A	-	A	-	A	A	A	23.72 C*
Green Road/Miller Road – One Way Stop Controlled																	
AM Peak Hour	-	-	-	-	B	-	A	B	A	A	-	A	-	A	A	A	13.36 B*
PM Peak Hour	-	-	-	-	B	-	A	B	A	A	-	A	-	A	A	A	13.54 B*
SR 347/Access G – One Way Stop Controlled																	
AM Peak Hour	-	A	-	A	-	A	A	A	-	-	C	C	-	-	-	-	16.94 C*
PM Peak Hour	-	A	-	A	-	A	A	A	-	-	C	C	-	-	-	-	16.84 C*

*The overall LOS letter grade for two-way stop-controlled intersections is shown as the worst approach.

By year 2040, the analyzed intersections will operate at acceptable LOS C or better during the morning and evening peak hours, except for the southbound left turn movement from Access F and the intersection of SR347/Papago Road. However, when the multifamily development and the commercial development are proposed, by year 2030, new accesses should be constructed that alleviate the longer delay.

As surrounding development increases within the study area, the volumes may increase and traffic control at the intersection of Green Road/Miller Road may change because both roadways are classified as arterials and lie on the mile segments.

G. Roadway and Intersection Geometric Improvements

Half-street sections along Green Road and Miller Road Green Road adjacent to the Midway property will be constructed as part of the development. Miller Road and Green Road are noted as arterials per Pinal County’s Small Area Transportation Study 2006. Therefore, Miller Road and Green Road should provide 150 feet of right-of-way.

Val Vista Road is noted in the “Regionally Significant Routes for Safety and Mobility, Final Report” dated December 2008 and also shown on the “Regionally Significant Routes for Safety and Mobility-2017 Update” for Pinal County as a parkway. Val Vista Road is located approximately 1 mile north of the site’s northern boundary and curves to the south where it crosses SR347 just north of the site’s northern boundary and follows Teel Road east of SR347. Because of the Val Vista Road proposed alignment and classification, parkway, and the drainage constraints along the northern boundary of the Midway Development, it is proposed that Teel Road “T” into Green Road or Amarillo Valley Road west of the Midway development, as shown on Pinal County’s Regionally Significant Routes for Safety and Mobility – 2017 Update.

With the construction of all new accesses, sight triangles shall be provided and maintained at all site accesses per the most current edition of the American Association of State Highway and Transportation Officials, A Policy on Geometric Design of Highways and Streets, ADOT’s Traffic Guidelines and Processes and the Pinal County TIA Guidelines. The sight triangles shall be provided on the developer’s landscape and design plans.

Based on this TIA, the following roadway and intersection improvements are proposed to be constructed by the developer.

PHASE I of the Midway Development– 2023

- Construct the internal collector road (A-C) into the Midway development at Access A from SR347 west to the Phase 2 eastern boundary.
- Construct the intersection of Access A/SR347. Access A should be designed with right and left turn deceleration lanes exiting the development. Right and left turn lanes will be required on SR347 at Access A.
- Construct a temporary secondary access from the Phase I southern boundary south to Miller Road. This access should be used as emergency access only until Phase III is constructed.

PHASE II of the Midway Development– 2025

- Construct the internal collector road (A-C) into the Midway development from the Phase 2 eastern boundary west to Green Road.
- Construct half street improvements along Green Road from the site's northern boundary south to the Phase 4 boundary. This improvement should provide 75 feet of right of way for the future major arterial cross section.
- Construct a northbound exclusive right turn deceleration lane on Green Road at Access C. Provide for a southbound left turn lane on Green Road at Access C for future traffic.
- During Phase II, developer to prepare traffic signal warrant study at SR347/Access A using actual traffic volumes. When warranted, install a traffic signal at the intersection of SR347/Access A. Developer to contribute 50% of signal cost.

PHASE III of the Midway Development– 2027

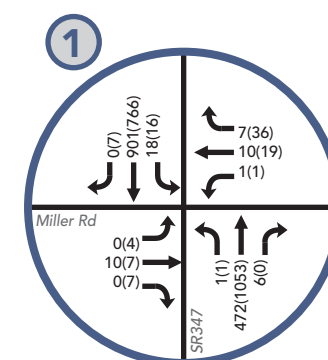
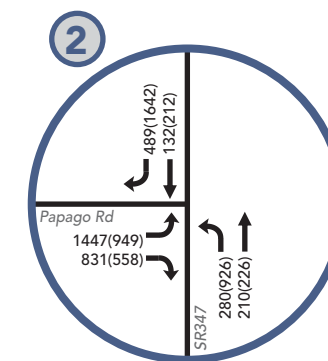
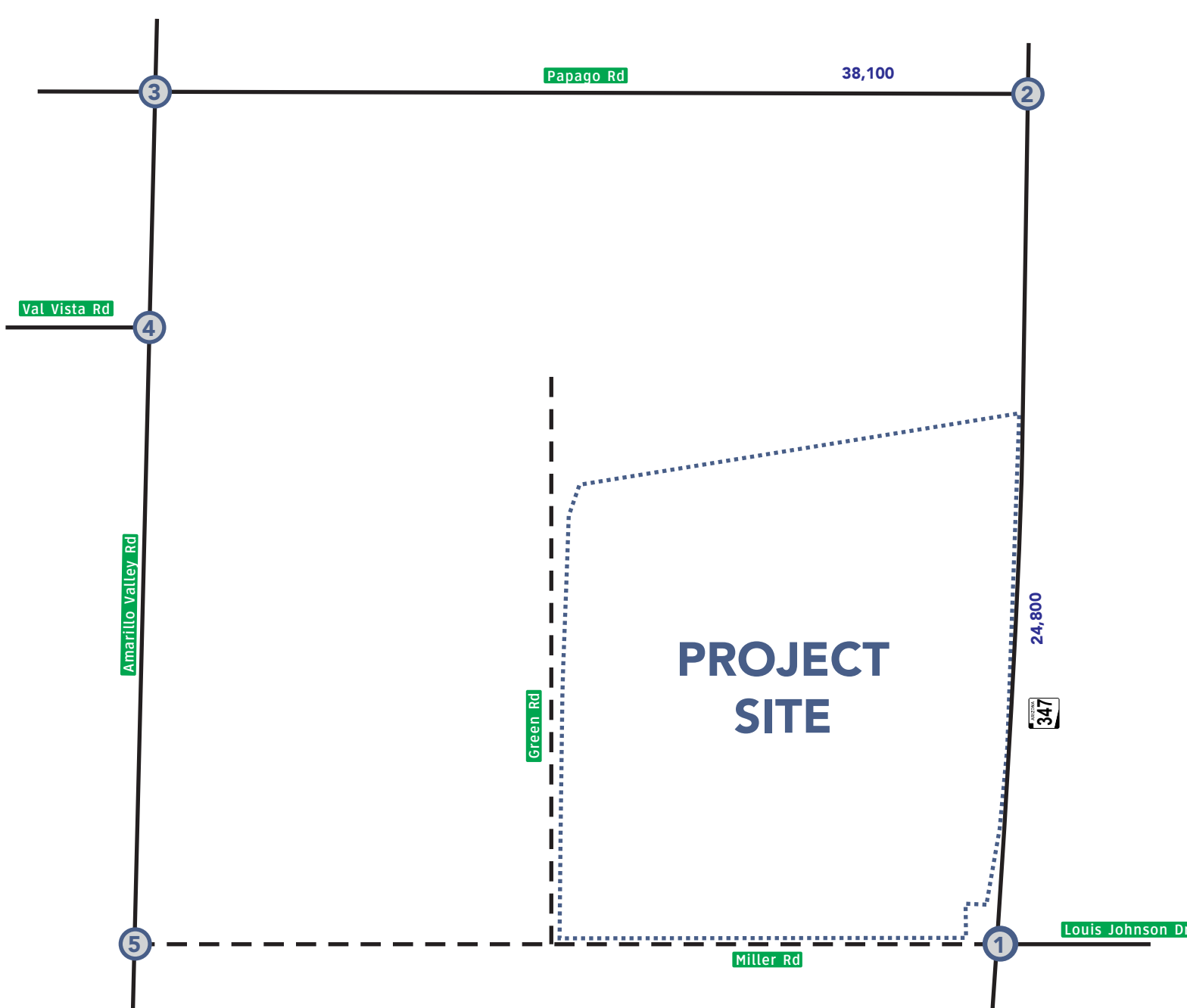
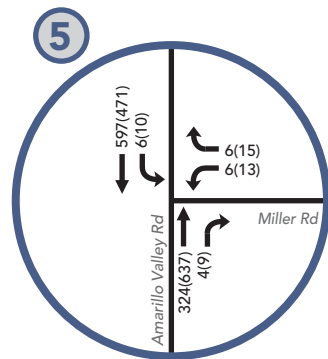
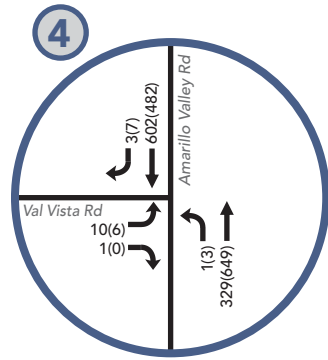
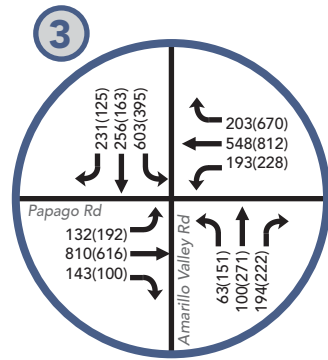
- Construct the internal collector road (B-D) into the Midway Development from SR347 west to the phase 4 boundary.
- Construct half street improvements along Miller Road from the phase 3 boundary east to SR347. This improvement should provide 75 feet of right of way for the future major arterial cross section.
- Construct the intersection of Access B/SR347. Access B should be designed with right and left turn deceleration lanes exiting the development. Right and left turn lanes will be required on SR347 at Access B.
- Construct westbound dedicated right turn deceleration lanes on Miller Road at Accesses E and F. Provide for eastbound left turn lanes on Miller Road at Accesses E and F for future traffic.
- During Phase III, developer to prepare traffic signal warrant studies at SR347/Access B and SR347/Miller Road. When warranted, install the traffic signals. Developer should contribute 50% of signal cost at intersection of SR347/Access B and 25% of signal cost SR347/Miller Road.
- The intersection of SR347/Miller Road should be designed with dual left turns in the northbound and eastbound directions when signalization occurs.
- Dual left turn lanes may be warranted on SR 347 at the Midway site accesses. Left turn warrants should be prepared to determine when they will be needed. The developer will construct dual left turn lanes when warranted.

PHASE IV for the Midway Development-2029

- Construct the internal collector road (B-D) into the Midway Development from Green Road east to the phase 3 boundary.
- Construct half street improvements along Green Road from the southern Phase 2 boundary to Miller Road. This improvement should provide 75 feet of right of way for the future major arterial cross section.
- Construct half street improvements along Miller Road from Green Road to the Phase 3 boundary.
- Construct a northbound dedicated right turn deceleration lane on Green Road at Access D. Provide for a southbound left turn lane on Green Road at Access D for future traffic.
- Construct the Access B-D internal collector road from Green Road west to the phase 3 boundary.

PHASE V for the Midway Development-2030

- Construct Access G on SR347. Access G should be designed with a right turn deceleration lane that continues southbound to Miller Road.



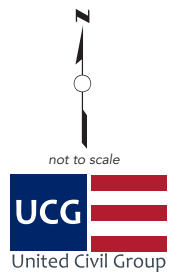
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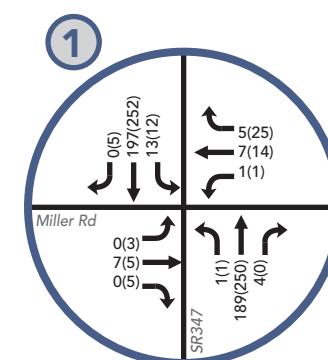
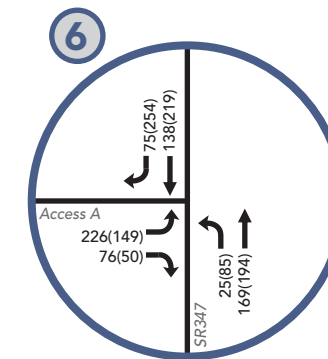
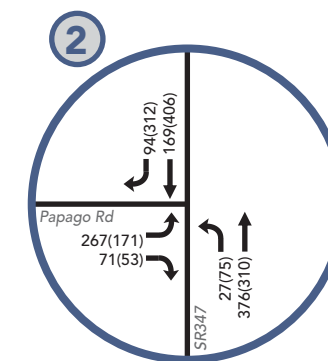
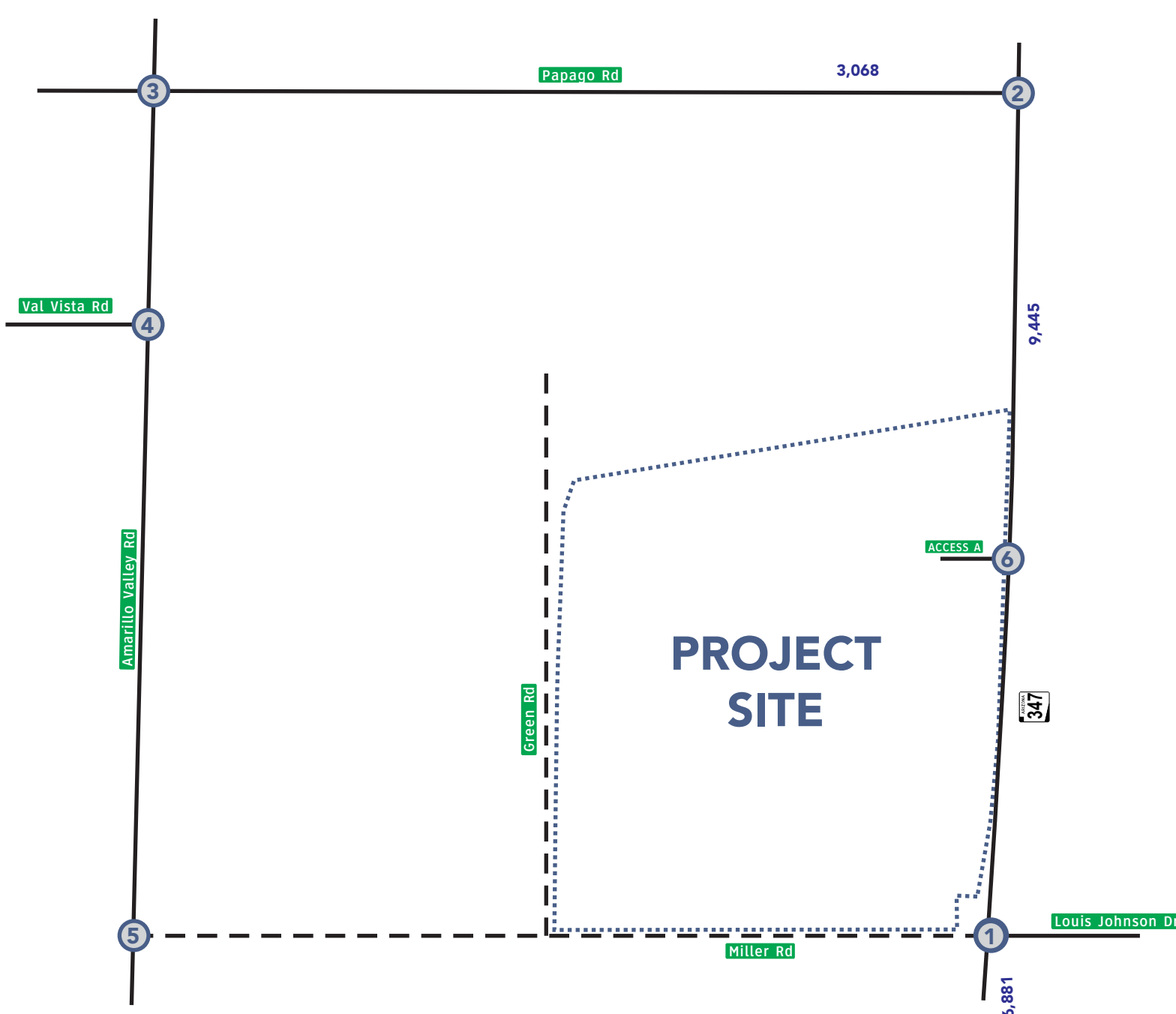
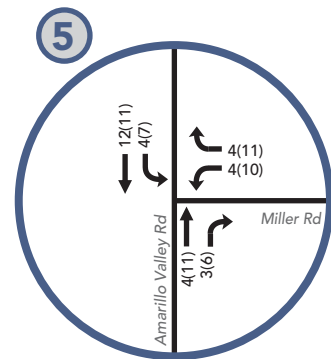
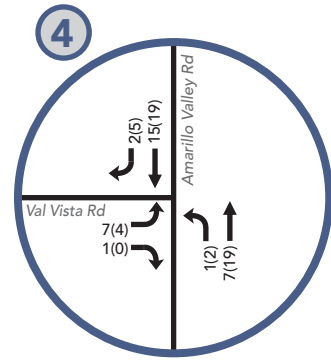
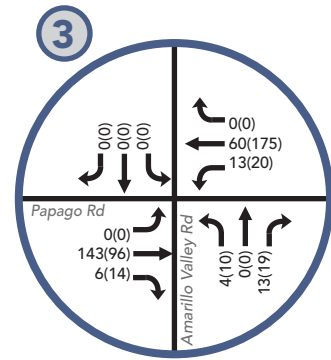
XX(XX) AM(PM) Peak Hour Traffic Volume

--- Unimproved Road

XX ADT

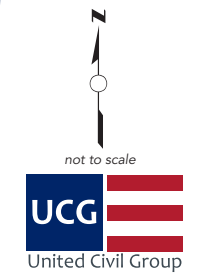
Figure 16: Background Traffic - Year 2040

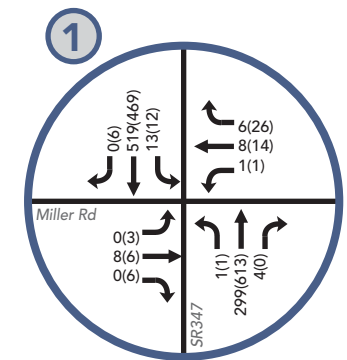
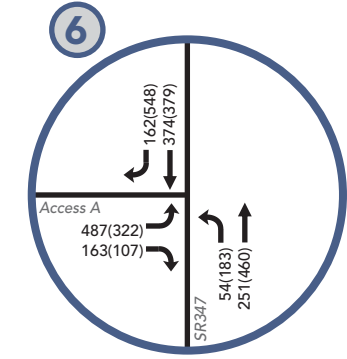
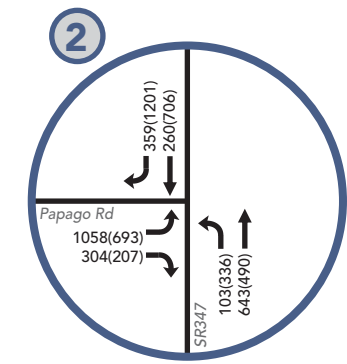
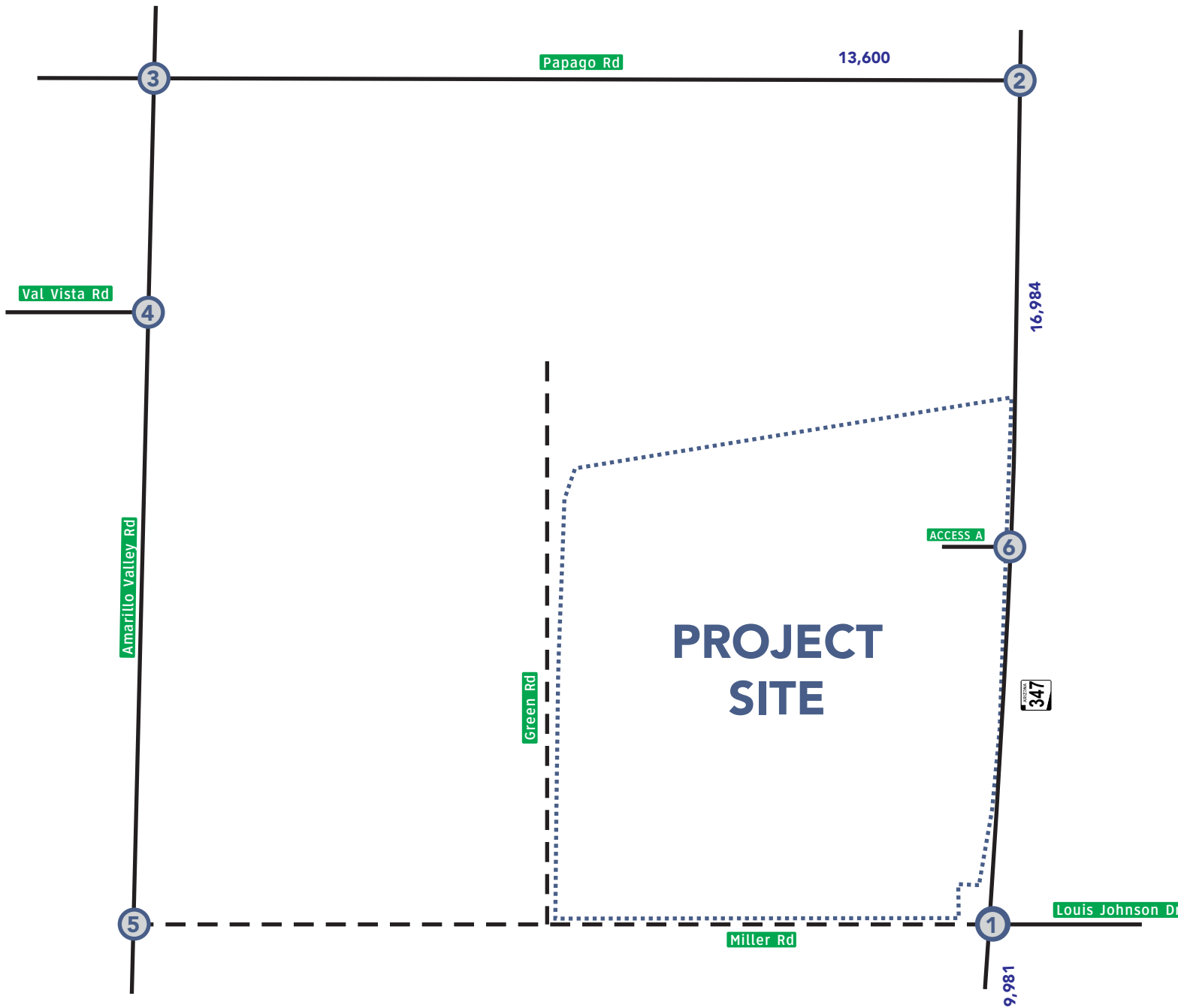
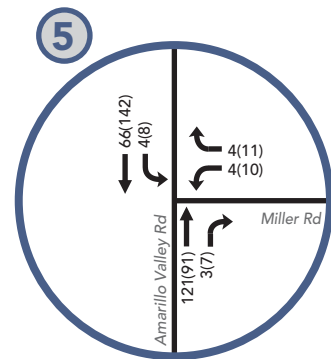
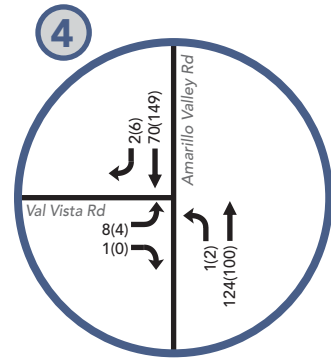
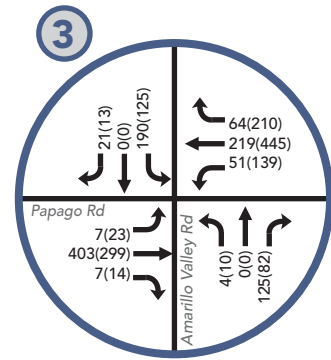




LEGEND
 XX(XX) AM(PM) Peak Hour Traffic Volume
 --- Unimproved Road
 XX ADT

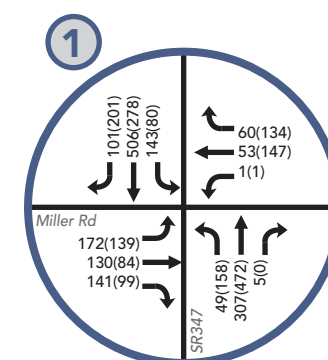
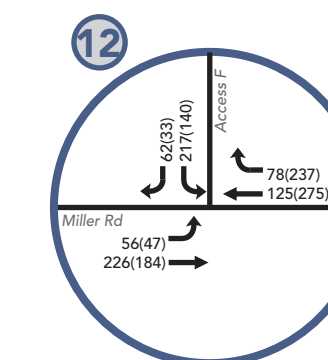
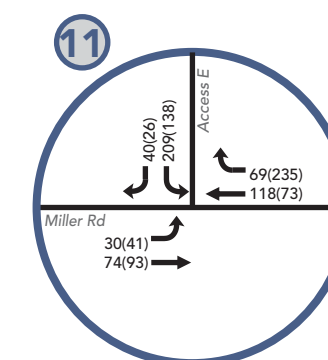
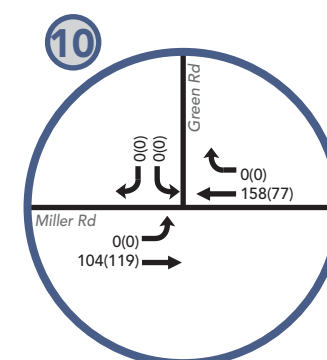
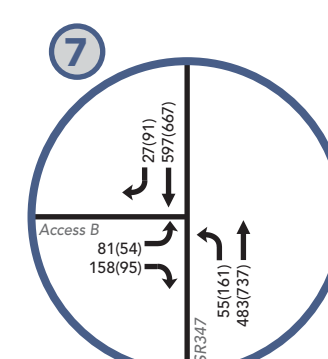
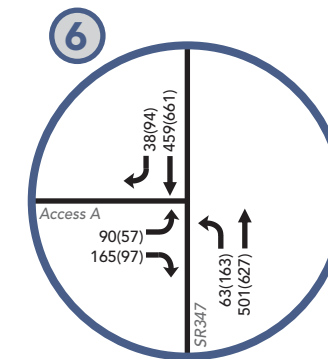
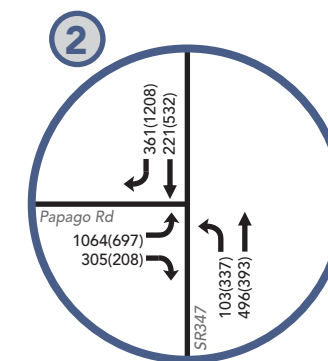
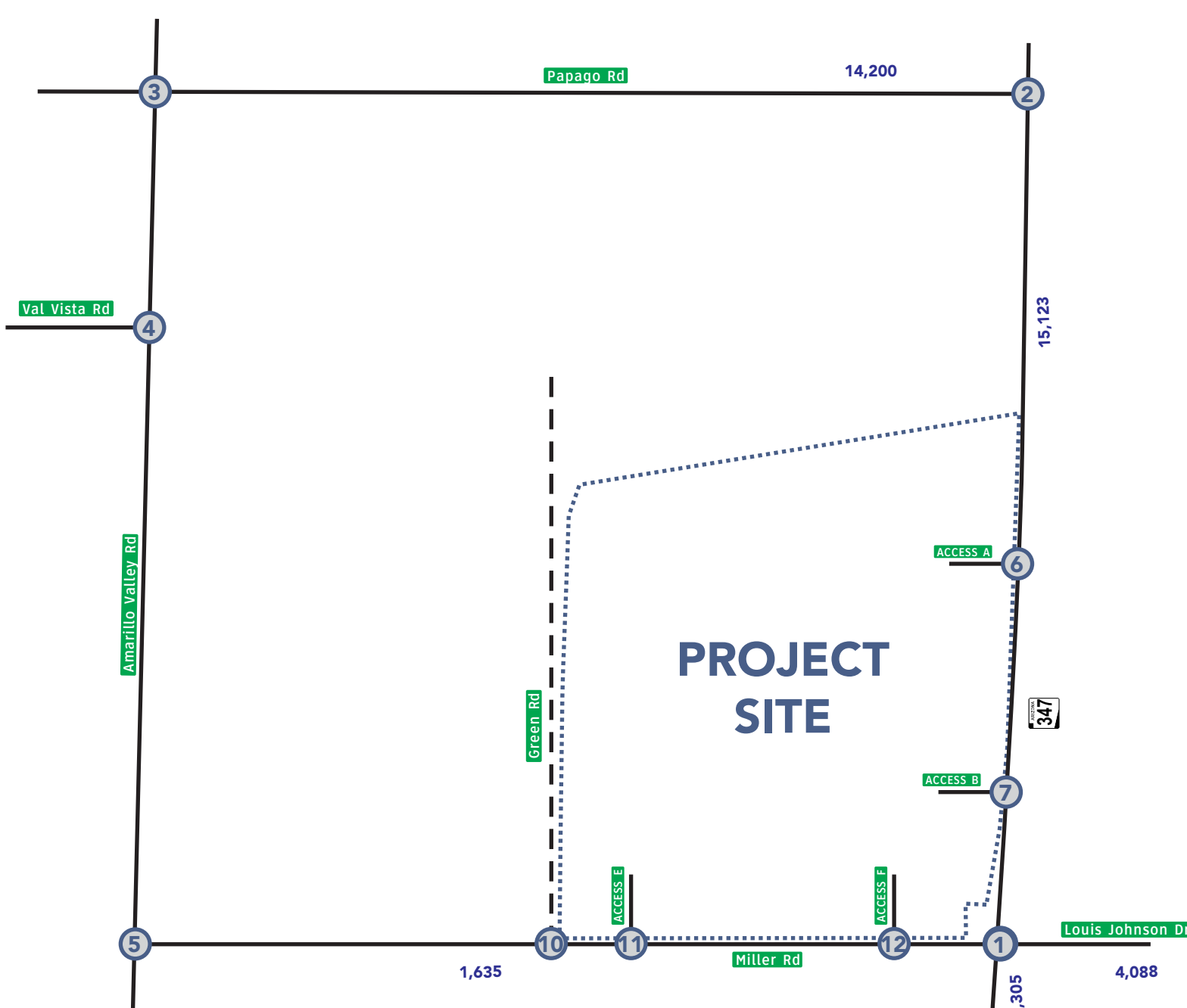
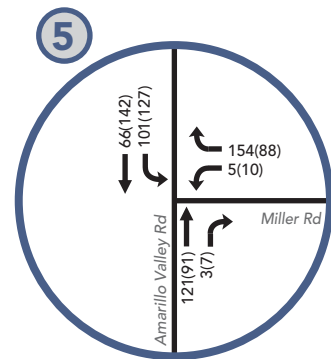
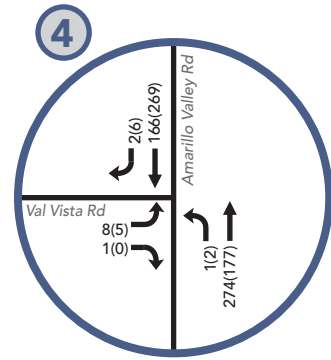
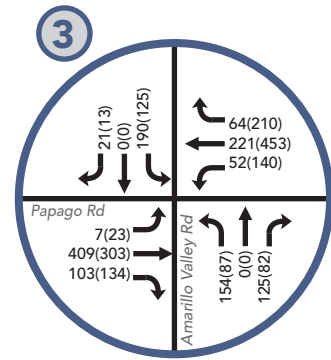
Figure 17: Total Traffic - Year 2023





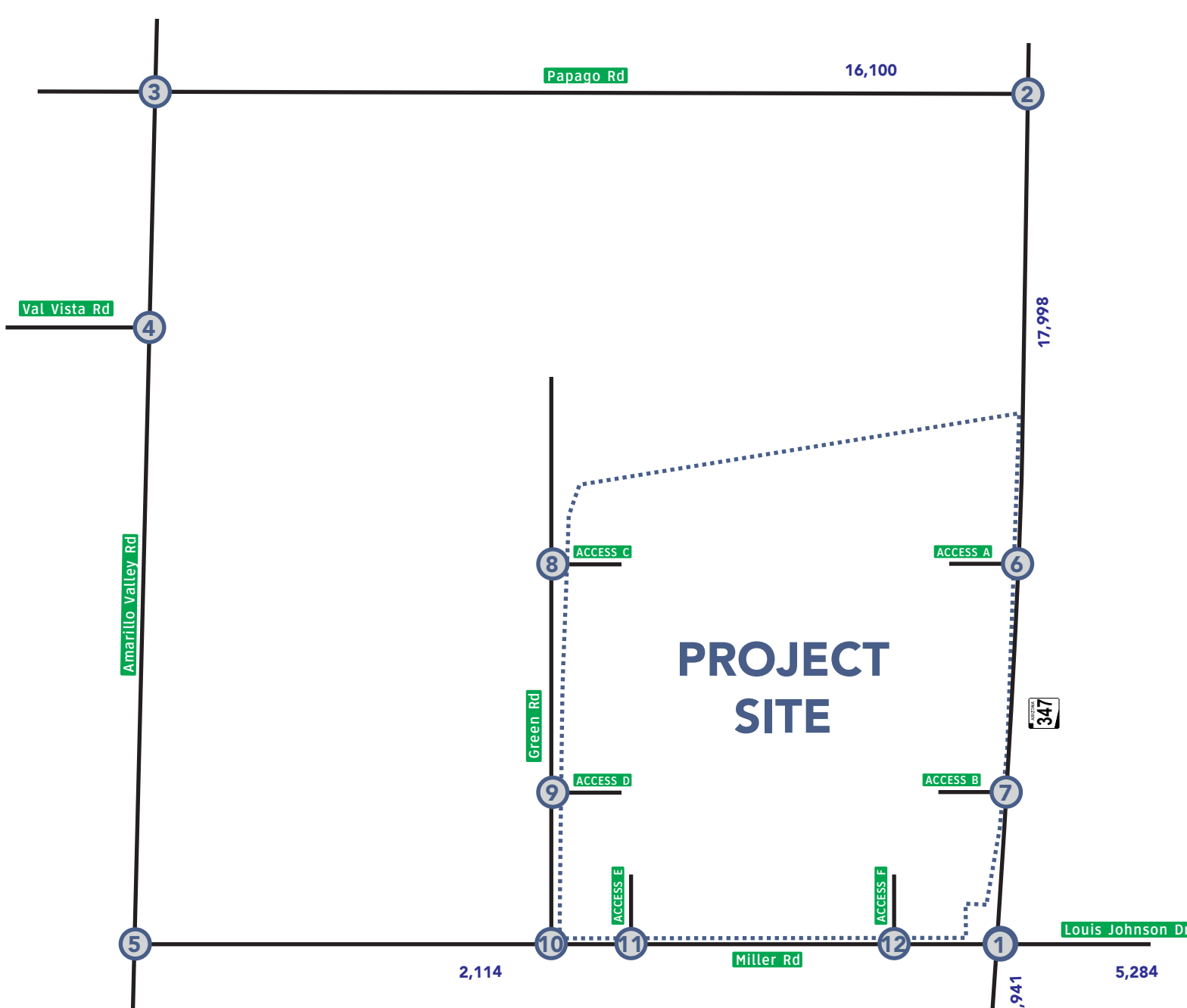
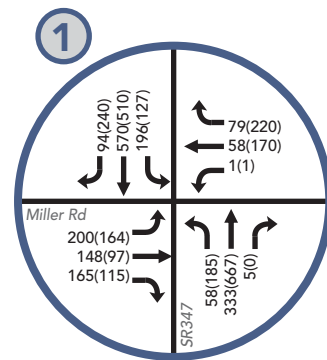
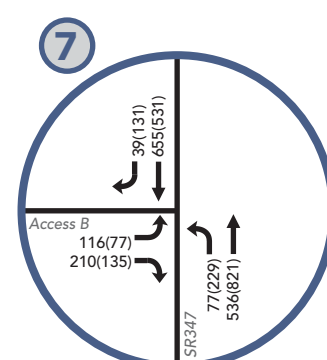
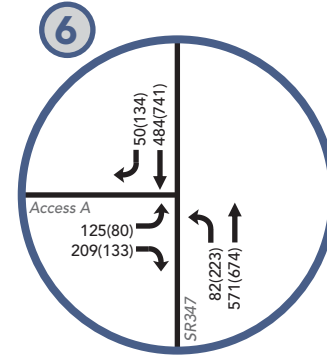
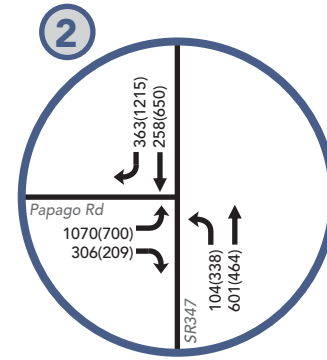
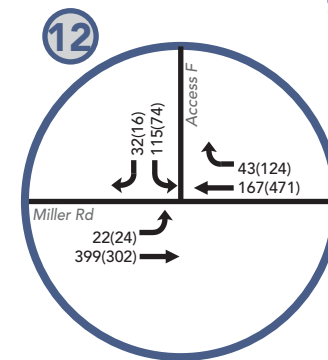
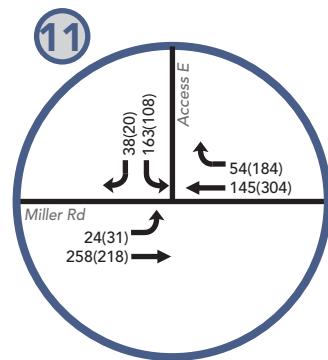
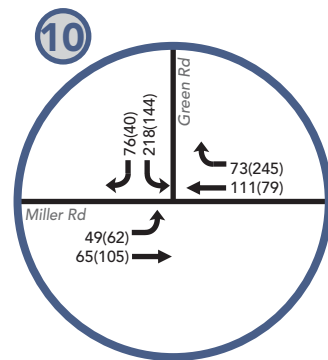
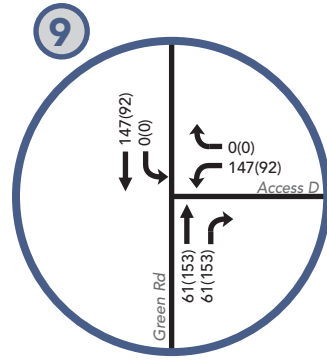
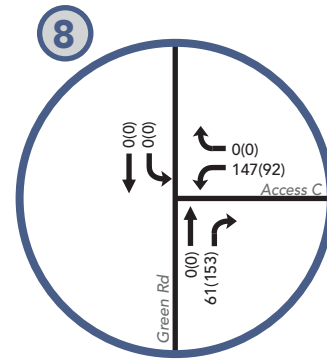
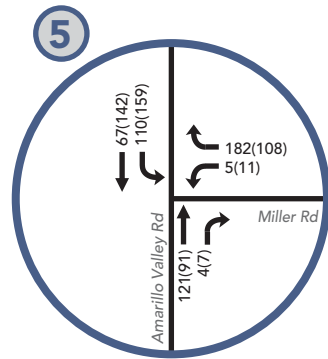
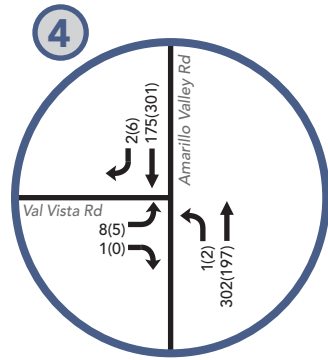
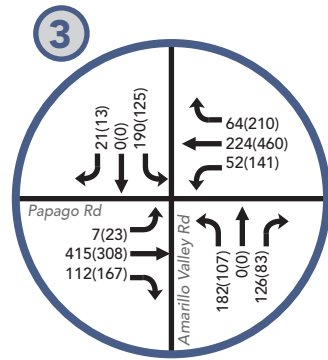
- LEGEND**
- XX(XX) AM(PM) Peak Hour Traffic Volume
 - Unimproved Road
 - XX ADT

Figure 18: Total Traffic - Year 2025



LEGEND
 XX(XX) AM(PM) Peak Hour Traffic Volume
 --- Unimproved Road
 XX ADT

Figure 19: Total Traffic - Year 2027

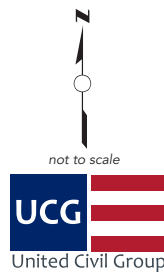


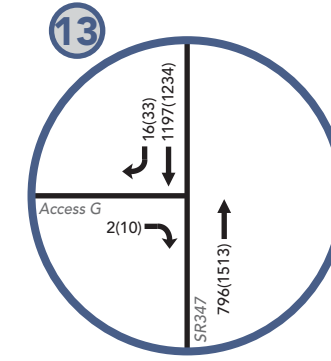
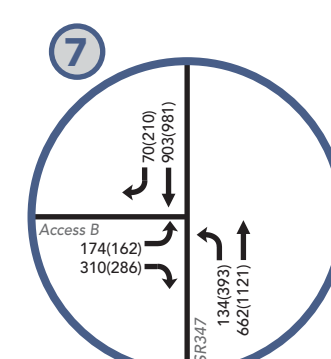
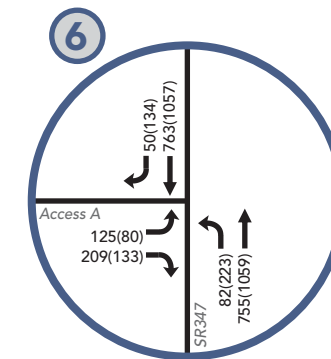
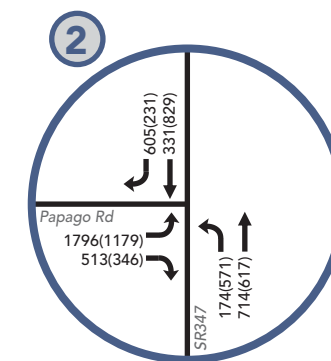
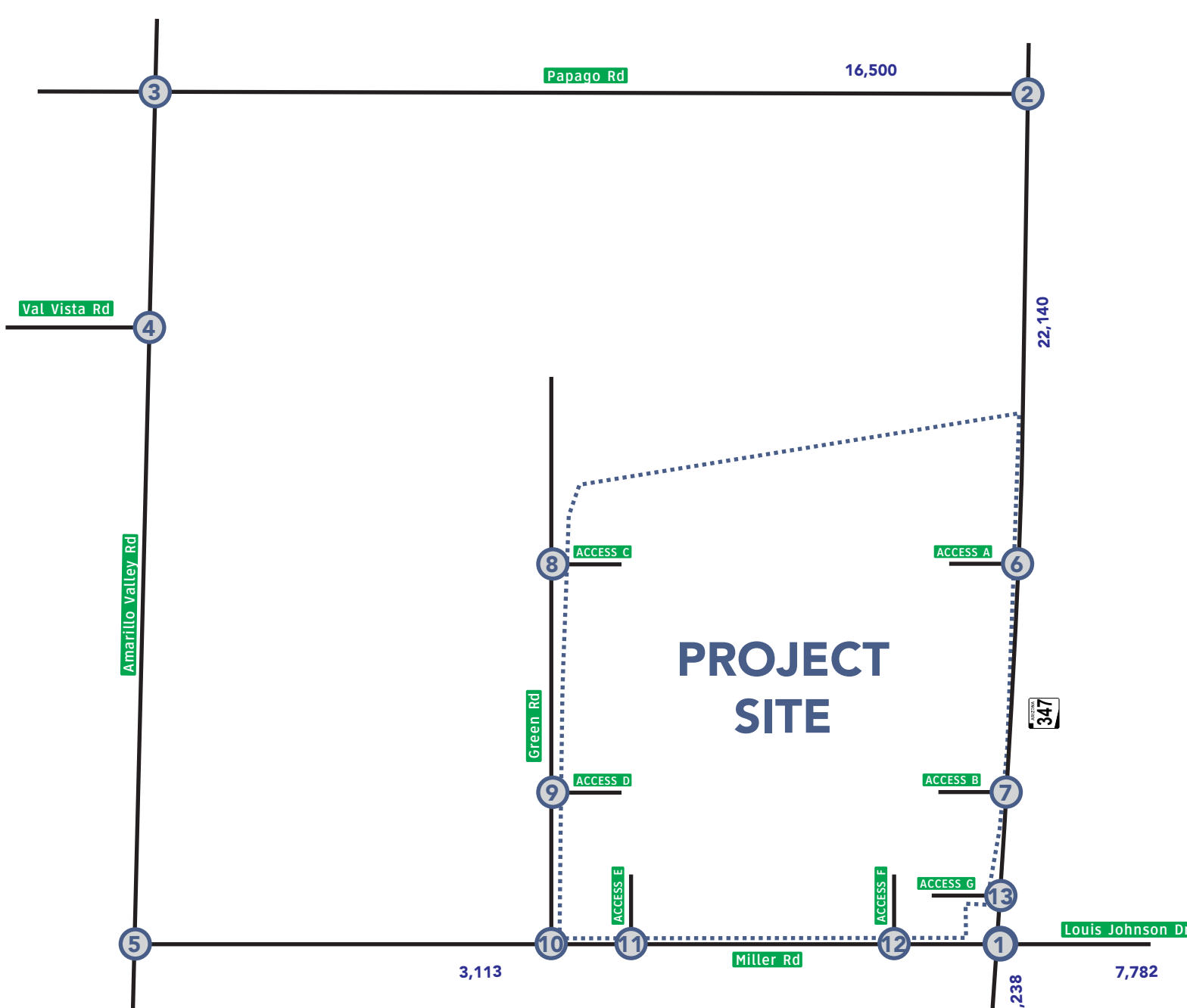
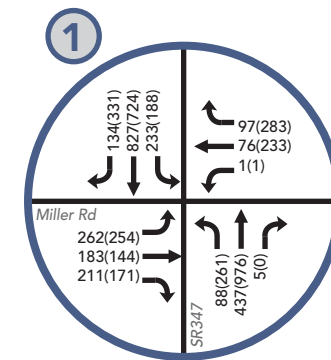
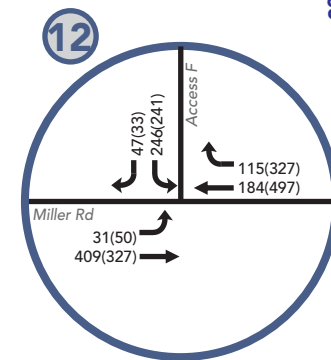
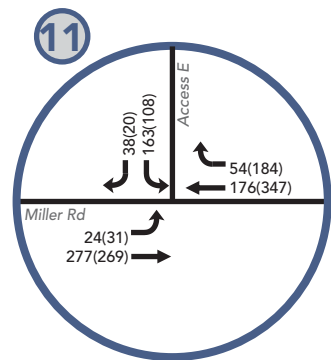
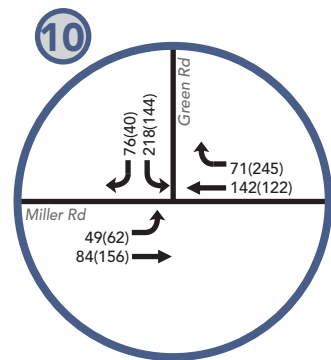
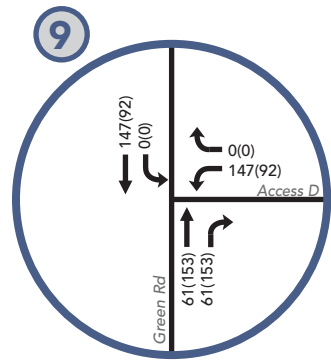
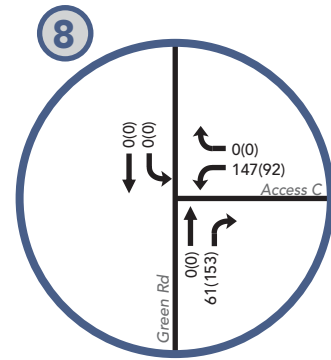
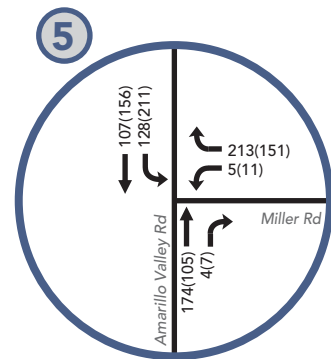
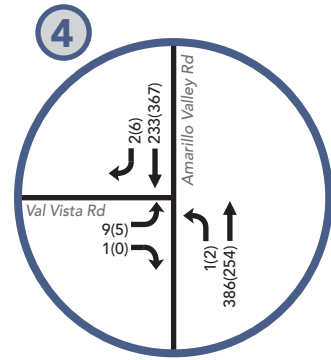
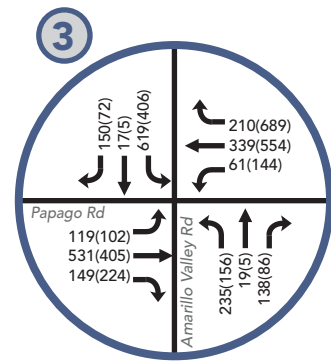
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XX(XX) AM(PM) Peak Hour Traffic Volume

XX ADT

Figure 20: Total Traffic - Year 2029





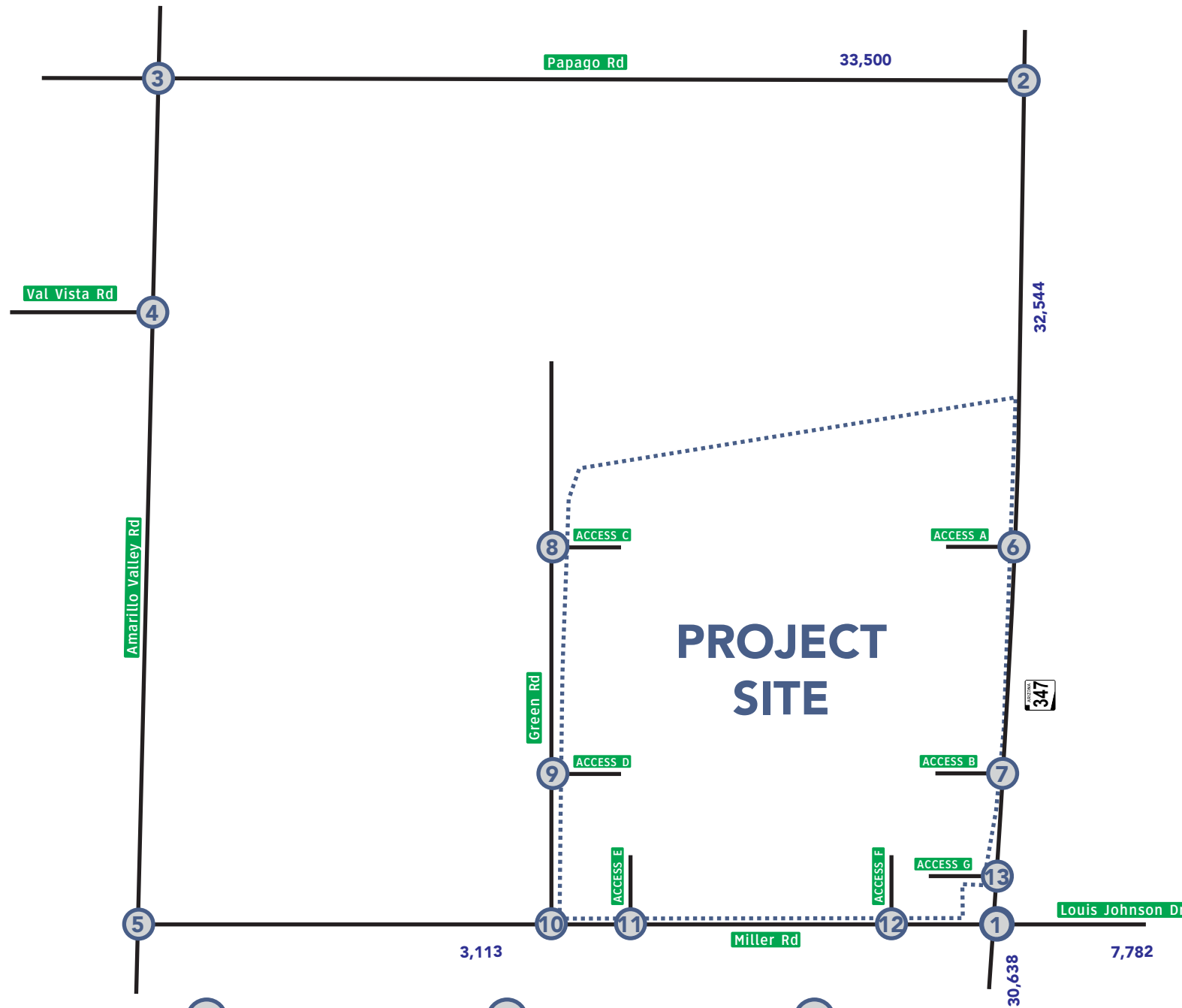
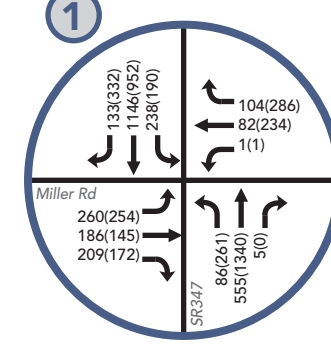
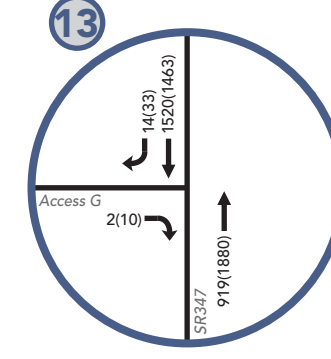
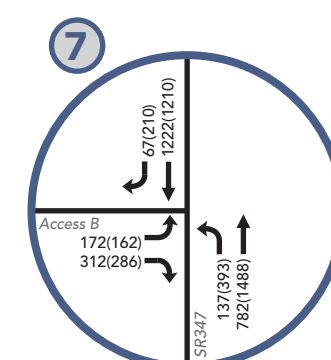
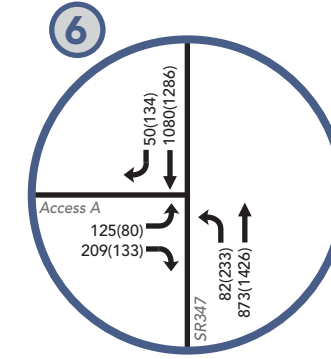
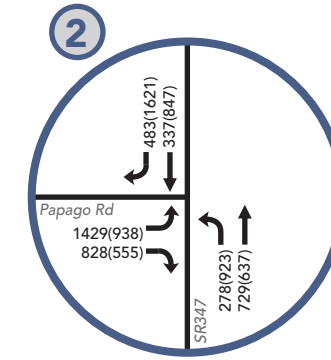
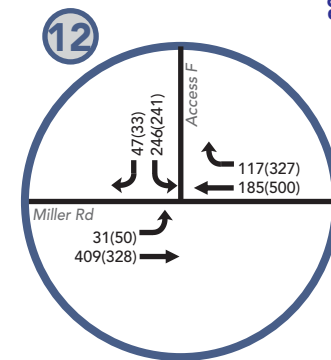
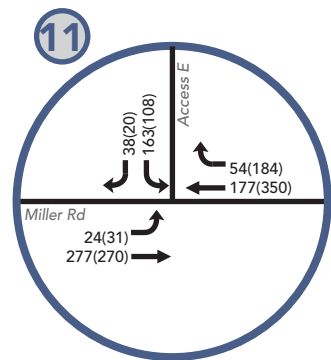
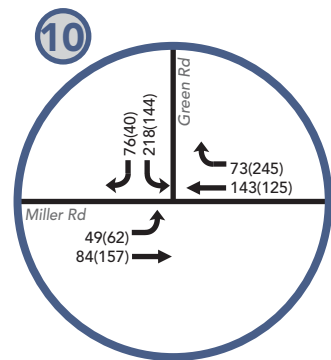
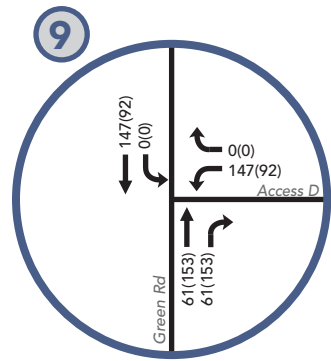
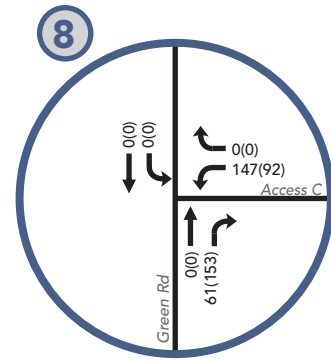
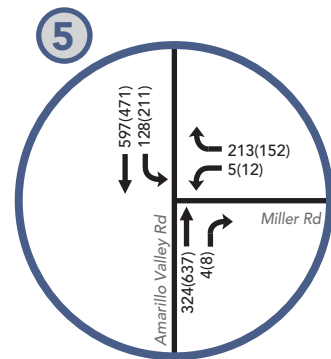
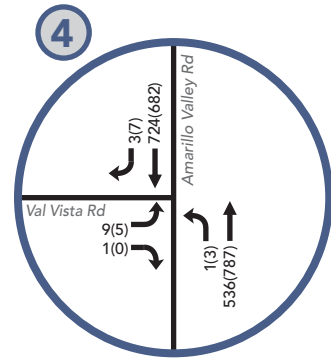
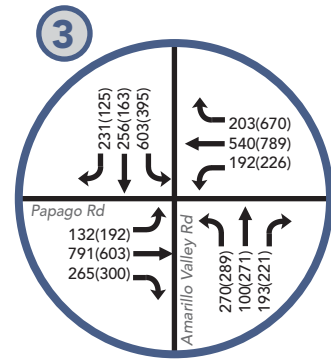
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XX(XX) AM(PM) Peak Hour Traffic Volume

--- Unimproved Road

XX ADT

Figure 21: Total Traffic - Year 2030



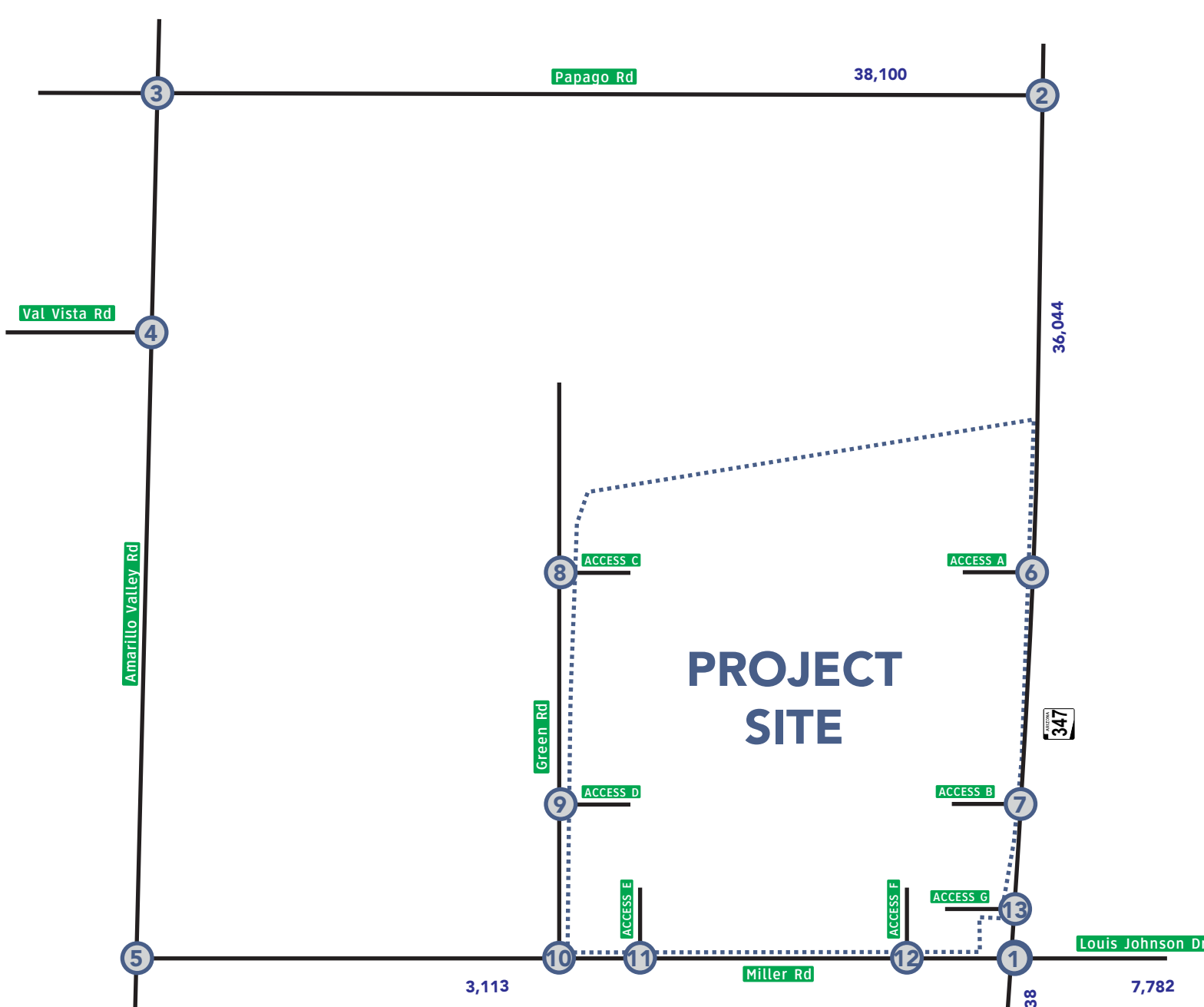
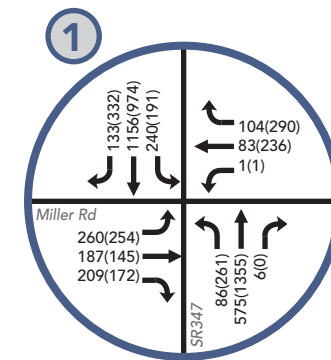
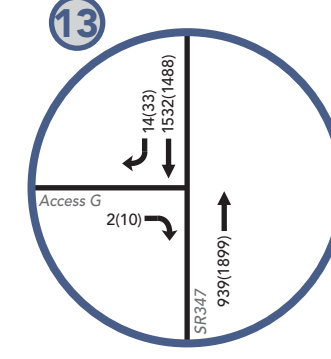
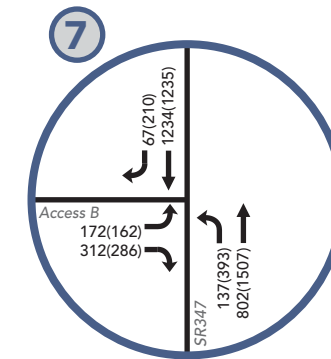
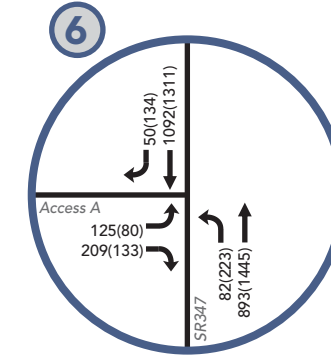
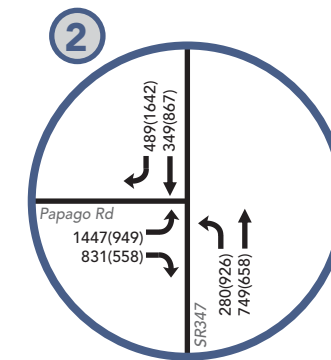
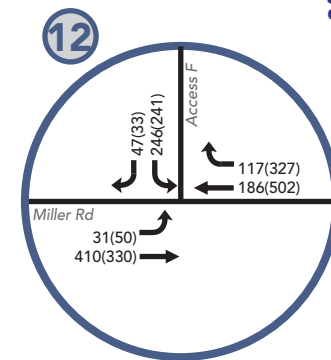
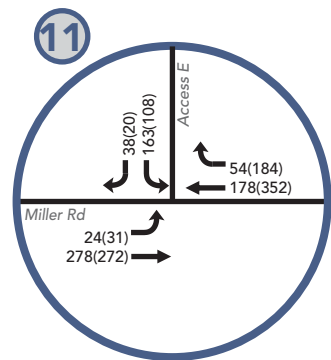
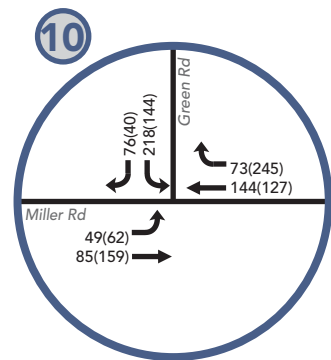
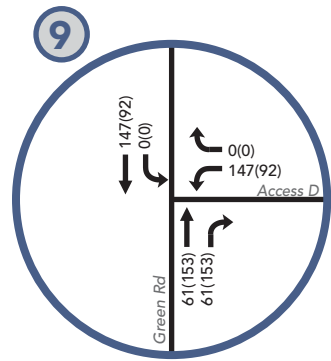
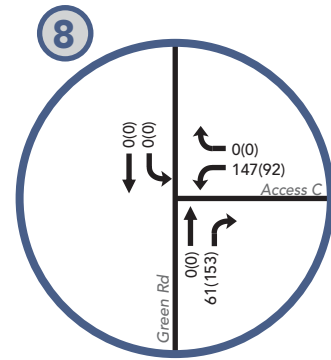
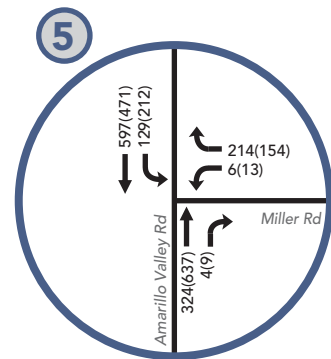
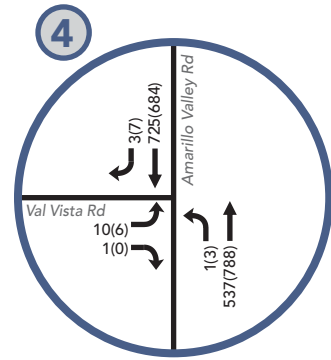
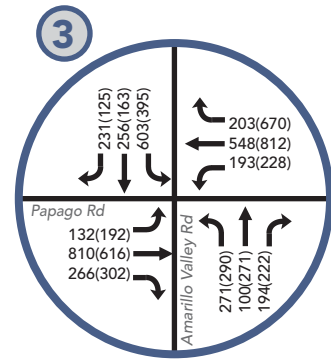
LEGEND

XX(XX) AM(PM) Peak Hour Traffic Volume

--- Unimproved Road

XX ADT

Figure 22: Total Traffic - Year 2035



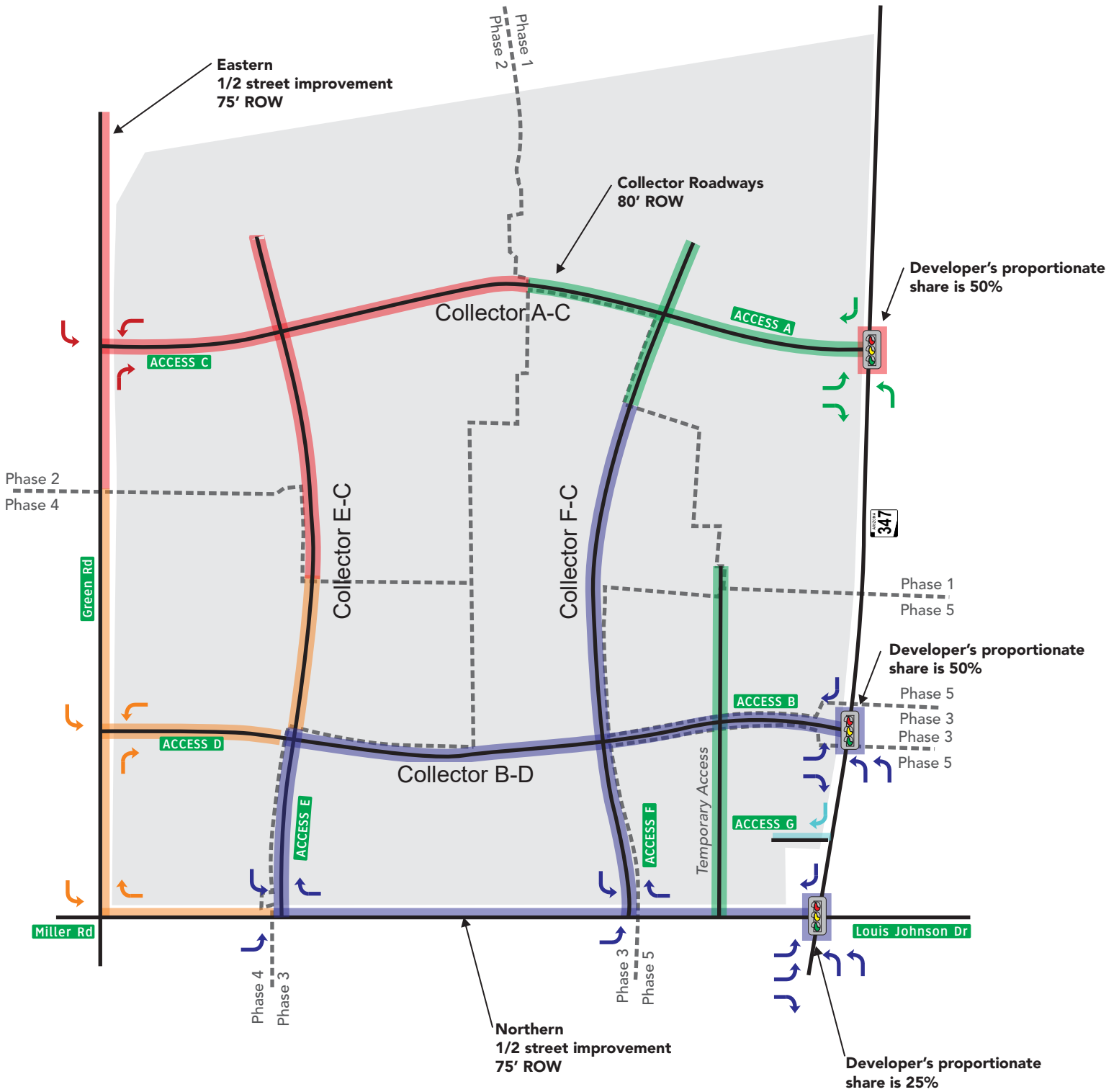
LEGEND

XX(XX) AM(PM) Peak Hour Traffic Volume

--- Unimproved Road

XX ADT

Figure 23: Total Traffic - Year 2040



LEGEND

█	Phase 1
█	Phase 2
█	Phase 3
█	Phase 4
█	Phase 5
	Turn Lane by Phase

Note: Tapers for left turn lanes on SR347 should be calculated during design

Figure 24: Recommendations

VII. CONCLUSIONS AND RECOMMENDATIONS

United Civil Group prepared this traffic impact analysis for the proposed Midway development in Pinal County, Arizona. The report conforms to the Pinal County *Traffic Impact Assessment Guidelines & Procedures* dated January 2007, Arizona Department of Transportation (ADOT) Traffic Engineering Guidelines and Processes Section 240 Traffic Impact Analyses, locally accepted standards, and industry practice.

Midway is a single-family residential community that includes a school site in the middle of the property, with multifamily and commercial development near the intersection of SR347/Miller Road. The proposed Midway development will include 2,179 single family homes, 667 multi-family units, 17.05 acres of commercial use, and an approximate 10-acre school site with 600 students constructed in five phases.

- Phase I of the development will be constructed and occupied by 2023 and consists of 543 single family homes.
- Phase II of the development will be constructed and occupied by 2025 and consists of 627 single family homes.
- Phase III of the development will be constructed and occupied by 2027 and consists of 502 single family homes plus the school site with 600 students.
- Phase IV of the development will be constructed and occupied by 2029 and consists of 507 single family homes.
- Phase V of the development will be constructed and occupied by 2030 and consists of 667 multi-family units and 17.05 acres of commercial development.
- Two additional horizon years, 5 years after full buildout (2035) and 10 years after full buildout (2040) were analyzed based on Pinal County Traffic Impact Analysis Guidelines & Procedures to identify any foreseen traffic impacts 10 years after the site is fully constructed and occupied.

The proposed Midway development will have seven accesses, Accesses A, B and G on SR347, Accesses C and D on Green Road, and Accesses E and F on Miller Road. When the commercial development is planned, additional accesses may be necessary to accommodate the development. Because Arizona Department of Transportation owns and maintains SR347, Accesses A, B and G were analyzed in accordance with ADOT's Traffic Policies and Guidelines. Green Road and Miller Road are owned and maintained by Pinal County. Therefore, Accesses C through F were analyzed using Pinal County Traffic Engineering Guidelines.

Forecasted daily and peak hour trip generation estimates were calculated for each phase of development. After full build-out of the development, per ITE's *Trip Generation Manual*, Midway is expected to generate an estimated to generate 32,127 total daily trips, with 2,305 trips in the morning peak hour and 3,144 trips in the evening peak hour.

The school site within phase III and the commercial/multifamily within phase V is not yet planned or designed. When these sites are designed and site plans are available, TIAs should be prepared that address school and commercial development related traffic issues. This Master TIA should be used as a guide when addressing these developments.

When the school site is laid out and designed, this TIA should be updated to address access, site circulation, queuing and parent drop off/pick up requirements. A preliminary queuing analysis was completed for the school sites. Based on this preliminary analysis, 1,200 feet of queue should be provided on-site at the school to accommodate the parent drop off and pick up procedures. This queue length should be confirmed when the site planning is completed and be based on the school district's assessment of the total student population.

Signals are warranted based on traffic generated by the Midway Development. By Phase II of the development, year 2025, a traffic signal may be needed at SR347/ Access A. By Phase III of the development, year 2027, a traffic signal is warranted at the intersections of SR347/Access B and SR347/Miller Road using projected traffic volumes. A traffic signal warrant study will be completed by the developer to confirm volume estimates for the future traffic signal meet the warrants using actual traffic counts. When warranted using actual traffic data, the traffic signals will be installed at the designated intersections. The warrant studies will be completed by the developer to determine when the signals are required. Signalization of the intersections should be constructed once warrants are met to reduce the likelihood on unacceptable LOS at the intersections.

By 2040, all the intersections analyzed within the study area are expected to operate at acceptable LOS C or better, except for the intersection of Miller Road/Access F. As shown, the southbound left turn experiences delay during the morning and evening peak hours. Left-turning movements on stop-controlled minor roads and driveways that intersect with major streets typically experience greater delay for short periods of time in the peak hours due to the wait for acceptable gaps on the major street, while the free-flowing major streets experience minimal delay. In addition, it is anticipated that additional accesses will be requested on Miller Road that service the multifamily and commercial developments. Therefore, the trips projected at Access F will be disbursed between the other accesses as additional TIAs are prepared once site planning is completed for these developments.

Should surrounding land develop within the study area, other traffic control measures may be required at the intersection of Green Road/Mille Road in the future to mitigate unforeseen traffic concerns.

Proper intersection sight distance and sight triangles shall be provided and maintained at all site access driveways of the proposed development to give drivers

exiting the site a clear view of oncoming traffic. The landscape and hardscape (monument signs) within the sight triangles must not obstruct the driver's view of the adjacent travel lanes. The sight triangles shall be provided on the developer's landscape and design plans.

Any work performed in ADOT's right of way will require a development agreement. Therefore, further discussions will be required with the developer and Pinal County regarding future improvements to SR347 at the site accesses and Miller Road.

Based on this TIA, the following roadway and intersection improvements are proposed to be constructed by the developer.

PHASE I of the Midway Development– 2023

- Construct the internal collector road (A-C) into the Midway development at Access A from SR347 west to the Phase 2 eastern boundary.
- Construct the intersection of Access A/SR347. Access A should be designed with right and left turn deceleration lanes exiting the development. Right and left turn lanes will be required on SR347 at Access A.
- Construct a temporary secondary access from the Phase I southern boundary south to Miller Road. This access should be used as emergency access only until Phase III is constructed.

PHASE II of the Midway Development– 2025

- Construct the internal collector road (A-C) into the Midway development from the Phase 2 eastern boundary west to Green Road.
- Construct half street improvements along Green Road from the site's northern boundary south to the Phase 4 boundary. This improvement should provide 75 feet of right of way for the future major arterial cross section.
- Construct a northbound exclusive right turn deceleration lane on Green Road at Access C. Provide for a southbound left turn lane on Green Road at Access C for future traffic.
- During Phase II, developer to prepare traffic signal warrant study at SR347/Access A using actual traffic volumes. When warranted, install a traffic signal at the intersection of SR347/Access A. Developer to contribute 50% of signal cost.

PHASE III of the Midway Development– 2027

- Construct the internal collector road (B-D) into the Midway Development from SR347 west to the phase 4 boundary.
- Construct half street improvements along Miller Road from the phase 3 boundary east to SR347. This improvement should provide 75 feet of right of way for the future major arterial cross section.
- Construct the intersection of Access B/SR347. Access B should be designed with right and left turn deceleration lanes exiting the development. Right and left turn lanes will be required on SR347 at Access B.
- Construct westbound dedicated right turn deceleration lanes on Miller Road at Accesses E and F. Provide for eastbound left turn lanes on Miller Road at Accesses E and F for future traffic.
- During Phase III, developer to prepare traffic signal warrant studies at SR347/Access B and SR347/Miller Road. When warranted, install the traffic signals. Developer should contribute 50% of signal cost at intersection of SR347/Access B and 25% of signal cost SR347/Miller Road.
- The intersection of SR347/Miller Road should be designed with dual left turns in the northbound and eastbound directions when signalization occurs.
- Developer to construct dual left turn lanes when warranted.

PHASE IV of the Midway Development-2029

- Construct the internal collector road (B-D) into the Midway Development from Green Road east to the phase 3 boundary.
- Construct half street improvements along Green Road from the southern Phase 2 boundary to Miller Road. This improvement should provide 75 feet of right of way for the future major arterial cross section.
- Construct half street improvements along Miller Road from Green Road to the Phase 3 boundary.
- Construct a northbound dedicated right turn deceleration lane on Green Road at Access D. Provide for a southbound left turn lane on Green Road at Access D for future traffic.
- Construct the Access B-D internal collector road from Green Road west to the phase 3 boundary.

PHASE V of the Midway Development-2030

- Construct Access G on SR347. Access G should be designed with a right turn deceleration lane that continues southbound to Miller Road.

This report concludes that when constructed, the offsite improvements recommended above will assist in maintaining an acceptable LOS C or better. However, it should be noted that many assumptions were made within this report to forecast traffic volumes and distributions in the future traffic projections. As this area grows, and new development is proposed, traffic may redistribute from what was originally proposed which affects the LOS.

VIII. LIMITATIONS

Our professional services have been performed using the degree of skill ordinarily exercised, under similar circumstances, by reputable transportation engineering firms practicing in this locality. No other warranty, expressed or implied, is made.

The contents of this report are intended for the sole use of the addressee and his/her designees. In completing this report, data was obtained from a variety of sources (i.e., City, County, State and Federal sources); United Civil Group has assumed these sources to be reliable and accurate. Should deviations from this report be noted, this firm shall be contacted for review of the area of concern.

A reasonable attempt was made to acquire recent traffic impact studies, traffic projections and/or data that may be helpful in more accurately projecting traffic volumes. United Civil Group is not responsible for incorporating data made available after this document has been finalized.

This report is issued with the understanding that it is the responsibility of the owner to see that its provisions are carried out or brought to the attention of those concerned. If any changes of the proposed project are planned, the conclusions and recommendations contained in this report shall be reviewed and the report shall be modified or supplemented as necessary.

IX. SOURCES

Arizona Department of Transportation Traffic Engineering Guidelines and Processes, June 2015.

A Policy on Geometric Design of Highways and Streets, American Association of State Highway and Transportation Officials, 2018.

Highway Capacity Manual, HCM, Transportation Research Board, 2010.

Manual on Uniform Traffic Control Devices, Federal Highway Administration, MUTCD 2009.

Pinal County Access Management Manual, February 24, 2017.

Pinal County Regionally Significant Routes for Safety and Mobility Final Report. December 2008.

Pinal County Small Area Transportation Study Final Report, August 2006.

Pinal County Subdivision & Infrastructure Design Manual.

Pinal County Traffic Assessment Guidelines & Procedures, January 2007.

Trip Generation, 10th Edition, Institute of Transportation Engineers, 2017.

APPENDIX B



Project No: TR20072

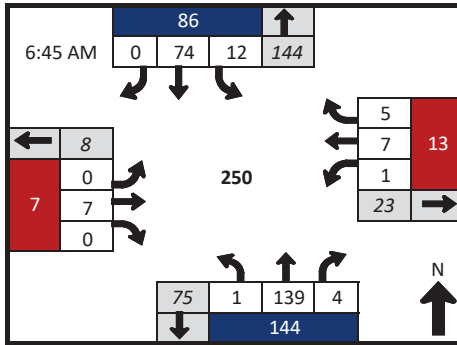
Location: SR 347
and Miller Road

Intersection Configuration: Unsignalized

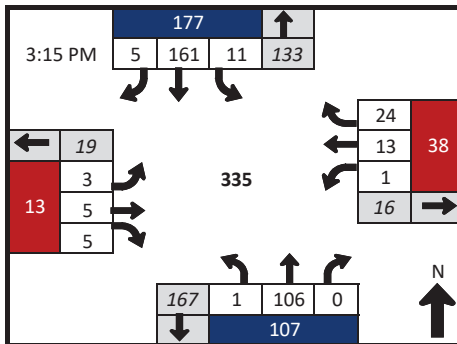
Turning Movement Count

	Speed Limit	Turning Movement						
		Lt	Lt/T	T	T/Rt	Rt	Lt/T/Rt	Lt/Rt
Northbound	65	1		2		1		
Southbound	65	1		2		1		
Eastbound							1	
Westbound							1	

November-12-2020 (Thursday)



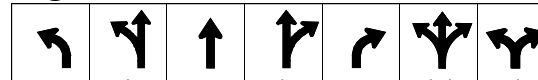
Start Time	SR 347 Northbound				SR 347 Southbound				Miller Road Eastbound				Miller Road Westbound				Total	Peak Hour
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds		
6:00 AM	1	30	0	0	3	18	0	0	0	0	0	0	2	1	1	0	56	
6:15 AM	1	14	2	0	1	18	0	0	1	1	0	0	0	0	2	0	40	
6:30 AM	2	31	1	0	2	23	0	0	2	0	1	0	0	1	0	0	63	
6:45 AM	0	36	1	0	5	13	0	0	0	3	0	0	0	2	3	0	63	222
7:00 AM	1	31	2	0	2	21	0	0	0	0	0	0	1	2	2	0	62	228
7:15 AM	0	32	0	0	3	22	0	0	0	1	0	0	0	0	0	0	58	246
7:30 AM	0	40	1	0	2	18	0	0	0	3	0	0	0	3	0	0	67	250
7:45 AM	0	18	0	0	8	17	1	0	0	1	1	0	1	1	4	0	52	239
8:00 AM	0	19	2	0	3	22	0	0	1	4	0	0	0	2	4	0	57	234
8:15 AM	0	17	0	0	5	13	1	0	0	0	0	0	0	3	3	0	42	218
8:30 AM	0	27	0	0	0	18	2	0	1	1	0	0	0	1	3	0	53	204
8:45 AM	0	30	0	0	0	21	0	0	0	0	0	0	0	0	0	0	51	203
Peak Hour Total	1	139	4	0	12	74	0	0	0	7	0	0	1	7	5	0	250	



Start Time	SR 347 Northbound				SR 347 Southbound				Miller Road Eastbound				Miller Road Westbound				Total	Peak Hour
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds		
3:00 PM	0	31	0	0	0	35	0	0	2	1	0	0	1	2	5	0	77	
3:15 PM	1	21	0	0	6	43	0	0	1	2	0	0	1	2	3	0	80	
3:30 PM	0	28	0	0	2	36	0	0	1	0	2	0	0	7	11	0	87	
3:45 PM	0	32	0	0	2	35	1	0	0	1	2	0	0	3	4	0	80	324
4:00 PM	0	25	0	0	1	47	4	0	1	2	1	0	0	1	6	0	88	335
4:15 PM	0	27	0	0	3	36	1	0	1	0	0	0	2	0	3	0	73	328
4:30 PM	1	40	0	0	3	29	0	0	0	2	0	0	0	1	6	0	82	323
4:45 PM	0	19	0	0	2	38	0	0	2	3	0	0	0	1	4	0	69	312
5:00 PM	1	26	0	0	4	28	1	0	0	4	0	0	1	2	7	0	74	298
5:15 PM	0	20	0	0	0	36	1	0	1	2	0	0	0	1	5	0	66	291
5:30 PM	0	28	0	0	3	43	1	0	0	0	1	0	0	1	2	0	79	288
5:45 PM	0	24	3	0	1	33	2	0	0	1	1	0	0	1	2	0	68	287
Peak Hour Total	1	106	0	0	11	161	5	0	3	5	5	0	1	13	24	0	335	



Turning Movement Count



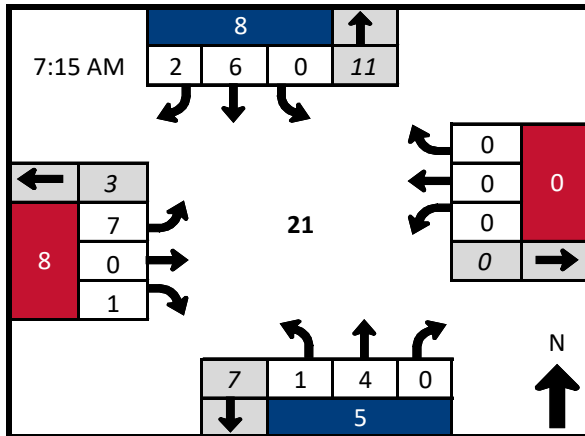
	Speed Limit	Lt	Lt/T	T	T/Rt	Rt	Lt/T/Rt	Lt/Rt
Northbound	45		1					
Southbound	45				1			
Eastbound	25							1
Westbound								

Jun-2-2021 (Wednesday)

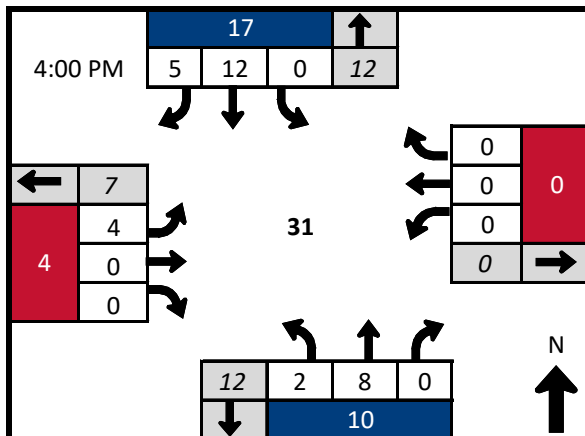
Project No: TR20001

Location: Amarillo Valley Road and Val Vista Road

Intersection Configuration: Unsignalized



Start Time	Amarillo Valley Road Northbound				Amarillo Valley Road Southbound				Val Vista Road Eastbound				Val Vista Road Westbound				Total	Peak Hour
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds		
7:00 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
7:15 AM	0	1	0	0	0	2	0	0	1	0	0	0	0	0	0	0	4	
7:30 AM	1	2	0	0	0	1	0	0	3	0	0	0	0	0	0	0	7	
7:45 AM	0	0	0	0	0	1	2	0	1	0	1	0	0	0	0	0	5	17
8:00 AM	0	1	0	0	0	2	0	0	2	0	0	0	0	0	0	0	5	21
8:15 AM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	18
8:30 AM	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	2	13
8:45 AM	0	0	0	0	0	0	1	0	2	0	1	0	0	0	0	0	4	12
Peak Hour Total	1	4	0	0	0	6	2	0	7	0	1	0	0	0	0	0	21	



Start Time	Amarillo Valley Road Northbound				Amarillo Valley Road Southbound				Val Vista Road Eastbound				Val Vista Road Westbound				Total	Peak Hour
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds		
4:00 PM	0	3	0	0	0	3	1	0	0	0	0	0	0	0	0	0	7	
4:15 PM	0	1	0	0	0	2	3	0	2	0	0	0	0	0	0	0	8	
4:30 PM	2	2	0	0	0	4	0	0	2	0	0	0	0	0	0	0	10	
4:45 PM	0	2	0	0	0	3	1	0	0	0	0	0	0	0	0	0	6	31
5:00 PM	1	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	3	27
5:15 PM	1	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	3	22
5:30 PM	0	1	0	0	0	2	1	0	1	0	2	0	0	0	0	0	7	19
5:45 PM	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	2	15
Peak Hour Total	2	8	0	0	0	12	5	0	4	0	0	0	0	0	0	0	31	



Turning Movement Count

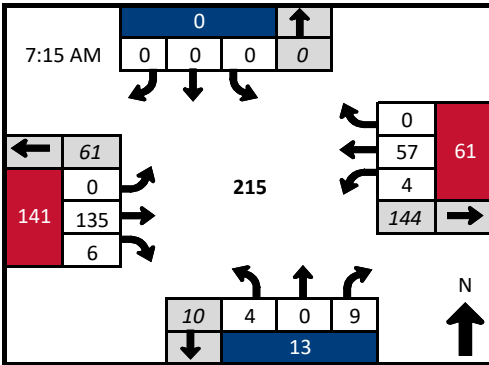
Speed Limit	Lt	Lt/T	T	T/Rt	Rt	Lt/T/Rt	Lt/Rt
Northbound	45					1	
Southbound	45					1	
Eastbound	45					1	
Westbound	45		1			1	

Jan-21-2020 (Tuesday)

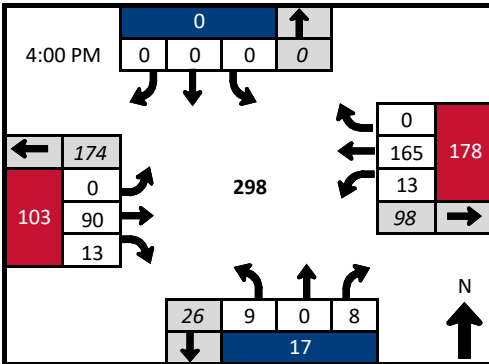
Project No: TR21045

Location: Amarillo Valley Road and Papago Road

Intersection Configuration: Unsignalized



Start Time	Amarillo Valley Road Northbound				Amarillo Valley Road Southbound				Papago Road Eastbound				Papago Road Westbound				Total	Peak Hour
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds		
7:00 AM	1	0	4	0	0	0	0	0	0	26	1	0	1	12	0	0	45	
7:15 AM	0	0	2	0	0	0	0	0	0	39	1	0	0	9	0	0	51	
7:30 AM	1	0	4	0	0	0	0	0	0	33	0	0	1	12	0	0	51	
7:45 AM	0	0	1	0	0	0	0	0	0	35	1	0	1	18	0	0	56	203
8:00 AM	3	0	2	0	0	0	0	0	0	28	4	0	2	18	0	0	57	215
8:15 AM	1	0	1	0	0	0	0	0	0	19	2	0	0	15	0	0	38	202
8:30 AM	2	0	1	0	0	0	0	0	0	23	3	0	1	17	0	0	47	198
8:45 AM	3	0	5	0	0	0	0	0	0	23	3	0	0	19	0	0	53	195
Peak Hour Total	4	0	9	0	0	0	0	0	0	135	6	0	4	57	0	0	215	



Start Time	Amarillo Valley Road Northbound				Amarillo Valley Road Southbound				Papago Road Eastbound				Papago Road Westbound				Total	Peak Hour
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds		
4:00 PM	2	0	0	0	0	0	0	0	0	21	3	0	3	52	0	0	81	
4:15 PM	4	0	2	0	0	0	0	0	0	28	3	0	4	42	0	0	83	
4:30 PM	1	0	4	0	0	0	0	0	0	21	5	0	2	34	0	0	67	
4:45 PM	2	0	2	0	0	0	0	0	0	20	2	0	4	37	0	0	67	298
5:00 PM	3	0	0	0	0	0	0	0	0	11	3	0	3	35	0	0	55	272
5:15 PM	3	0	1	0	0	0	0	0	0	16	1	0	3	33	0	0	57	246
5:30 PM	5	0	1	0	0	0	0	0	0	17	3	0	1	29	0	0	56	235
5:45 PM	1	0	1	0	0	0	0	0	0	13	2	0	7	33	0	0	57	225
Peak Hour Total	9	0	8	0	0	0	0	0	0	90	13	0	13	165	0	0	298	



Turning Movement Count

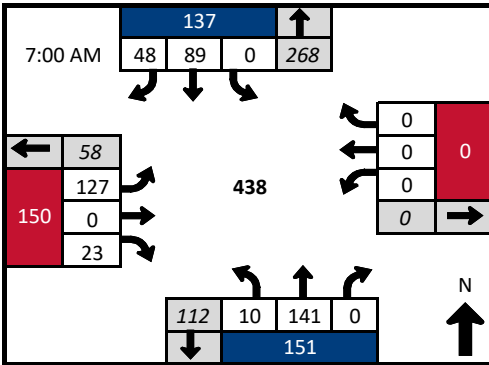
	Speed Limit							
		Lt	Lt/T	T	T/Rt	Rt	Lt/T/Rt	Lt/Rt
Northbound	65	1		2				
Southbound	65			2		1		
Eastbound	45							1
Westbound								

Jan-21-2020 (Tuesday)

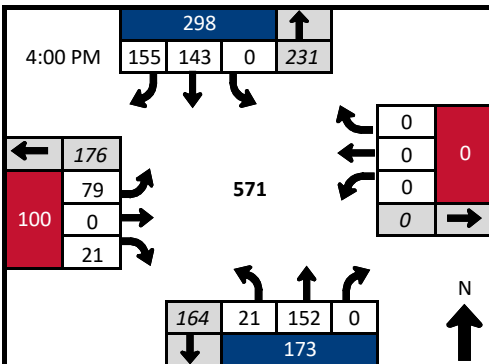
Project No: TR21045

Location: SR347 and Papago Road

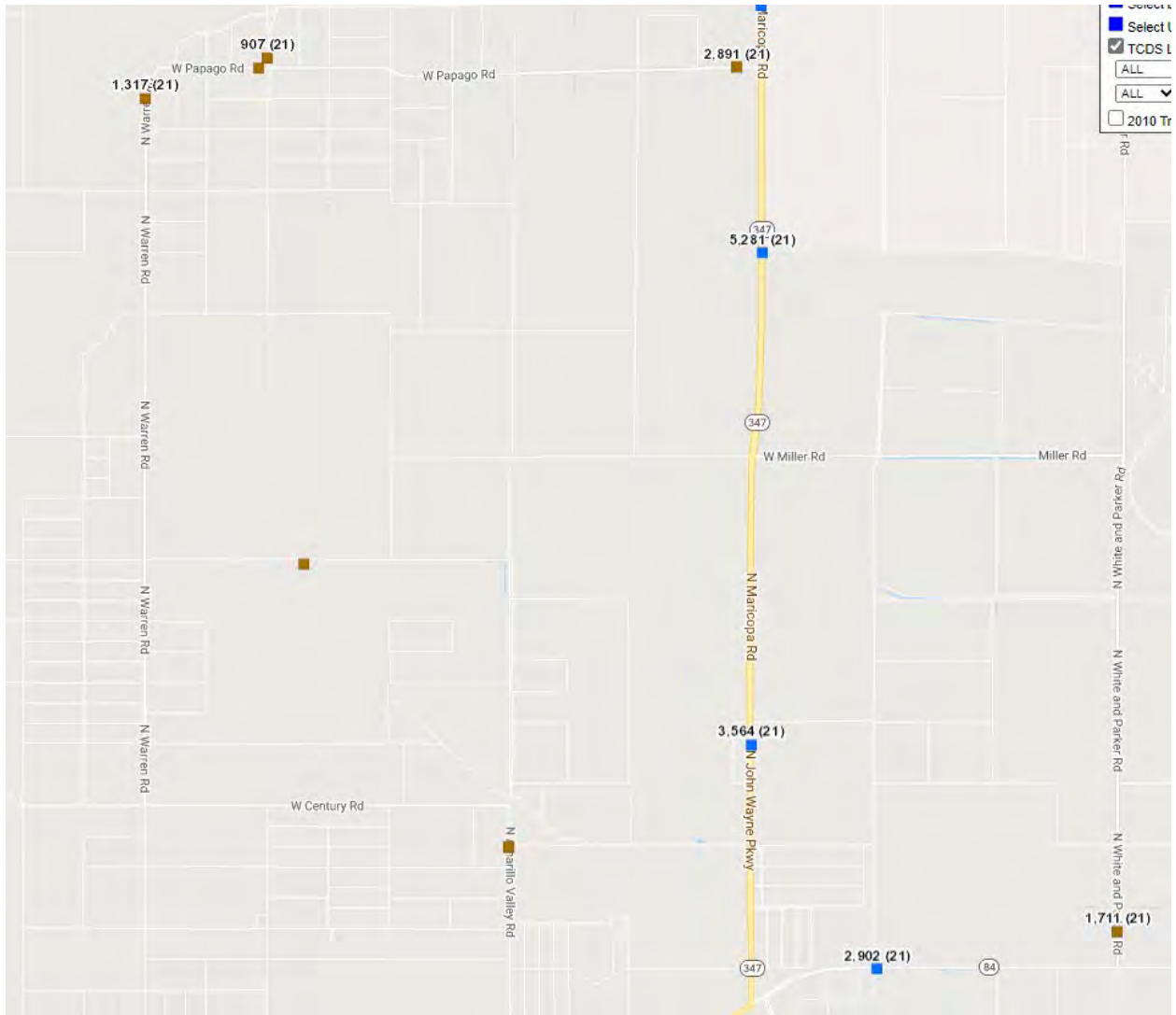
Intersection Configuration: Unsignalized



Start Time	SR347 Northbound				SR347 Southbound				Papago Road Eastbound				Papago Road Westbound				Total	Peak Hour
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds		
7:00 AM	4	34	0	0	0	19	10	0	22	0	4	0	0	0	0	0	93	
7:15 AM	2	34	0	0	0	16	7	0	26	0	6	0	0	0	0	0	91	
7:30 AM	2	38	0	0	0	32	14	0	45	0	2	0	0	0	0	0	133	
7:45 AM	2	35	0	0	0	22	17	0	34	0	11	0	0	0	0	0	121	438
8:00 AM	3	19	0	0	0	21	20	0	26	0	3	0	0	0	0	0	92	437
8:15 AM	1	30	0	0	0	31	12	0	13	0	0	0	0	0	0	0	87	433
8:30 AM	3	17	0	0	0	22	14	0	27	0	4	0	0	0	0	0	87	387
8:45 AM	4	27	0	0	0	31	14	0	24	0	2	0	0	0	0	0	102	368
Peak Hour Total	10	141	0	0	0	89	48	0	127	0	23	0	0	0	0	0	438	



Start Time	SR347 Northbound				SR347 Southbound				Papago Road Eastbound				Papago Road Westbound				Total	Peak Hour
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds		
4:00 PM	7	36	0	0	0	43	39	0	23	0	3	0	0	0	0	0	151	
4:15 PM	5	34	0	0	0	39	46	0	15	0	7	0	0	0	0	0	146	
4:30 PM	6	40	0	0	0	30	37	0	24	0	5	0	0	0	0	0	142	
4:45 PM	3	42	0	0	0	31	33	0	17	0	6	0	0	0	0	0	132	571
5:00 PM	4	24	0	0	0	46	48	0	23	0	0	0	0	0	0	0	145	565
5:15 PM	0	33	0	0	0	40	32	0	12	0	0	0	0	0	0	0	117	536
5:30 PM	5	28	0	0	0	38	34	0	15	0	1	0	0	0	0	0	121	515
5:45 PM	2	26	0	0	0	30	26	0	13	0	1	0	0	0	0	0	98	481
Peak Hour Total	21	152	0	0	0	143	155	0	79	0	21	0	0	0	0	0	571	



Source: ADOT Multimodal Planning TDMS MS2 Website accessed March 7, 2022.

APPENDIX C

Intersection Level Of Service Report
Intersection 1: SR 347 & Miller Road/Louis Johnson Drive

Control Type:	Two-way stop	Delay (sec / veh):	10.8
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.013

Intersection Setup

Name	SR 347			SR 347			Miller Road			Louis Johnson Drive		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	↵↵↵			↵↵↵			⊕			⊕		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	0	0	0	0	0	0
Entry Pocket Length [ft]	150.00	100.00	150.00	150.00	100.00	150.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	65.00			65.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	SR 347			SR 347			Miller Road			Louis Johnson Drive		
Base Volume Input [veh/h]	1	139	4	12	70	0	0	7	0	1	7	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	9.80	2.00	2.00	9.80	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	139	4	12	70	0	0	7	0	1	7	5
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	39	1	3	19	0	0	2	0	0	2	1
Total Analysis Volume [veh/h]	1	154	4	13	78	0	0	8	0	1	8	6
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.01	0.00	0.00	0.01	0.01
d_M, Delay for Movement [s/veh]	7.37	0.00	0.00	7.56	0.00	0.00	9.94	10.75	8.59	10.25	10.75	8.82
Movement LOS	A	A	A	A	A	A	A	B	A	B	B	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.03	0.00	0.00	0.04	0.04	0.04	0.06	0.06	0.06
95th-Percentile Queue Length [ft/ln]	0.05	0.00	0.00	0.69	0.00	0.00	0.96	0.96	0.96	1.54	1.54	1.54
d_A, Approach Delay [s/veh]	0.05			1.08			10.75			9.94		
Approach LOS	A			A			B			A		
d_I, Intersection Delay [s/veh]	1.25											
Intersection LOS	B											

**Intersection Level Of Service Report
Intersection 9: SR 347 & Papago Road**

Control Type:	Two-way stop	Delay (sec / veh):	10.5
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.173

Intersection Setup

Name	SR 347		SR 347		Papago Road	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	↩ ↑ ↑		↑ ↑↩		↩	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	65.00		65.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	SR 347		SR 347		Papago Road	
Base Volume Input [veh/h]	10	141	89	48	127	23
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	9.80	9.80	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	10	141	89	48	127	23
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	39	25	13	35	6
Total Analysis Volume [veh/h]	11	157	99	53	141	26
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			Yes
Number of Storage Spaces in Median	0	0	2

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.17	0.03
d_M, Delay for Movement [s/veh]	7.54	0.00	0.00	0.00	10.46	9.62
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.02	0.00	0.00	0.00	0.74	0.74
95th-Percentile Queue Length [ft/ln]	0.58	0.00	0.00	0.00	18.39	18.39
d_A, Approach Delay [s/veh]	0.49		0.00		10.33	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	3.71					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 10: Amarillo Valley Road & Papago Road

Control Type:	Two-way stop	Delay (sec / veh):	10.0
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.005

Intersection Setup

Name	Amarillo Valley Road			Amarillo Valley Road			Papago Road			Papago Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	0	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Amarillo Valley Road			Amarillo Valley Road			Papago Road			Papago Road		
Base Volume Input [veh/h]	4	0	9	0	0	0	0	135	6	4	57	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	4	0	9	0	0	0	0	135	6	4	57	0
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	0	3	0	0	0	0	38	2	1	16	0
Total Analysis Volume [veh/h]	4	0	10	0	0	0	0	150	7	4	63	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.17	0.01	0.01	0.07	0.00
d_M, Delay for Movement [s/veh]	7.22	0.00	0.00	7.24	0.00	0.00	9.87	10.00	9.20	10.03	9.44	8.34
Movement LOS	A	A	A	A	A	A	A	B	A	B	A	A
95th-Percentile Queue Length [veh/ln]	0.01	0.01	0.01	0.00	0.00	0.00	0.65	0.65	0.65	0.25	0.25	0.00
95th-Percentile Queue Length [ft/ln]	0.19	0.19	0.19	0.00	0.00	0.00	16.14	16.14	16.14	6.23	6.23	0.00
d_A, Approach Delay [s/veh]	2.06			2.41			9.97			9.47		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	9.36											
Intersection LOS	B											

Intersection Level Of Service Report
Intersection 11: Amarillo Valley Road & Val Vista Road

Control Type:	Two-way stop	Delay (sec / veh):	8.6
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.008

Intersection Setup

Name	Amarillo Valley Road		Amarillo Valley Road		Val Vista Road	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	↶		↷		↷	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Amarillo Valley Road		Amarillo Valley Road		Val Vista Road	
Base Volume Input [veh/h]	1	4	6	2	7	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	4	6	2	7	1
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	1	2	1	2	0
Total Analysis Volume [veh/h]	1	4	7	2	8	1
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	7.24	0.00	0.00	0.00	8.62	8.38
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.03	0.03
95th-Percentile Queue Length [ft/ln]	0.05	0.05	0.00	0.00	0.67	0.67
d_A, Approach Delay [s/veh]	1.45		0.00		8.59	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	3.68					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 12: Amarillo Valley Road & Miller Road

Control Type:	Two-way stop	Delay (sec / veh):	8.6
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.004

Intersection Setup

Name	Amarillo Valley Road		Amarillo Valley Road		Miller Road	
Approach	Northbound		Southbound		Westbound	
Lane Configuration	↬		↵		↶	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Amarillo Valley Road		Amarillo Valley Road		Miller Road	
Base Volume Input [veh/h]	1	3	4	3	4	4
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	3	4	3	4	4
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	1	1	1	1	1
Total Analysis Volume [veh/h]	1	3	4	3	4	4
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	7.23	0.00	8.62	8.36
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.01	0.01	0.02	0.02
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.19	0.19	0.58	0.58
d_A, Approach Delay [s/veh]	0.00		4.13		8.49	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	5.10					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 1: SR 347 & Miller Road/Louis Johnson Drive

Control Type:	Two-way stop	Delay (sec / veh):	11.4
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.024

Intersection Setup

Name	SR 347			SR 347			Miller Road			Louis Johnson Drive		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	⇌⇌⇌			⇌⇌⇌			⊕			⊕		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	0	0	0	0	0	0
Entry Pocket Length [ft]	150.00	100.00	150.00	150.00	100.00	150.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	65.00			65.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	SR 347			SR 347			Miller Road			Louis Johnson Drive		
Base Volume Input [veh/h]	1	106	0	11	161	5	3	5	5	1	13	24
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	9.80	2.00	2.00	9.80	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	106	0	11	161	5	3	5	5	1	13	24
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	29	0	3	45	1	1	1	1	0	4	7
Total Analysis Volume [veh/h]	1	118	0	12	179	6	3	6	6	1	14	27
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.01	0.01	0.00	0.02	0.03
d_M, Delay for Movement [s/veh]	7.60	0.00	0.00	7.47	0.00	0.00	10.86	11.23	8.90	10.52	11.42	8.87
Movement LOS	A	A	A	A	A	A	B	B	A	B	B	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.02	0.00	0.00	0.07	0.07	0.07	0.17	0.17	0.17
95th-Percentile Queue Length [ft/ln]	0.05	0.00	0.00	0.62	0.00	0.00	1.63	1.63	1.63	4.16	4.16	4.16
d_A, Approach Delay [s/veh]	0.06			0.46			10.23			9.76		
Approach LOS	A			A			B			A		
d_I, Intersection Delay [s/veh]	1.77											
Intersection LOS	B											

**Intersection Level Of Service Report
Intersection 9: SR 347 & Papago Road**

Control Type:	Two-way stop	Delay (sec / veh):	10.5
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.117

Intersection Setup

Name	SR 347		SR 347		Papago Road	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	↩ ↑ ↑		↑ ↪		↪	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	65.00		65.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	SR 347		SR 347		Papago Road	
Base Volume Input [veh/h]	21	152	143	155	79	21
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	9.80	9.80	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	21	152	143	155	79	21
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	42	40	43	22	6
Total Analysis Volume [veh/h]	23	169	159	172	88	23
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			Yes
Number of Storage Spaces in Median	0	0	2

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.00	0.00	0.00	0.12	0.02
d_M, Delay for Movement [s/veh]	7.99	0.00	0.00	0.00	10.52	9.48
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.06	0.00	0.00	0.00	0.49	0.49
95th-Percentile Queue Length [ft/ln]	1.43	0.00	0.00	0.00	12.20	12.20
d_A, Approach Delay [s/veh]	0.96		0.00		10.30	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	2.09					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 10: Amarillo Valley Road & Papago Road

Control Type:	Two-way stop	Delay (sec / veh):	10.7
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.017

Intersection Setup

Name	Amarillo Valley Road			Amarillo Valley Road			Papago Road			Papago Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	0	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Amarillo Valley Road			Amarillo Valley Road			Papago Road			Papago Road		
Base Volume Input [veh/h]	9	0	8	0	0	0	0	90	13	13	165	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	9	0	8	0	0	0	0	90	13	13	165	0
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	0	2	0	0	0	0	25	4	4	46	0
Total Analysis Volume [veh/h]	10	0	9	0	0	0	0	100	14	14	183	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.01	0.02	0.21	0.00
d_M, Delay for Movement [s/veh]	7.23	0.00	0.00	7.23	0.00	0.00	10.63	9.80	8.92	10.68	10.41	8.34
Movement LOS	A	A	A	A	A	A	B	A	A	B	B	A
95th-Percentile Queue Length [veh/ln]	0.02	0.02	0.02	0.00	0.00	0.00	0.44	0.44	0.44	0.88	0.88	0.00
95th-Percentile Queue Length [ft/ln]	0.46	0.46	0.46	0.00	0.00	0.00	11.09	11.09	11.09	22.07	22.07	0.00
d_A, Approach Delay [s/veh]	3.81			2.41			9.69			10.43		
Approach LOS	A			A			A			B		
d_I, Intersection Delay [s/veh]	9.79											
Intersection LOS	B											

Intersection Level Of Service Report
Intersection 11: Amarillo Valley Road & Val Vista Road

Control Type:	Two-way stop	Delay (sec / veh):	8.7
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.004

Intersection Setup

Name	Amarillo Valley Road		Amarillo Valley Road		Val Vista Road	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	↶		↷		↷	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Amarillo Valley Road		Amarillo Valley Road		Val Vista Road	
Base Volume Input [veh/h]	2	8	12	5	4	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	2	8	12	5	4	0
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	2	3	1	1	0
Total Analysis Volume [veh/h]	2	9	13	6	4	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	7.26	0.00	0.00	0.00	8.67	8.40
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.01	0.01
95th-Percentile Queue Length [ft/ln]	0.09	0.09	0.00	0.00	0.31	0.31
d_A, Approach Delay [s/veh]	1.32		0.00		8.67	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	1.45					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 12: Amarillo Valley Road & Miller Road

Control Type:	Two-way stop	Delay (sec / veh):	8.7
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.010

Intersection Setup

Name	Amarillo Valley Road		Amarillo Valley Road		Miller Road	
Approach	Northbound		Southbound		Westbound	
Lane Configuration	↬		↵		↶	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Amarillo Valley Road		Amarillo Valley Road		Miller Road	
Base Volume Input [veh/h]	0	6	7	5	9	10
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	6	7	5	9	10
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	2	2	1	3	3
Total Analysis Volume [veh/h]	0	7	8	6	10	11
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.01	0.01
d_M, Delay for Movement [s/veh]	0.00	0.00	7.24	0.00	8.73	8.41
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.01	0.01	0.06	0.06
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.37	0.37	1.56	1.56
d_A, Approach Delay [s/veh]	0.00		4.14		8.56	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	5.66					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 1: SR 347 & Miller Road/Louis Johnson Drive

Control Type:	Two-way stop	Delay (sec / veh):	11.1
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.013

Intersection Setup

Name	SR 347			SR 347			Miller Road			Louis Johnson Drive		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	0	0	0	0	0	0
Entry Pocket Length [ft]	150.00	100.00	150.00	150.00	100.00	150.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	65.00			65.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	SR 347			SR 347			Miller Road			Louis Johnson Drive		
Base Volume Input [veh/h]	1	139	4	12	70	0	0	7	0	1	7	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	9.80	2.00	2.00	9.80	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0612	1.0612	1.0612	1.0612	1.0612	1.0612	1.0612	1.0612	1.0612	1.0612	1.0612	1.0612
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	16	0	0	47	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	164	4	13	121	0	0	7	0	1	7	5
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	46	1	4	34	0	0	2	0	0	2	1
Total Analysis Volume [veh/h]	1	182	4	14	134	0	0	8	0	1	8	6
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			Yes	Yes
Number of Storage Spaces in Median	0	0	1	1

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.01	0.00	0.00	0.01	0.01
d_M, Delay for Movement [s/veh]	7.49	0.00	0.00	7.62	0.00	0.00	10.36	11.11	8.75	10.49	11.09	8.90
Movement LOS	A	A	A	A	A	A	B	B	A	B	B	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.03	0.00	0.00	0.04	0.04	0.04	0.06	0.06	0.06
95th-Percentile Queue Length [ft/ln]	0.05	0.00	0.00	0.77	0.00	0.00	1.02	1.02	1.02	1.62	1.62	1.62
d_A, Approach Delay [s/veh]	0.04			0.72			11.11			10.17		
Approach LOS	A			A			B			B		
d_I, Intersection Delay [s/veh]	0.99											
Intersection LOS	B											

**Intersection Level Of Service Report
Intersection 9: SR 347 & Papago Road**

Control Type:	Two-way stop	Delay (sec / veh):	13.4
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.383

Intersection Setup

Name	SR 347		SR 347		Papago Road	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	↩		↪		↪	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	65.00		65.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	SR 347		SR 347		Papago Road	
Base Volume Input [veh/h]	10	141	89	48	127	23
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	9.80	9.80	2.00	2.00	2.00
Growth Factor	1.0612	1.0612	1.0612	1.0612	1.0612	1.0612
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	16	0	0	43	132	47
Total Hourly Volume [veh/h]	27	150	94	94	267	71
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	42	26	26	74	20
Total Analysis Volume [veh/h]	30	167	104	104	297	79
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			Yes
Number of Storage Spaces in Median	0	0	2

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.00	0.00	0.00	0.38	0.08
d_M, Delay for Movement [s/veh]	7.71	0.00	0.00	0.00	13.39	12.33
Movement LOS	A	A	A	A	B	B
95th-Percentile Queue Length [veh/ln]	0.07	0.00	0.00	0.00	2.47	2.47
95th-Percentile Queue Length [ft/ln]	1.69	0.00	0.00	0.00	61.65	61.65
d_A, Approach Delay [s/veh]	1.17		0.00		13.17	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	6.63					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 10: Amarillo Valley Road & Papago Road

Control Type:	Two-way stop	Delay (sec / veh):	10.2
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.019

Intersection Setup

Name	Amarillo Valley Road			Amarillo Valley Road			Papago Road			Papago Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	0	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Amarillo Valley Road			Amarillo Valley Road			Papago Road			Papago Road		
Base Volume Input [veh/h]	4	0	9	0	0	0	0	135	6	4	57	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0612	1.0612	1.0612	1.0612	1.0612	1.0612	1.0612	1.0612	1.0612	1.0612	1.0612	1.0612
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	3	0	0	0	0	0	0	9	0	0
Total Hourly Volume [veh/h]	4	0	13	0	0	0	0	143	6	13	60	0
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	0	4	0	0	0	0	40	2	4	17	0
Total Analysis Volume [veh/h]	4	0	14	0	0	0	0	159	7	14	67	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.18	0.01	0.02	0.08	0.00
d_M, Delay for Movement [s/veh]	7.22	0.00	0.00	7.24	0.00	0.00	9.98	10.10	9.27	10.22	9.55	8.35
Movement LOS	A	A	A	A	A	A	A	B	A	B	A	A
95th-Percentile Queue Length [veh/ln]	0.01	0.01	0.01	0.00	0.00	0.00	0.70	0.70	0.70	0.31	0.31	0.00
95th-Percentile Queue Length [ft/ln]	0.19	0.19	0.19	0.00	0.00	0.00	17.38	17.38	17.38	7.84	7.84	0.00
d_A, Approach Delay [s/veh]	1.61			2.41			10.06			9.66		
Approach LOS	A			A			B			A		
d_I, Intersection Delay [s/veh]	9.37											
Intersection LOS	B											

Intersection Level Of Service Report
Intersection 11: Amarillo Valley Road & Val Vista Road

Control Type:	Two-way stop	Delay (sec / veh):	8.7
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.008

Intersection Setup

Name	Amarillo Valley Road		Amarillo Valley Road		Val Vista Road	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	↶		↷		↷	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Amarillo Valley Road		Amarillo Valley Road		Val Vista Road	
Base Volume Input [veh/h]	1	4	6	2	7	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0612	1.0612	1.0612	1.0612	1.0612	1.0612
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	3	9	0	0	0
Total Hourly Volume [veh/h]	1	7	15	2	7	1
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	2	4	1	2	0
Total Analysis Volume [veh/h]	1	8	17	2	8	1
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	7.25	0.00	0.00	0.00	8.68	8.43
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.03	0.03
95th-Percentile Queue Length [ft/ln]	0.05	0.05	0.00	0.00	0.69	0.69
d_A, Approach Delay [s/veh]	0.81		0.00		8.65	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	2.30					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 12: Amarillo Valley Road & Miller Road

Control Type:	Two-way stop	Delay (sec / veh):	8.7
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.004

Intersection Setup

Name	Amarillo Valley Road		Amarillo Valley Road		Miller Road	
Approach	Northbound		Southbound		Westbound	
Lane Configuration	↬		↵		↶	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Amarillo Valley Road		Amarillo Valley Road		Miller Road	
Base Volume Input [veh/h]	1	3	4	3	4	4
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0612	1.0612	1.0612	1.0612	1.0612	1.0612
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	3	0	0	9	0	0
Total Hourly Volume [veh/h]	4	3	4	12	4	4
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	1	1	3	1	1
Total Analysis Volume [veh/h]	4	3	4	13	4	4
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	7.24	0.00	8.68	8.37
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.01	0.01	0.02	0.02
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.19	0.19	0.59	0.59
d_A, Approach Delay [s/veh]	0.00		1.70		8.52	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	3.04					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 1: SR 347 & Miller Road/Louis Johnson Drive

Control Type:	Two-way stop	Delay (sec / veh):	11.8
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.029

Intersection Setup

Name	SR 347			SR 347			Miller Road			Louis Johnson Drive		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	⇌⇌⇌			⇌⇌⇌			⊕			⊕		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	0	0	0	0	0	0
Entry Pocket Length [ft]	150.00	100.00	150.00	150.00	100.00	150.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	65.00			65.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	SR 347			SR 347			Miller Road			Louis Johnson Drive		
Base Volume Input [veh/h]	1	106	0	11	161	5	3	5	5	1	13	24
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	9.80	2.00	2.00	9.80	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0612	1.0612	1.0612	1.0612	1.0612	1.0612	1.0612	1.0612	1.0612	1.0612	1.0612	1.0612
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	53	0	0	31	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	165	0	12	202	5	3	5	5	1	14	25
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	46	0	3	56	1	1	1	1	0	4	7
Total Analysis Volume [veh/h]	1	183	0	13	224	6	3	6	6	1	16	28
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			Yes	Yes
Number of Storage Spaces in Median	0	0	1	1

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.01	0.00	0.00	0.01	0.01	0.01	0.00	0.03	0.03
d_M, Delay for Movement [s/veh]	7.70	0.00	0.00	7.62	0.00	0.00	11.13	11.60	9.04	10.93	11.79	9.10
Movement LOS	A	A	A	A	A	A	B	B	A	B	B	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.03	0.00	0.00	0.07	0.07	0.07	0.19	0.19	0.19
95th-Percentile Queue Length [ft/ln]	0.06	0.00	0.00	0.71	0.00	0.00	1.71	1.71	1.71	4.77	4.77	4.77
d_A, Approach Delay [s/veh]	0.04			0.41			10.48			10.10		
Approach LOS	A			A			B			B		
d_I, Intersection Delay [s/veh]	1.48											
Intersection LOS	B											

**Intersection Level Of Service Report
Intersection 9: SR 347 & Papago Road**

Control Type:	Two-way stop	Delay (sec / veh):	13.6
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.299

Intersection Setup

Name	SR 347		SR 347		Papago Road	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	↩ ↑ ↑		↑ ↪		↪	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	65.00		65.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	SR 347		SR 347		Papago Road	
Base Volume Input [veh/h]	21	152	143	155	79	21
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	9.80	9.80	2.00	2.00	2.00
Growth Factor	1.0612	1.0612	1.0612	1.0612	1.0612	1.0612
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	53	0	0	148	87	31
Total Hourly Volume [veh/h]	75	161	152	312	171	53
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	21	45	42	87	48	15
Total Analysis Volume [veh/h]	83	179	169	347	190	59
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			Yes
Number of Storage Spaces in Median	0	0	2

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.08	0.00	0.00	0.00	0.30	0.06
d_M, Delay for Movement [s/veh]	8.74	0.00	0.00	0.00	13.56	11.66
Movement LOS	A	A	A	A	B	B
95th-Percentile Queue Length [veh/ln]	0.26	0.00	0.00	0.00	1.64	1.64
95th-Percentile Queue Length [ft/ln]	6.45	0.00	0.00	0.00	41.02	41.02
d_A, Approach Delay [s/veh]	2.77		0.00		13.11	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	3.89					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 10: Amarillo Valley Road & Papago Road

Control Type:	Two-way stop	Delay (sec / veh):	11.0
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.028

Intersection Setup

Name	Amarillo Valley Road			Amarillo Valley Road			Papago Road			Papago Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	0	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Amarillo Valley Road			Amarillo Valley Road			Papago Road			Papago Road		
Base Volume Input [veh/h]	9	0	8	0	0	0	0	90	13	13	165	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0612	1.0612	1.0612	1.0612	1.0612	1.0612	1.0612	1.0612	1.0612	1.0612	1.0612	1.0612
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	11	0	0	0	0	0	0	6	0	0
Total Hourly Volume [veh/h]	10	0	19	0	0	0	0	96	14	20	175	0
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	0	5	0	0	0	0	27	4	6	49	0
Total Analysis Volume [veh/h]	11	0	21	0	0	0	0	107	16	22	194	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.13	0.01	0.03	0.23	0.00
d_M, Delay for Movement [s/veh]	7.23	0.00	0.00	7.26	0.00	0.00	10.88	9.95	9.00	11.02	10.66	8.36
Movement LOS	A	A	A	A	A	A	B	A	A	B	B	A
95th-Percentile Queue Length [veh/ln]	0.02	0.02	0.02	0.00	0.00	0.00	0.49	0.49	0.49	1.01	1.01	0.00
95th-Percentile Queue Length [ft/ln]	0.51	0.51	0.51	0.00	0.00	0.00	12.31	12.31	12.31	25.35	25.35	0.00
d_A, Approach Delay [s/veh]	2.49			2.42			9.83			10.70		
Approach LOS	A			A			A			B		
d_I, Intersection Delay [s/veh]	9.70											
Intersection LOS	B											

Intersection Level Of Service Report
Intersection 11: Amarillo Valley Road & Val Vista Road

Control Type:	Two-way stop	Delay (sec / veh):	8.8
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.004

Intersection Setup

Name	Amarillo Valley Road		Amarillo Valley Road		Val Vista Road	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	↶		↷		↷	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Amarillo Valley Road		Amarillo Valley Road		Val Vista Road	
Base Volume Input [veh/h]	2	8	12	5	4	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0612	1.0612	1.0612	1.0612	1.0612	1.0612
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	11	6	0	0	0
Total Hourly Volume [veh/h]	2	19	19	5	4	0
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	5	5	1	1	0
Total Analysis Volume [veh/h]	2	21	21	6	4	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	7.27	0.00	0.00	0.00	8.77	8.44
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.01	0.01
95th-Percentile Queue Length [ft/ln]	0.09	0.09	0.00	0.00	0.31	0.31
d_A, Approach Delay [s/veh]	0.63		0.00		8.77	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.92					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 12: Amarillo Valley Road & Miller Road

Control Type:	Two-way stop	Delay (sec / veh):	8.8
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.011

Intersection Setup

Name	Amarillo Valley Road		Amarillo Valley Road		Miller Road	
Approach	Northbound		Southbound		Westbound	
Lane Configuration	↬		↵		↶	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Amarillo Valley Road		Amarillo Valley Road		Miller Road	
Base Volume Input [veh/h]	0	6	7	5	9	10
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0612	1.0612	1.0612	1.0612	1.0612	1.0612
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	11	0	0	6	0	0
Total Hourly Volume [veh/h]	11	6	7	11	10	11
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	2	2	3	3	3
Total Analysis Volume [veh/h]	12	7	8	12	11	12
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.01	0.00	0.01	0.01
d_M, Delay for Movement [s/veh]	0.00	0.00	7.26	0.00	8.82	8.47
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.02	0.02	0.07	0.07
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.38	0.38	1.74	1.74
d_A, Approach Delay [s/veh]	0.00		2.91		8.64	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	4.14					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 1: SR 347 & Miller Road/Louis Johnson Drive

Control Type:	Two-way stop	Delay (sec / veh):	13.3
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.020

Intersection Setup

Name	SR 347			SR 347			Miller Road			Louis Johnson Drive		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	0	0	0	0	0	0
Entry Pocket Length [ft]	150.00	100.00	150.00	150.00	100.00	150.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	65.00			65.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	SR 347			SR 347			Miller Road			Louis Johnson Drive		
Base Volume Input [veh/h]	1	139	4	12	70	0	0	7	0	1	7	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	9.80	2.00	2.00	9.80	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.1041	1.1041	1.1041	1.1041	1.1041	1.1041	1.1041	1.1041	1.1041	1.1041	1.1041	1.1041
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	92	0	0	279	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	245	4	13	356	0	0	8	0	1	8	6
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	68	1	4	99	0	0	2	0	0	2	2
Total Analysis Volume [veh/h]	1	272	4	14	396	0	0	9	0	1	9	7
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			Yes	Yes
Number of Storage Spaces in Median	0	0	1	1

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.02	0.00	0.00	0.02	0.01
d_M, Delay for Movement [s/veh]	8.11	0.00	0.00	7.83	0.00	0.00	12.77	13.29	9.61	12.00	13.26	9.25
Movement LOS	A	A	A	A	A	A	B	B	A	B	B	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.03	0.00	0.00	0.06	0.06	0.06	0.09	0.09	0.09
95th-Percentile Queue Length [ft/ln]	0.06	0.00	0.00	0.83	0.00	0.00	1.55	1.55	1.55	2.31	2.31	2.31
d_A, Approach Delay [s/veh]	0.03			0.27			13.29			11.53		
Approach LOS	A			A			B			B		
d_I, Intersection Delay [s/veh]	0.61											
Intersection LOS	B											

**Intersection Level Of Service Report
Intersection 9: SR 347 & Papago Road**

Control Type:	Signalized	Delay (sec / veh):	44.1
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.835

Intersection Setup

Name	SR 347		SR 347		Papago Road	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	↵		↵		↵↵	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	65.00		65.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	No		No		No	

Volumes

Name	SR 347		SR 347		Papago Road	
Base Volume Input [veh/h]	10	141	89	48	127	23
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	9.80	9.80	2.00	2.00	2.00
Growth Factor	1.1041	1.1041	1.1041	1.1041	1.1041	1.1041
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	92	0	0	306	918	279
Right Turn on Red Volume [veh/h]	0	0	0	180	0	152
Total Hourly Volume [veh/h]	103	156	98	179	1058	152
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	29	43	27	50	294	42
Total Analysis Volume [veh/h]	114	173	109	199	1176	169
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing in	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPerm	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	1	6	2	0	3	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	5	10	10	0	5	0
Maximum Green [s]	30	30	30	0	30	0
Amber [s]	3.0	3.0	3.0	0.0	3.0	0.0
All red [s]	1.0	1.0	1.0	0.0	1.0	0.0
Split [s]	9	38	29	0	82	0
Vehicle Extension [s]	3.0	3.0	3.0	0.0	3.0	0.0
Walk [s]	0	5	5	0	5	0
Pedestrian Clearance [s]	0	10	10	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No	No		No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
Minimum Recall	No	No	No		No	
Maximum Recall	No	No	No		No	
Pedestrian Recall	No	No	No		No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R	L	R
C, Cycle Length [s]	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	34	34	25	25	78	78
g / C, Green / Cycle	0.28	0.28	0.21	0.21	0.65	0.65
(v / s)_i Volume / Saturation Flow Rate	0.08	0.05	0.03	0.13	0.66	0.11
s, saturation flow rate [veh/h]	1386	3338	3338	1589	1781	1589
c, Capacity [veh/h]	449	946	695	331	1158	1033
d1, Uniform Delay [s]	32.97	32.50	38.87	42.99	21.00	8.22
k, delay calibration	0.11	0.50	0.50	0.50	0.49	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.30	0.43	0.48	7.84	30.28	0.07
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.25	0.18	0.16	0.60	1.02	0.16
d, Delay for Lane Group [s/veh]	33.26	32.93	39.35	50.83	51.28	8.30
Lane Group LOS	C	C	D	D	F	A
Critical Lane Group	Yes	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	2.40	1.83	1.28	5.71	38.78	1.68
50th-Percentile Queue Length [ft/ln]	60.03	45.67	32.02	142.65	969.59	42.05
95th-Percentile Queue Length [veh/ln]	4.32	3.29	2.31	9.62	49.71	3.03
95th-Percentile Queue Length [ft/ln]	108.05	82.21	57.64	240.58	1242.70	75.69

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	33.26	32.93	39.35	50.83	51.28	8.30
Movement LOS	C	C	D	D	F	A
d_A, Approach Delay [s/veh]	33.06		46.77		45.88	
Approach LOS	C		D		D	
d_I, Intersection Delay [s/veh]	44.12					
Intersection LOS	D					
Intersection V/C	0.835					

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft ² /ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00
I_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	0.000
Crosswalk LOS	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	567	417	1300
d_b, Bicycle Delay [s]	30.82	37.60	7.35
I_b,int, Bicycle LOS Score for Intersection	1.796	1.962	1.560
Bicycle LOS	A	A	A

Sequence





Ring 1	1	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 10: Amarillo Valley Road & Papago Road

Control Type:	Signalized	Delay (sec / veh):	16.7
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.242

Intersection Setup

Name	Amarillo Valley Road			Amarillo Valley Road			Papago Road			Papago Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Speed [mph]	45.00			45.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name	Amarillo Valley Road			Amarillo Valley Road			Papago Road			Papago Road		
Base Volume Input [veh/h]	4	0	9	0	0	0	0	135	6	4	57	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.1041	1.1041	1.1041	1.1041	1.1041	1.1041	1.1041	1.1041	1.1041	1.1041	1.1041	1.1041
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	115	190	0	21	7	254	0	47	156	64
Right Turn on Red Volume [veh/h]	0	0	63	0	0	11	0	0	4	0	0	32
Total Hourly Volume [veh/h]	4	0	62	190	0	10	7	403	3	51	219	32
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	0	17	53	0	3	2	112	1	14	61	9
Total Analysis Volume [veh/h]	4	0	69	211	0	11	8	448	3	57	243	36
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing in	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	Protecte	Permiss	Permiss	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss
Signal Group	3	8	0	7	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	10	0	5	10	0	5	10	0	5	10	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	9	14	0	40	45	0	9	27	0	9	27	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	2.00	2.00	2.00	0.00	2.00	2.00	0.00	2.00	2.00
g_i, Effective Green Time [s]	20	8	8	8	16	16	62	54	54	62	57	57
g / C, Green / Cycle	0.22	0.09	0.09	0.09	0.17	0.17	0.69	0.60	0.60	0.69	0.63	0.63
(v / s)_i Volume / Saturation Flow Rate	0.00	0.00	0.04	0.06	0.00	0.01	0.01	0.13	0.00	0.06	0.07	0.02
s, saturation flow rate [veh/h]	1462	3560	1589	3459	1870	1589	1167	3560	1589	1021	3560	1589
c, Capacity [veh/h]	448	326	145	307	327	278	878	2135	953	756	2248	1004
d1, Uniform Delay [s]	27.11	0.00	38.83	39.79	0.00	30.87	4.51	8.25	7.23	4.80	6.56	6.25
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.50	0.11	0.50	0.50
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.01	0.00	2.39	2.72	0.00	0.06	0.02	0.22	0.01	0.04	0.10	0.07
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.01	0.00	0.47	0.69	0.00	0.04	0.01	0.21	0.00	0.08	0.11	0.04
d, Delay for Lane Group [s/veh]	27.11	0.00	41.22	42.51	0.00	30.93	4.53	8.48	7.23	4.84	6.66	6.32
Lane Group LOS	C	A	D	D	A	C	A	A	A	A	A	A
Critical Lane Group	No	No	Yes	Yes	No	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.06	0.00	1.48	2.28	0.00	0.19	0.04	1.71	0.02	0.26	0.76	0.23
50th-Percentile Queue Length [ft/ln]	1.61	0.00	36.95	56.93	0.00	4.84	0.97	42.79	0.52	6.48	19.08	5.64
95th-Percentile Queue Length [veh/ln]	0.12	0.00	2.66	4.10	0.00	0.35	0.07	3.08	0.04	0.47	1.37	0.41
95th-Percentile Queue Length [ft/ln]	2.90	0.00	66.51	102.48	0.00	8.72	1.75	77.02	0.94	11.67	34.35	10.15

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	27.11	0.00	41.22	42.51	0.00	30.93	4.53	8.48	7.23	4.84	6.66	6.32
Movement LOS	C	A	D	D	A	C	A	A	A	A	A	A
d_A, Approach Delay [s/veh]	40.45			41.94			8.40			6.31		
Approach LOS	D			D			A			A		
d_I, Intersection Delay [s/veh]	16.73											
Intersection LOS	B											
Intersection V/C	0.242											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			0.0			0.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			0.00			0.00			0.00		
I_p,int, Pedestrian LOS Score for Intersection	0.000			0.000			0.000			0.000		
Crosswalk LOS	F			F			F			F		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	222			911			511			511		
d_b, Bicycle Delay [s]	35.56			13.34			24.94			24.94		
I_b,int, Bicycle LOS Score for Intersection	1.672			1.944			1.942			1.863		
Bicycle LOS	A			A			A			A		

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 11: Amarillo Valley Road & Val Vista Road

Control Type:	Two-way stop	Delay (sec / veh):	9.7
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.012

Intersection Setup

Name	Amarillo Valley Road		Amarillo Valley Road		Val Vista Road	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	↶		↷		↷	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Amarillo Valley Road		Amarillo Valley Road		Val Vista Road	
Base Volume Input [veh/h]	1	4	6	2	7	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.1041	1.1041	1.1041	1.1041	1.1041	1.1041
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	120	63	0	0	0
Total Hourly Volume [veh/h]	1	124	70	2	8	1
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	34	19	1	2	0
Total Analysis Volume [veh/h]	1	138	78	2	9	1
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	7.37	0.00	0.00	0.00	9.74	8.73
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.04	0.04
95th-Percentile Queue Length [ft/ln]	0.05	0.05	0.00	0.00	0.97	0.97
d_A, Approach Delay [s/veh]	0.05		0.00		9.64	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.45					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 12: Amarillo Valley Road & Miller Road

Control Type:	Two-way stop	Delay (sec / veh):	9.7
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.005

Intersection Setup

Name	Amarillo Valley Road		Amarillo Valley Road		Miller Road	
Approach	Northbound		Southbound		Westbound	
Lane Configuration	↷		↶		↵	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Amarillo Valley Road		Amarillo Valley Road		Miller Road	
Base Volume Input [veh/h]	1	3	4	3	4	4
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.1041	1.1041	1.1041	1.1041	1.1041	1.1041
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	120	0	0	63	0	0
Total Hourly Volume [veh/h]	121	3	4	66	4	4
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	34	1	1	18	1	1
Total Analysis Volume [veh/h]	134	3	4	73	4	4
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	7.49	0.00	9.72	8.98
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.01	0.01	0.03	0.03
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.21	0.21	0.73	0.73
d_A, Approach Delay [s/veh]	0.00		0.39		9.35	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.47					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 1: SR 347 & Miller Road/Louis Johnson Drive

Control Type:	Two-way stop	Delay (sec / veh):	15.1
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.042

Intersection Setup

Name	SR 347			SR 347			Miller Road			Louis Johnson Drive		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	0	0	0	0	0	0
Entry Pocket Length [ft]	150.00	100.00	150.00	150.00	100.00	150.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	65.00			65.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	SR 347			SR 347			Miller Road			Louis Johnson Drive		
Base Volume Input [veh/h]	1	106	0	11	161	5	3	5	5	1	13	24
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	9.80	2.00	2.00	9.80	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.1041	1.1041	1.1041	1.1041	1.1041	1.1041	1.1041	1.1041	1.1041	1.1041	1.1041	1.1041
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	313	0	0	184	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	430	0	12	362	6	3	6	6	1	14	26
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	119	0	3	101	2	1	2	2	0	4	7
Total Analysis Volume [veh/h]	1	478	0	13	402	7	3	7	7	1	16	29
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			Yes	Yes
Number of Storage Spaces in Median	0	0	1	1

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.01	0.00	0.00	0.01	0.02	0.01	0.00	0.04	0.04
d_M, Delay for Movement [s/veh]	8.14	0.00	0.00	8.37	0.00	0.00	13.81	14.80	9.72	14.23	15.10	10.31
Movement LOS	A	A	A	A	A	A	B	B	A	B	C	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.04	0.00	0.00	0.11	0.11	0.11	0.27	0.27	0.27
95th-Percentile Queue Length [ft/ln]	0.07	0.00	0.00	0.91	0.00	0.00	2.66	2.66	2.66	6.74	6.74	6.74
d_A, Approach Delay [s/veh]	0.02			0.26			12.53			12.06		
Approach LOS	A			A			B			B		
d_I, Intersection Delay [s/veh]	0.92											
Intersection LOS	C											

**Intersection Level Of Service Report
Intersection 9: SR 347 & Papago Road**

Control Type:	Signalized	Delay (sec / veh):	108.3
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.137

Intersection Setup

Name	SR 347		SR 347		Papago Road	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	↩ ↑		↑ ↩		↩↩	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	65.00		65.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	No		No		No	

Volumes

Name	SR 347		SR 347		Papago Road	
Base Volume Input [veh/h]	21	152	143	155	79	21
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	9.80	9.80	2.00	2.00	2.00
Growth Factor	1.1041	1.1041	1.1041	1.1041	1.1041	1.1041
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	313	0	0	1030	606	184
Right Turn on Red Volume [veh/h]	0	0	0	300	0	104
Total Hourly Volume [veh/h]	336	168	158	901	693	103
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	93	47	44	250	193	29
Total Analysis Volume [veh/h]	373	187	176	1001	770	114
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing in	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPerm	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	1	6	2	0	3	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	5	10	10	0	5	0
Maximum Green [s]	30	30	30	0	30	0
Amber [s]	3.0	3.0	3.0	0.0	3.0	0.0
All red [s]	1.0	1.0	1.0	0.0	1.0	0.0
Split [s]	9	73	64	0	47	0
Vehicle Extension [s]	3.0	3.0	3.0	0.0	3.0	0.0
Walk [s]	0	5	5	0	5	0
Pedestrian Clearance [s]	0	10	10	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No	No		No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
Minimum Recall	No	No	No		No	
Maximum Recall	No	No	No		No	
Pedestrian Recall	No	No	No		No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R	L	R
C, Cycle Length [s]	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	69	69	60	60	43	43
g / C, Green / Cycle	0.58	0.58	0.50	0.50	0.36	0.36
(v / s)_i Volume / Saturation Flow Rate	0.29	0.06	0.05	0.63	0.43	0.07
s, saturation flow rate [veh/h]	1266	3338	3338	1589	1781	1589
c, Capacity [veh/h]	785	1919	1669	795	638	570
d1, Uniform Delay [s]	15.21	11.48	15.84	30.00	38.50	26.61
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.06	0.10	0.13	126.90	107.24	0.17
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.48	0.10	0.11	1.26	1.21	0.20
d, Delay for Lane Group [s/veh]	17.27	11.58	15.96	156.90	145.74	26.78
Lane Group LOS	B	B	B	F	F	C
Critical Lane Group	Yes	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	5.02	0.99	1.16	47.39	37.41	2.30
50th-Percentile Queue Length [ft/ln]	125.52	24.67	29.05	1184.75	935.36	57.49
95th-Percentile Queue Length [veh/ln]	8.70	1.78	2.09	68.99	53.54	4.14
95th-Percentile Queue Length [ft/ln]	217.38	44.40	52.28	1724.85	1338.58	103.48

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	17.27	11.58	15.96	156.90	145.74	26.78
Movement LOS	B	B	B	F	F	C
d_A, Approach Delay [s/veh]	15.37		135.83		130.40	
Approach LOS	B		F		F	
d_I, Intersection Delay [s/veh]	108.26					
Intersection LOS	F					
Intersection V/C	1.137					

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft ² /ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00
I_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	0.000
Crosswalk LOS	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1150	1000	717
d_b, Bicycle Delay [s]	10.84	15.00	24.70
I_b,int, Bicycle LOS Score for Intersection	2.022	2.778	1.560
Bicycle LOS	B	C	A

Sequence





Ring 1	1	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 10: Amarillo Valley Road & Papago Road

Control Type:	Signalized	Delay (sec / veh):	11.7
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.213

Intersection Setup

Name	Amarillo Valley Road			Amarillo Valley Road			Papago Road			Papago Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Speed [mph]	45.00			45.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name	Amarillo Valley Road			Amarillo Valley Road			Papago Road			Papago Road		
Base Volume Input [veh/h]	9	0	8	0	0	0	0	90	13	13	165	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.1041	1.1041	1.1041	1.1041	1.1041	1.1041	1.1041	1.1041	1.1041	1.1041	1.1041	1.1041
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	73	125	0	13	23	200	0	125	263	210
Right Turn on Red Volume [veh/h]	0	0	41	0	0	7	0	0	7	0	0	105
Total Hourly Volume [veh/h]	10	0	41	125	0	6	23	299	7	139	445	105
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	0	11	35	0	2	6	83	2	39	124	29
Total Analysis Volume [veh/h]	11	0	46	139	0	7	26	332	8	154	494	117
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing in	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	Protecte	Permiss	Permiss	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss
Signal Group	3	8	0	7	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	10	0	5	10	0	5	10	0	5	10	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	30	14	0	53	37	0	9	14	0	9	14	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	2.00	2.00	2.00	0.00	2.00	2.00	0.00	2.00	2.00
g_i, Effective Green Time [s]	17	7	7	6	11	11	65	56	56	65	59	59
g / C, Green / Cycle	0.18	0.08	0.08	0.06	0.13	0.13	0.73	0.63	0.63	0.73	0.66	0.66
(v / s)_i Volume / Saturation Flow Rate	0.01	0.00	0.03	0.04	0.00	0.00	0.03	0.09	0.01	0.14	0.14	0.07
s, saturation flow rate [veh/h]	1489	3560	1589	3459	1870	1589	962	3560	1589	1125	3560	1589
c, Capacity [veh/h]	396	271	121	225	237	201	758	2232	996	886	2330	1040
d1, Uniform Delay [s]	30.04	0.00	39.56	40.99	0.00	34.48	3.64	6.91	6.30	3.83	6.24	5.80
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.50	0.11	0.50	0.50
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.03	0.00	1.96	2.77	0.00	0.07	0.08	0.14	0.01	0.09	0.21	0.22
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.03	0.00	0.38	0.62	0.00	0.03	0.03	0.15	0.01	0.17	0.21	0.11
d, Delay for Lane Group [s/veh]	30.07	0.00	41.52	43.76	0.00	34.55	3.72	7.05	6.31	3.92	6.44	6.02
Lane Group LOS	C	A	D	D	A	C	A	A	A	A	A	A
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.19	0.00	0.99	1.52	0.00	0.13	0.10	1.10	0.05	0.57	1.52	0.70
50th-Percentile Queue Length [ft/ln]	4.73	0.00	24.78	38.05	0.00	3.31	2.60	27.38	1.26	14.36	37.89	17.53
95th-Percentile Queue Length [veh/ln]	0.34	0.00	1.78	2.74	0.00	0.24	0.19	1.97	0.09	1.03	2.73	1.26
95th-Percentile Queue Length [ft/ln]	8.52	0.00	44.61	68.50	0.00	5.96	4.69	49.29	2.26	25.86	68.20	31.55

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	30.07	0.00	41.52	43.76	0.00	34.55	3.72	7.05	6.31	3.92	6.44	6.02
Movement LOS	C	A	D	D	A	C	A	A	A	A	A	A
d_A, Approach Delay [s/veh]	39.31			43.32			6.80			5.87		
Approach LOS	D			D			A			A		
d_I, Intersection Delay [s/veh]	11.65											
Intersection LOS	B											
Intersection V/C	0.213											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			0.0			0.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			0.00			0.00			0.00		
I_p,int, Pedestrian LOS Score for Intersection	0.000			0.000			0.000			0.000		
Crosswalk LOS	F			F			F			F		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	222			733			222			222		
d_b, Bicycle Delay [s]	35.56			18.05			35.56			35.56		
I_b,int, Bicycle LOS Score for Intersection	1.640			1.812			1.867			2.277		
Bicycle LOS	A			A			A			B		

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 11: Amarillo Valley Road & Val Vista Road

Control Type:	Two-way stop	Delay (sec / veh):	10.1
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.006

Intersection Setup

Name	Amarillo Valley Road		Amarillo Valley Road		Val Vista Road	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	↶		↷		↷	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Amarillo Valley Road		Amarillo Valley Road		Val Vista Road	
Base Volume Input [veh/h]	2	8	12	5	4	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.1041	1.1041	1.1041	1.1041	1.1041	1.1041
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	91	136	0	0	0
Total Hourly Volume [veh/h]	2	100	149	6	4	0
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	28	41	2	1	0
Total Analysis Volume [veh/h]	2	111	166	7	4	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	7.57	0.00	0.00	0.00	10.14	9.15
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.02	0.02
95th-Percentile Queue Length [ft/ln]	0.11	0.11	0.00	0.00	0.43	0.43
d_A, Approach Delay [s/veh]	0.13		0.00		10.14	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.19					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 12: Amarillo Valley Road & Miller Road

Control Type:	Two-way stop	Delay (sec / veh):	10.2
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.016

Intersection Setup

Name	Amarillo Valley Road		Amarillo Valley Road		Miller Road	
Approach	Northbound		Southbound		Westbound	
Lane Configuration	↬		↵		↶	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Amarillo Valley Road		Amarillo Valley Road		Miller Road	
Base Volume Input [veh/h]	0	6	7	5	9	10
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.1041	1.1041	1.1041	1.1041	1.1041	1.1041
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	91	0	0	136	0	0
Total Hourly Volume [veh/h]	91	7	8	142	10	11
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	25	2	2	39	3	3
Total Analysis Volume [veh/h]	101	8	9	158	11	12
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.01	0.00	0.02	0.01
d_M, Delay for Movement [s/veh]	0.00	0.00	7.45	0.00	10.24	8.92
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.02	0.02	0.09	0.09
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.46	0.46	2.18	2.18
d_A, Approach Delay [s/veh]	0.00		0.40		9.55	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.96					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 1: SR 347 & Miller Road/Louis Johnson Drive

Control Type:	Two-way stop	Delay (sec / veh):	13.4
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.021

Intersection Setup

Name	SR 347			SR 347			Miller Road			Louis Johnson Drive		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	⇌⇌⇌			⇌⇌⇌			⊕			⊕		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	0	0	0	0	0	0
Entry Pocket Length [ft]	150.00	100.00	150.00	150.00	100.00	150.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	65.00			65.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	SR 347			SR 347			Miller Road			Louis Johnson Drive		
Base Volume Input [veh/h]	1	139	4	12	70	0	0	7	0	1	7	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	9.80	2.00	2.00	9.80	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.1487	1.1487	1.1487	1.1487	1.1487	1.1487	1.1487	1.1487	1.1487	1.1487	1.1487	1.1487
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	92	0	0	279	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	252	5	14	359	0	0	8	0	1	8	6
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	70	1	4	100	0	0	2	0	0	2	2
Total Analysis Volume [veh/h]	1	280	6	16	399	0	0	9	0	1	9	7
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			Yes	Yes
Number of Storage Spaces in Median	0	0	1	1

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.02	0.00	0.00	0.02	0.01
d_M, Delay for Movement [s/veh]	8.12	0.00	0.00	7.86	0.00	0.00	12.88	13.42	9.63	12.11	13.37	9.28
Movement LOS	A	A	A	A	A	A	B	B	A	B	B	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.04	0.00	0.00	0.06	0.06	0.06	0.09	0.09	0.09
95th-Percentile Queue Length [ft/ln]	0.06	0.00	0.00	0.95	0.00	0.00	1.58	1.58	1.58	2.34	2.34	2.34
d_A, Approach Delay [s/veh]	0.03			0.30			13.42			11.61		
Approach LOS	A			A			B			B		
d_I, Intersection Delay [s/veh]	0.62											
Intersection LOS	B											

**Intersection Level Of Service Report
Intersection 9: SR 347 & Papago Road**

Control Type:	Signalized	Delay (sec / veh):	45.0
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.839

Intersection Setup

Name	SR 347		SR 347		Papago Road	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	↵		↵		↵↵	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	65.00		65.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	No		No		No	

Volumes

Name	SR 347		SR 347		Papago Road	
Base Volume Input [veh/h]	10	141	89	48	127	23
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	9.80	9.80	2.00	2.00	2.00
Growth Factor	1.1487	1.1487	1.1487	1.1487	1.1487	1.1487
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	92	0	0	306	918	279
Right Turn on Red Volume [veh/h]	0	0	0	181	0	153
Total Hourly Volume [veh/h]	103	162	102	180	1064	152
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	29	45	28	50	296	42
Total Analysis Volume [veh/h]	114	180	113	200	1182	169
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing in	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPerm	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	1	6	2	0	3	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	5	10	10	0	5	0
Maximum Green [s]	30	30	30	0	30	0
Amber [s]	3.0	3.0	3.0	0.0	3.0	0.0
All red [s]	1.0	1.0	1.0	0.0	1.0	0.0
Split [s]	9	38	29	0	82	0
Vehicle Extension [s]	3.0	3.0	3.0	0.0	3.0	0.0
Walk [s]	0	5	5	0	5	0
Pedestrian Clearance [s]	0	10	10	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No	No		No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
Minimum Recall	No	No	No		No	
Maximum Recall	No	No	No		No	
Pedestrian Recall	No	No	No		No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R	L	R
C, Cycle Length [s]	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	34	34	25	25	78	78
g / C, Green / Cycle	0.28	0.28	0.21	0.21	0.65	0.65
(v / s)_i Volume / Saturation Flow Rate	0.08	0.05	0.03	0.13	0.66	0.11
s, saturation flow rate [veh/h]	1383	3338	3338	1589	1781	1589
c, Capacity [veh/h]	446	946	695	331	1158	1033
d1, Uniform Delay [s]	32.97	32.57	38.92	43.02	21.00	8.22
k, delay calibration	0.11	0.50	0.50	0.50	0.50	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.30	0.45	0.50	7.94	31.80	0.07
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.26	0.19	0.16	0.60	1.02	0.16
d, Delay for Lane Group [s/veh]	33.27	33.02	39.42	50.95	52.80	8.30
Lane Group LOS	C	C	D	D	F	A
Critical Lane Group	Yes	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	2.40	1.91	1.33	5.74	39.27	1.68
50th-Percentile Queue Length [ft/ln]	60.03	47.63	33.25	143.58	981.79	42.05
95th-Percentile Queue Length [veh/ln]	4.32	3.43	2.39	9.67	50.50	3.03
95th-Percentile Queue Length [ft/ln]	108.06	85.74	59.84	241.83	1262.48	75.69

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	33.27	33.02	39.42	50.95	52.80	8.30
Movement LOS	C	C	D	D	F	A
d_A, Approach Delay [s/veh]	33.12		46.79		47.23	
Approach LOS	C		D		D	
d_I, Intersection Delay [s/veh]	45.04					
Intersection LOS	D					
Intersection V/C	0.839					

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft ² /ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00
I_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	0.000
Crosswalk LOS	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	567	417	1300
d_b, Bicycle Delay [s]	30.82	37.60	7.35
I_b,int, Bicycle LOS Score for Intersection	1.802	1.967	1.560
Bicycle LOS	A	A	A

Sequence





Ring 1	1	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 10: Amarillo Valley Road & Papago Road

Control Type:	Signalized	Delay (sec / veh):	19.3
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.289

Intersection Setup

Name	Amarillo Valley Road			Amarillo Valley Road			Papago Road			Papago Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Speed [mph]	45.00			45.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name	Amarillo Valley Road			Amarillo Valley Road			Papago Road			Papago Road		
Base Volume Input [veh/h]	4	0	9	0	0	0	0	135	6	4	57	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.1487	1.1487	1.1487	1.1487	1.1487	1.1487	1.1487	1.1487	1.1487	1.1487	1.1487	1.1487
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	115	190	0	21	7	254	0	47	156	64
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	5	0	125	190	0	21	7	409	7	52	221	64
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	0	35	53	0	6	2	114	2	14	61	18
Total Analysis Volume [veh/h]	6	0	139	211	0	23	8	454	8	58	246	71
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing in	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	Protecte	Permiss	Permiss	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss
Signal Group	3	8	0	7	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	10	0	5	10	0	5	10	0	5	10	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	9	56	0	11	58	0	9	14	0	9	14	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	2.00	2.00	2.00	0.00	2.00	2.00	0.00	2.00	2.00
g_i, Effective Green Time [s]	21	10	10	7	16	16	61	53	53	61	56	56
g / C, Green / Cycle	0.23	0.11	0.11	0.08	0.18	0.18	0.68	0.59	0.59	0.68	0.63	0.63
(v / s)_i Volume / Saturation Flow Rate	0.00	0.00	0.09	0.06	0.00	0.01	0.01	0.13	0.01	0.06	0.07	0.04
s, saturation flow rate [veh/h]	1464	3560	1589	3459	1870	1589	1165	3560	1589	1017	3560	1589
c, Capacity [veh/h]	459	391	174	269	336	285	869	2108	941	746	2224	993
d1, Uniform Delay [s]	26.64	0.00	39.09	40.76	0.00	30.74	4.71	8.58	7.52	5.02	6.82	6.64
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.50	0.11	0.50	0.50
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.01	0.00	8.06	5.00	0.00	0.12	0.02	0.23	0.02	0.04	0.10	0.14
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.01	0.00	0.80	0.78	0.00	0.08	0.01	0.22	0.01	0.08	0.11	0.07
d, Delay for Lane Group [s/veh]	26.65	0.00	47.15	45.76	0.00	30.86	4.73	8.81	7.54	5.06	6.92	6.78
Lane Group LOS	C	A	D	D	A	C	A	A	A	A	A	A
Critical Lane Group	No	No	Yes	Yes	No	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.10	0.00	3.24	2.38	0.00	0.41	0.04	1.79	0.06	0.28	0.80	0.47
50th-Percentile Queue Length [ft/ln]	2.39	0.00	81.01	59.42	0.00	10.13	1.01	44.71	1.44	6.88	19.94	11.74
95th-Percentile Queue Length [veh/ln]	0.17	0.00	5.83	4.28	0.00	0.73	0.07	3.22	0.10	0.50	1.44	0.85
95th-Percentile Queue Length [ft/ln]	4.31	0.00	145.82	106.95	0.00	18.24	1.81	80.49	2.58	12.38	35.89	21.13

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	26.65	0.00	47.15	45.76	0.00	30.86	4.73	8.81	7.54	5.06	6.92	6.78
Movement LOS	C	A	D	D	A	C	A	A	A	A	A	A
d_A, Approach Delay [s/veh]	46.30			44.30			8.72			6.60		
Approach LOS	D			D			A			A		
d_I, Intersection Delay [s/veh]	19.32											
Intersection LOS	B											
Intersection V/C	0.289											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			0.0			0.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			0.00			0.00			0.00		
I_p,int, Pedestrian LOS Score for Intersection	0.000			0.000			0.000			0.000		
Crosswalk LOS	F			F			F			F		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	1156			1200			222			222		
d_b, Bicycle Delay [s]	8.02			7.20			35.56			35.56		
I_b,int, Bicycle LOS Score for Intersection	1.679			1.946			1.947			1.869		
Bicycle LOS	A			A			A			A		

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 11: Amarillo Valley Road & Val Vista Road

Control Type:	Two-way stop	Delay (sec / veh):	9.7
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.012

Intersection Setup

Name	Amarillo Valley Road		Amarillo Valley Road		Val Vista Road	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	↶		↷		↷	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Amarillo Valley Road		Amarillo Valley Road		Val Vista Road	
Base Volume Input [veh/h]	1	4	6	2	7	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.1487	1.1487	1.1487	1.1487	1.1487	1.1487
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	120	63	0	0	0
Total Hourly Volume [veh/h]	1	125	70	2	8	1
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	35	19	1	2	0
Total Analysis Volume [veh/h]	1	139	78	2	9	1
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	7.37	0.00	0.00	0.00	9.75	8.73
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.04	0.04
95th-Percentile Queue Length [ft/ln]	0.05	0.05	0.00	0.00	0.97	0.97
d_A, Approach Delay [s/veh]	0.05		0.00		9.65	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.45					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 12: Amarillo Valley Road & Miller Road

Control Type:	Two-way stop	Delay (sec / veh):	9.8
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.008

Intersection Setup

Name	Amarillo Valley Road		Amarillo Valley Road		Miller Road	
Approach	Northbound		Southbound		Westbound	
Lane Configuration	↬		↵		↶	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Amarillo Valley Road		Amarillo Valley Road		Miller Road	
Base Volume Input [veh/h]	1	3	4	3	4	4
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.1487	1.1487	1.1487	1.1487	1.1487	1.1487
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	120	0	0	63	0	0
Total Hourly Volume [veh/h]	121	3	5	66	5	5
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	34	1	1	18	1	1
Total Analysis Volume [veh/h]	134	3	6	73	6	6
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.01	0.01
d_M, Delay for Movement [s/veh]	0.00	0.00	7.50	0.00	9.77	9.01
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.01	0.01	0.04	0.04
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.31	0.31	1.10	1.10
d_A, Approach Delay [s/veh]	0.00		0.57		9.39	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.69					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 1: SR 347 & Miller Road/Louis Johnson Drive

Control Type:	Two-way stop	Delay (sec / veh):	15.3
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.045

Intersection Setup

Name	SR 347			SR 347			Miller Road			Louis Johnson Drive		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	0	0	0	0	0	0
Entry Pocket Length [ft]	150.00	100.00	150.00	150.00	100.00	150.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	65.00			65.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	SR 347			SR 347			Miller Road			Louis Johnson Drive		
Base Volume Input [veh/h]	1	106	0	11	161	5	3	5	5	1	13	24
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	9.80	2.00	2.00	9.80	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.1487	1.1487	1.1487	1.1487	1.1487	1.1487	1.1487	1.1487	1.1487	1.1487	1.1487	1.1487
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	313	0	0	184	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	435	0	13	369	6	3	6	6	1	15	28
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	121	0	4	103	2	1	2	2	0	4	8
Total Analysis Volume [veh/h]	1	483	0	14	410	7	3	7	7	1	17	31
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			Yes	Yes
Number of Storage Spaces in Median	0	0	1	1

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.01	0.00	0.00	0.01	0.02	0.01	0.00	0.05	0.04
d_M, Delay for Movement [s/veh]	8.16	0.00	0.00	8.39	0.00	0.00	13.97	14.93	9.76	14.37	15.27	10.37
Movement LOS	A	A	A	A	A	A	B	B	A	B	C	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.04	0.00	0.00	0.11	0.11	0.11	0.29	0.29	0.29
95th-Percentile Queue Length [ft/ln]	0.07	0.00	0.00	0.99	0.00	0.00	2.70	2.70	2.70	7.27	7.27	7.27
d_A, Approach Delay [s/veh]	0.02			0.27			12.63			12.15		
Approach LOS	A			A			B			B		
d_I, Intersection Delay [s/veh]	0.95											
Intersection LOS	C											

**Intersection Level Of Service Report
Intersection 9: SR 347 & Papago Road**

Control Type:	Signalized	Delay (sec / veh):	109.8
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.143

Intersection Setup

Name	SR 347		SR 347		Papago Road	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	↵		↵		↵↵	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	65.00		65.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	No		No		No	

Volumes

Name	SR 347		SR 347		Papago Road	
Base Volume Input [veh/h]	21	152	143	155	79	21
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	9.80	9.80	2.00	2.00	2.00
Growth Factor	1.1487	1.1487	1.1487	1.1487	1.1487	1.1487
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	313	0	0	1030	606	184
Right Turn on Red Volume [veh/h]	0	0	0	302	0	104
Total Hourly Volume [veh/h]	337	175	164	906	697	104
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	94	49	46	252	194	29
Total Analysis Volume [veh/h]	374	194	182	1007	774	116
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing in	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPerm	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	1	6	2	0	3	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	5	10	10	0	5	0
Maximum Green [s]	30	30	30	0	30	0
Amber [s]	3.0	3.0	3.0	0.0	3.0	0.0
All red [s]	1.0	1.0	1.0	0.0	1.0	0.0
Split [s]	9	74	65	0	46	0
Vehicle Extension [s]	3.0	3.0	3.0	0.0	3.0	0.0
Walk [s]	0	5	5	0	5	0
Pedestrian Clearance [s]	0	10	10	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No	No		No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
Minimum Recall	No	No	No		No	
Maximum Recall	No	No	No		No	
Pedestrian Recall	No	No	No		No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R	L	R
C, Cycle Length [s]	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	70	70	61	61	42	42
g / C, Green / Cycle	0.58	0.58	0.51	0.51	0.35	0.35
(v / s)_i Volume / Saturation Flow Rate	0.30	0.06	0.05	0.63	0.43	0.07
s, saturation flow rate [veh/h]	1260	3338	3338	1589	1781	1589
c, Capacity [veh/h]	791	1947	1697	808	623	556
d1, Uniform Delay [s]	14.65	11.06	15.34	29.50	39.00	27.35
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.02	0.10	0.13	121.15	122.00	0.18
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.47	0.10	0.11	1.25	1.24	0.21
d, Delay for Lane Group [s/veh]	16.67	11.16	15.47	150.65	161.00	27.53
Lane Group LOS	B	B	B	F	F	C
Critical Lane Group	Yes	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	4.90	1.00	1.18	46.77	39.14	2.38
50th-Percentile Queue Length [ft/ln]	122.51	24.92	29.41	1169.15	978.40	59.47
95th-Percentile Queue Length [veh/ln]	8.53	1.79	2.12	67.81	56.56	4.28
95th-Percentile Queue Length [ft/ln]	213.27	44.86	52.94	1695.31	1414.10	107.04

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	16.67	11.16	15.47	150.65	161.00	27.53
Movement LOS	B	B	B	F	F	C
d_A, Approach Delay [s/veh]	14.79		129.96		143.61	
Approach LOS	B		F		F	
d_I, Intersection Delay [s/veh]	109.83					
Intersection LOS	F					
Intersection V/C	1.143					

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft ² /ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00
I_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	0.000
Crosswalk LOS	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1167	1017	700
d_b, Bicycle Delay [s]	10.42	14.50	25.35
I_b,int, Bicycle LOS Score for Intersection	2.028	2.790	1.560
Bicycle LOS	B	C	A

Sequence





Ring 1	1	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 10: Amarillo Valley Road & Papago Road

Control Type:	Signalized	Delay (sec / veh):	13.0
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.249

Intersection Setup

Name	Amarillo Valley Road			Amarillo Valley Road			Papago Road			Papago Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Speed [mph]	45.00			45.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name	Amarillo Valley Road			Amarillo Valley Road			Papago Road			Papago Road		
Base Volume Input [veh/h]	9	0	8	0	0	0	0	90	13	13	165	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.1487	1.1487	1.1487	1.1487	1.1487	1.1487	1.1487	1.1487	1.1487	1.1487	1.1487	1.1487
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	73	125	0	13	23	200	0	125	263	210
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	10	0	82	125	0	13	23	303	15	140	453	210
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	0	23	35	0	4	6	84	4	39	126	58
Total Analysis Volume [veh/h]	11	0	91	139	0	14	26	337	17	156	503	233
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing in	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	Protecte	Permiss	Permiss	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss
Signal Group	3	8	0	7	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	10	0	5	10	0	5	10	0	5	10	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	28	14	0	52	38	0	9	15	0	9	15	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	2.00	2.00	2.00	0.00	2.00	2.00	0.00	2.00	2.00
g_i, Effective Green Time [s]	19	9	9	6	14	14	63	54	54	63	57	57
g / C, Green / Cycle	0.21	0.10	0.10	0.06	0.15	0.15	0.70	0.60	0.60	0.70	0.63	0.63
(v / s)_i Volume / Saturation Flow Rate	0.01	0.00	0.06	0.04	0.00	0.01	0.03	0.09	0.01	0.14	0.14	0.15
s, saturation flow rate [veh/h]	1481	3560	1589	3459	1870	1589	957	3560	1589	1124	3560	1589
c, Capacity [veh/h]	429	355	159	224	281	239	728	2147	959	856	2246	1003
d1, Uniform Delay [s]	28.33	0.00	38.69	41.00	0.00	32.78	4.28	7.83	7.17	4.51	7.14	7.18
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.50	0.11	0.50	0.50
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.02	0.00	3.25	2.77	0.00	0.10	0.09	0.16	0.03	0.10	0.23	0.54
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.03	0.00	0.57	0.62	0.00	0.06	0.04	0.16	0.02	0.18	0.22	0.23
d, Delay for Lane Group [s/veh]	28.35	0.00	41.94	43.77	0.00	32.88	4.38	7.99	7.20	4.61	7.37	7.73
Lane Group LOS	C	A	D	D	A	C	A	A	A	A	A	A
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.18	0.00	1.97	1.52	0.00	0.26	0.12	1.23	0.12	0.69	1.72	1.69
50th-Percentile Queue Length [ft/ln]	4.56	0.00	49.29	38.06	0.00	6.41	3.01	30.66	2.95	17.13	43.12	42.29
95th-Percentile Queue Length [veh/ln]	0.33	0.00	3.55	2.74	0.00	0.46	0.22	2.21	0.21	1.23	3.10	3.04
95th-Percentile Queue Length [ft/ln]	8.21	0.00	88.72	68.51	0.00	11.54	5.42	55.18	5.31	30.83	77.61	76.12

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	28.35	0.00	41.94	43.77	0.00	32.88	4.38	7.99	7.20	4.61	7.37	7.73
Movement LOS	C	A	D	D	A	C	A	A	A	A	A	A
d_A, Approach Delay [s/veh]	40.47			42.77			7.70			6.98		
Approach LOS	D			D			A			A		
d_I, Intersection Delay [s/veh]	12.98											
Intersection LOS	B											
Intersection V/C	0.249											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			0.0			0.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			0.00			0.00			0.00		
I_p,int, Pedestrian LOS Score for Intersection	0.000			0.000			0.000			0.000		
Crosswalk LOS	F			F			F			F		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	222			756			244			244		
d_b, Bicycle Delay [s]	35.56			17.42			34.67			34.67		
I_b,int, Bicycle LOS Score for Intersection	1.644			1.812			1.873			2.296		
Bicycle LOS	A			A			A			B		

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 11: Amarillo Valley Road & Val Vista Road

Control Type:	Two-way stop	Delay (sec / veh):	10.2
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.009

Intersection Setup

Name	Amarillo Valley Road		Amarillo Valley Road		Val Vista Road	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	↶		↷		↷	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Amarillo Valley Road		Amarillo Valley Road		Val Vista Road	
Base Volume Input [veh/h]	2	8	12	5	4	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.1487	1.1487	1.1487	1.1487	1.1487	1.1487
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	91	136	0	0	0
Total Hourly Volume [veh/h]	2	100	150	6	5	0
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	28	42	2	1	0
Total Analysis Volume [veh/h]	2	111	167	7	6	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	7.57	0.00	0.00	0.00	10.16	9.17
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.03	0.03
95th-Percentile Queue Length [ft/ln]	0.11	0.11	0.00	0.00	0.64	0.64
d_A, Approach Delay [s/veh]	0.13		0.00		10.16	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.26					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 12: Amarillo Valley Road & Miller Road

Control Type:	Two-way stop	Delay (sec / veh):	10.2
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.016

Intersection Setup

Name	Amarillo Valley Road		Amarillo Valley Road		Miller Road	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Amarillo Valley Road		Amarillo Valley Road		Miller Road	
Base Volume Input [veh/h]	0	6	7	5	9	10
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.1487	1.1487	1.1487	1.1487	1.1487	1.1487
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	91	0	0	136	0	0
Total Hourly Volume [veh/h]	91	7	8	142	10	11
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	25	2	2	39	3	3
Total Analysis Volume [veh/h]	101	8	9	158	11	12
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.01	0.00	0.02	0.01
d_M, Delay for Movement [s/veh]	0.00	0.00	7.45	0.00	10.24	8.92
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.02	0.02	0.09	0.09
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.46	0.46	2.18	2.18
d_A, Approach Delay [s/veh]	0.00		0.40		9.55	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.96					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 1: SR 347 & Miller Road/Louis Johnson Drive

Control Type:	Two-way stop	Delay (sec / veh):	13.5
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.021

Intersection Setup

Name	SR 347			SR 347			Miller Road			Louis Johnson Drive		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	0	0	0	0	0	0
Entry Pocket Length [ft]	150.00	100.00	150.00	150.00	100.00	150.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	65.00			65.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	SR 347			SR 347			Miller Road			Louis Johnson Drive		
Base Volume Input [veh/h]	1	139	4	12	70	0	0	7	0	1	7	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	9.80	2.00	2.00	9.80	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.1951	1.1951	1.1951	1.1951	1.1951	1.1951	1.1951	1.1951	1.1951	1.1951	1.1951	1.1951
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	92	0	0	279	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	258	5	14	363	0	0	8	0	1	8	6
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	72	1	4	101	0	0	2	0	0	2	2
Total Analysis Volume [veh/h]	1	287	6	16	403	0	0	9	0	1	9	7
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			Yes	Yes
Number of Storage Spaces in Median	0	0	1	1

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.02	0.00	0.00	0.02	0.01
d_M, Delay for Movement [s/veh]	8.13	0.00	0.00	7.88	0.00	0.00	12.94	13.49	9.64	12.18	13.44	9.30
Movement LOS	A	A	A	A	A	A	B	B	A	B	B	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.04	0.00	0.00	0.06	0.06	0.06	0.09	0.09	0.09
95th-Percentile Queue Length [ft/ln]	0.07	0.00	0.00	0.96	0.00	0.00	1.59	1.59	1.59	2.36	2.36	2.36
d_A, Approach Delay [s/veh]	0.03			0.30			13.49			11.66		
Approach LOS	A			A			B			B		
d_I, Intersection Delay [s/veh]	0.61											
Intersection LOS	B											

**Intersection Level Of Service Report
Intersection 9: SR 347 & Papago Road**

Control Type:	Signalized	Delay (sec / veh):	43.8
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.845

Intersection Setup

Name	SR 347		SR 347		Papago Road	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	↵		↵		↵↵	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	65.00		65.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	No		No		No	

Volumes

Name	SR 347		SR 347		Papago Road	
Base Volume Input [veh/h]	10	141	89	48	127	23
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	9.80	9.80	2.00	2.00	2.00
Growth Factor	1.1951	1.1951	1.1951	1.1951	1.1951	1.1951
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	92	0	0	306	918	279
Right Turn on Red Volume [veh/h]	0	0	0	182	0	153
Total Hourly Volume [veh/h]	104	169	106	181	1070	153
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	29	47	29	50	297	43
Total Analysis Volume [veh/h]	116	188	118	201	1189	170
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing in	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPerm	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	1	6	2	0	3	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	5	10	10	0	5	0
Maximum Green [s]	30	30	30	0	30	0
Amber [s]	3.0	3.0	3.0	0.0	3.0	0.0
All red [s]	1.0	1.0	1.0	0.0	1.0	0.0
Split [s]	9	37	28	0	83	0
Vehicle Extension [s]	3.0	3.0	3.0	0.0	3.0	0.0
Walk [s]	0	5	5	0	5	0
Pedestrian Clearance [s]	0	10	10	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No	No		No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
Minimum Recall	No	No	No		No	
Maximum Recall	No	No	No		No	
Pedestrian Recall	No	No	No		No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R	L	R
C, Cycle Length [s]	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	33	33	24	24	79	79
g / C, Green / Cycle	0.28	0.28	0.20	0.20	0.66	0.66
(v / s)_i Volume / Saturation Flow Rate	0.08	0.06	0.04	0.13	0.67	0.11
s, saturation flow rate [veh/h]	1381	3338	3338	1589	1781	1589
c, Capacity [veh/h]	433	918	668	318	1172	1046
d1, Uniform Delay [s]	33.79	33.42	39.81	43.96	20.50	7.84
k, delay calibration	0.11	0.50	0.50	0.50	0.49	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.33	0.50	0.58	9.22	29.61	0.07
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.27	0.20	0.18	0.63	1.01	0.16
d, Delay for Lane Group [s/veh]	34.12	33.92	40.39	53.18	50.11	7.92
Lane Group LOS	C	C	D	D	F	A
Critical Lane Group	Yes	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	2.48	2.03	1.41	5.92	38.83	1.64
50th-Percentile Queue Length [ft/ln]	62.07	50.64	35.27	148.00	970.69	41.00
95th-Percentile Queue Length [veh/ln]	4.47	3.65	2.54	9.91	49.68	2.95
95th-Percentile Queue Length [ft/ln]	111.72	91.15	63.48	247.76	1242.07	73.80

Movement, Approach, & Intersection Results

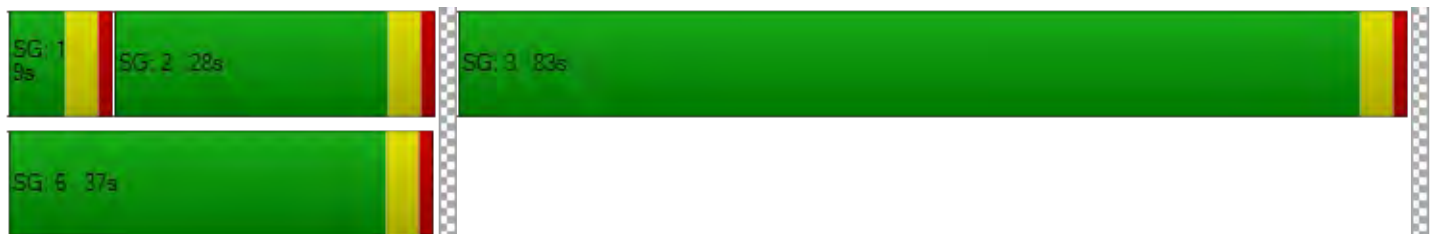
d_M, Delay for Movement [s/veh]	34.12	33.92	40.39	53.18	50.11	7.92
Movement LOS	C	C	D	D	F	A
d_A, Approach Delay [s/veh]	34.00		48.45		44.83	
Approach LOS	C		D		D	
d_I, Intersection Delay [s/veh]	43.75					
Intersection LOS	D					
Intersection V/C	0.845					

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft ² /ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00
I_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	0.000
Crosswalk LOS	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	550	400	1317
d_b, Bicycle Delay [s]	31.54	38.40	7.00
I_b,int, Bicycle LOS Score for Intersection	1.810	1.973	1.560
Bicycle LOS	A	A	A

Sequence





Ring 1	1	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 10: Amarillo Valley Road & Papago Road

Control Type:	Signalized	Delay (sec / veh):	16.7
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.247

Intersection Setup

Name	Amarillo Valley Road			Amarillo Valley Road			Papago Road			Papago Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Speed [mph]	45.00			45.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name	Amarillo Valley Road			Amarillo Valley Road			Papago Road			Papago Road		
Base Volume Input [veh/h]	4	0	9	0	0	0	0	135	6	4	57	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.1951	1.1951	1.1951	1.1951	1.1951	1.1951	1.1951	1.1951	1.1951	1.1951	1.1951	1.1951
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	115	190	0	21	7	254	0	47	156	64
Right Turn on Red Volume [veh/h]	0	0	63	0	0	11	0	0	4	0	0	32
Total Hourly Volume [veh/h]	5	0	63	190	0	10	7	415	3	52	224	32
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	0	18	53	0	3	2	115	1	14	62	9
Total Analysis Volume [veh/h]	6	0	70	211	0	11	8	461	3	58	249	36
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing in	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	Protecte	Permiss	Permiss	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss
Signal Group	3	8	0	7	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	10	0	5	10	0	5	10	0	5	10	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	9	14	0	40	45	0	9	27	0	9	27	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	2.00	2.00	2.00	0.00	2.00	2.00	0.00	2.00	2.00
g_i, Effective Green Time [s]	20	8	8	8	15	15	62	54	54	62	57	57
g / C, Green / Cycle	0.22	0.09	0.09	0.09	0.17	0.17	0.69	0.60	0.60	0.69	0.63	0.63
(v / s)_i Volume / Saturation Flow Rate	0.00	0.00	0.04	0.06	0.00	0.01	0.01	0.13	0.00	0.06	0.07	0.02
s, saturation flow rate [veh/h]	1466	3560	1589	3459	1870	1589	1161	3560	1589	1011	3560	1589
c, Capacity [veh/h]	450	327	146	307	323	274	873	2132	952	747	2247	1003
d1, Uniform Delay [s]	27.10	0.00	38.81	39.79	0.00	31.02	4.53	8.32	7.26	4.83	6.59	6.27
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.50	0.11	0.50	0.50
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.01	0.00	2.42	2.72	0.00	0.06	0.02	0.23	0.01	0.04	0.10	0.07
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.01	0.00	0.48	0.69	0.00	0.04	0.01	0.22	0.00	0.08	0.11	0.04
d, Delay for Lane Group [s/veh]	27.11	0.00	41.23	42.51	0.00	31.07	4.55	8.55	7.26	4.87	6.69	6.34
Lane Group LOS	C	A	D	D	A	C	A	A	A	A	A	A
Critical Lane Group	No	No	Yes	Yes	No	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.10	0.00	1.50	2.28	0.00	0.19	0.04	1.77	0.02	0.26	0.79	0.23
50th-Percentile Queue Length [ft/ln]	2.42	0.00	37.49	56.93	0.00	4.86	0.97	44.36	0.52	6.62	19.63	5.65
95th-Percentile Queue Length [veh/ln]	0.17	0.00	2.70	4.10	0.00	0.35	0.07	3.19	0.04	0.48	1.41	0.41
95th-Percentile Queue Length [ft/ln]	4.35	0.00	67.48	102.48	0.00	8.74	1.75	79.85	0.94	11.92	35.33	10.17

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	27.11	0.00	41.23	42.51	0.00	31.07	4.55	8.55	7.26	4.87	6.69	6.34
Movement LOS	C	A	D	D	A	C	A	A	A	A	A	A
d_A, Approach Delay [s/veh]	40.12			41.94			8.48			6.34		
Approach LOS	D			D			A			A		
d_I, Intersection Delay [s/veh]	16.66											
Intersection LOS	B											
Intersection V/C	0.247											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			0.0			0.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			0.00			0.00			0.00		
I_p,int, Pedestrian LOS Score for Intersection	0.000			0.000			0.000			0.000		
Crosswalk LOS	F			F			F			F		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	222			911			511			511		
d_b, Bicycle Delay [s]	35.56			13.34			24.94			24.94		
I_b,int, Bicycle LOS Score for Intersection	1.674			1.944			1.952			1.869		
Bicycle LOS	A			A			A			A		

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 11: Amarillo Valley Road & Val Vista Road

Control Type:	Two-way stop	Delay (sec / veh):	9.7
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.012

Intersection Setup

Name	Amarillo Valley Road		Amarillo Valley Road		Val Vista Road	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	↶		↷		↷	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Amarillo Valley Road		Amarillo Valley Road		Val Vista Road	
Base Volume Input [veh/h]	1	4	6	2	7	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.1951	1.1951	1.1951	1.1951	1.1951	1.1951
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	120	63	0	0	0
Total Hourly Volume [veh/h]	1	125	70	2	8	1
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	35	19	1	2	0
Total Analysis Volume [veh/h]	1	139	78	2	9	1
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	7.37	0.00	0.00	0.00	9.75	8.73
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.04	0.04
95th-Percentile Queue Length [ft/ln]	0.05	0.05	0.00	0.00	0.97	0.97
d_A, Approach Delay [s/veh]	0.05		0.00		9.65	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.45					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 12: Amarillo Valley Road & Miller Road

Control Type:	Two-way stop	Delay (sec / veh):	9.8
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.008

Intersection Setup

Name	Amarillo Valley Road		Amarillo Valley Road		Miller Road	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Amarillo Valley Road		Amarillo Valley Road		Miller Road	
Base Volume Input [veh/h]	1	3	4	3	4	4
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.1951	1.1951	1.1951	1.1951	1.1951	1.1951
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	120	0	0	63	0	0
Total Hourly Volume [veh/h]	121	4	5	67	5	5
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	34	1	1	19	1	1
Total Analysis Volume [veh/h]	134	4	6	74	6	6
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.01	0.01
d_M, Delay for Movement [s/veh]	0.00	0.00	7.50	0.00	9.78	9.01
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.01	0.01	0.04	0.04
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.31	0.31	1.10	1.10
d_A, Approach Delay [s/veh]	0.00		0.56		9.40	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.69					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 1: SR 347 & Miller Road/Louis Johnson Drive

Control Type:	Two-way stop	Delay (sec / veh):	15.4
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.049

Intersection Setup

Name	SR 347			SR 347			Miller Road			Louis Johnson Drive		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	0	0	0	0	0	0
Entry Pocket Length [ft]	150.00	100.00	150.00	150.00	100.00	150.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	65.00			65.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	SR 347			SR 347			Miller Road			Louis Johnson Drive		
Base Volume Input [veh/h]	1	106	0	11	161	5	3	5	5	1	13	24
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	9.80	2.00	2.00	9.80	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.1951	1.1951	1.1951	1.1951	1.1951	1.1951	1.1951	1.1951	1.1951	1.1951	1.1951	1.1951
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	313	0	0	184	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	440	0	13	376	6	4	6	6	1	16	29
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	122	0	4	104	2	1	2	2	0	4	8
Total Analysis Volume [veh/h]	1	489	0	14	418	7	4	7	7	1	18	32
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			Yes	Yes
Number of Storage Spaces in Median	0	0	1	1

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.01	0.00	0.00	0.01	0.02	0.01	0.00	0.05	0.04
d_M, Delay for Movement [s/veh]	8.19	0.00	0.00	8.41	0.00	0.00	14.13	15.07	9.81	14.51	15.42	10.44
Movement LOS	A	A	A	A	A	A	B	C	A	B	C	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.04	0.00	0.00	0.12	0.12	0.12	0.31	0.31	0.31
95th-Percentile Queue Length [ft/ln]	0.07	0.00	0.00	0.99	0.00	0.00	2.92	2.92	2.92	7.70	7.70	7.70
d_A, Approach Delay [s/veh]	0.02			0.27			12.81			12.28		
Approach LOS	A			A			B			B		
d_I, Intersection Delay [s/veh]	0.98											
Intersection LOS	C											

**Intersection Level Of Service Report
Intersection 9: SR 347 & Papago Road**

Control Type:	Signalized	Delay (sec / veh):	111.2
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.149

Intersection Setup

Name	SR 347		SR 347		Papago Road	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	⇐		⇐		⇐⇐	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	65.00		65.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	No		No		No	

Volumes

Name	SR 347		SR 347		Papago Road	
Base Volume Input [veh/h]	21	152	143	155	79	21
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	9.80	9.80	2.00	2.00	2.00
Growth Factor	1.1951	1.1951	1.1951	1.1951	1.1951	1.1951
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	313	0	0	1030	606	184
Right Turn on Red Volume [veh/h]	0	0	0	304	0	105
Total Hourly Volume [veh/h]	338	182	171	911	700	104
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	94	51	48	253	194	29
Total Analysis Volume [veh/h]	376	202	190	1012	778	116
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing in	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPerm	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	1	6	2	0	3	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	5	10	10	0	5	0
Maximum Green [s]	30	30	30	0	30	0
Amber [s]	3.0	3.0	3.0	0.0	3.0	0.0
All red [s]	1.0	1.0	1.0	0.0	1.0	0.0
Split [s]	9	73	64	0	47	0
Vehicle Extension [s]	3.0	3.0	3.0	0.0	3.0	0.0
Walk [s]	0	5	5	0	5	0
Pedestrian Clearance [s]	0	10	10	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No	No		No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
Minimum Recall	No	No	No		No	
Maximum Recall	No	No	No		No	
Pedestrian Recall	No	No	No		No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R	L	R
C, Cycle Length [s]	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	69	69	60	60	43	43
g / C, Green / Cycle	0.58	0.58	0.50	0.50	0.36	0.36
(v / s)_i Volume / Saturation Flow Rate	0.30	0.06	0.06	0.64	0.44	0.07
s, saturation flow rate [veh/h]	1253	3338	3338	1589	1781	1589
c, Capacity [veh/h]	774	1919	1669	795	638	570
d1, Uniform Delay [s]	15.39	11.54	15.91	30.00	38.50	26.65
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.17	0.11	0.14	132.79	112.37	0.17
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.49	0.11	0.11	1.27	1.22	0.20
d, Delay for Lane Group [s/veh]	17.56	11.65	16.04	162.79	150.87	26.82
Lane Group LOS	B	B	B	F	F	C
Critical Lane Group	Yes	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	5.09	1.07	1.26	48.69	38.32	2.34
50th-Percentile Queue Length [ft/ln]	127.14	26.78	31.50	1217.24	958.10	58.58
95th-Percentile Queue Length [veh/ln]	8.78	1.93	2.27	71.16	55.02	4.22
95th-Percentile Queue Length [ft/ln]	219.60	48.20	56.70	1778.88	1375.61	105.44

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	17.56	11.65	16.04	162.79	150.87	26.82
Movement LOS	B	B	B	F	F	C
d_A, Approach Delay [s/veh]	15.50		139.59		134.78	
Approach LOS	B		F		F	
d_I, Intersection Delay [s/veh]	111.16					
Intersection LOS	F					
Intersection V/C	1.149					

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft ² /ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00
I_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	0.000
Crosswalk LOS	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1150	1000	717
d_b, Bicycle Delay [s]	10.84	15.00	24.70
I_b,int, Bicycle LOS Score for Intersection	2.036	2.802	1.560
Bicycle LOS	B	C	A

Sequence





Ring 1	1	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 10: Amarillo Valley Road & Papago Road

Control Type:	Signalized	Delay (sec / veh):	11.6
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.217

Intersection Setup

Name	Amarillo Valley Road			Amarillo Valley Road			Papago Road			Papago Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Speed [mph]	45.00			45.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name	Amarillo Valley Road			Amarillo Valley Road			Papago Road			Papago Road		
Base Volume Input [veh/h]	9	0	8	0	0	0	0	90	13	13	165	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.1951	1.1951	1.1951	1.1951	1.1951	1.1951	1.1951	1.1951	1.1951	1.1951	1.1951	1.1951
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	73	125	0	13	23	200	0	125	263	210
Right Turn on Red Volume [veh/h]	0	0	42	0	0	7	0	0	8	0	0	105
Total Hourly Volume [veh/h]	11	0	41	125	0	6	23	308	8	141	460	105
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	0	11	35	0	2	6	86	2	39	128	29
Total Analysis Volume [veh/h]	12	0	46	139	0	7	26	342	9	157	511	117
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0			0			0	
v_di, Inbound Pedestrian Volume crossing in		0			0			0			0	
v_co, Outbound Pedestrian Volume crossing		0			0			0			0	
v_ci, Inbound Pedestrian Volume crossing mi		0			0			0			0	
v_ab, Corner Pedestrian Volume [ped/h]		0			0			0			0	
Bicycle Volume [bicycles/h]		0			0			0			0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	Protecte	Permiss	Permiss	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss
Signal Group	3	8	0	7	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	10	0	5	10	0	5	10	0	5	10	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	30	14	0	53	37	0	9	14	0	9	14	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	2.00	2.00	2.00	0.00	2.00	2.00	0.00	2.00	2.00
g_i, Effective Green Time [s]	17	7	7	6	11	11	65	56	56	65	59	59
g / C, Green / Cycle	0.18	0.08	0.08	0.06	0.13	0.13	0.73	0.63	0.63	0.73	0.66	0.66
(v / s)_i Volume / Saturation Flow Rate	0.01	0.00	0.03	0.04	0.00	0.00	0.03	0.10	0.01	0.14	0.14	0.07
s, saturation flow rate [veh/h]	1491	3560	1589	3459	1870	1589	949	3560	1589	1117	3560	1589
c, Capacity [veh/h]	396	271	121	225	235	200	748	2231	996	879	2330	1040
d1, Uniform Delay [s]	30.06	0.00	39.56	40.99	0.00	34.56	3.65	6.94	6.31	3.84	6.27	5.80
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.50	0.11	0.50	0.50
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.03	0.00	1.96	2.77	0.00	0.07	0.09	0.15	0.02	0.10	0.22	0.22
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.03	0.00	0.38	0.62	0.00	0.04	0.03	0.15	0.01	0.18	0.22	0.11
d, Delay for Lane Group [s/veh]	30.09	0.00	41.52	43.76	0.00	34.63	3.74	7.08	6.32	3.94	6.49	6.02
Lane Group LOS	C	A	D	D	A	C	A	A	A	A	A	A
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.21	0.00	0.99	1.52	0.00	0.13	0.10	1.13	0.06	0.59	1.58	0.70
50th-Percentile Queue Length [ft/ln]	5.16	0.00	24.78	38.05	0.00	3.32	2.61	28.31	1.41	14.68	39.42	17.53
95th-Percentile Queue Length [veh/ln]	0.37	0.00	1.78	2.74	0.00	0.24	0.19	2.04	0.10	1.06	2.84	1.26
95th-Percentile Queue Length [ft/ln]	9.30	0.00	44.61	68.50	0.00	5.97	4.70	50.96	2.55	26.42	70.95	31.55

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	30.09	0.00	41.52	43.76	0.00	34.63	3.74	7.08	6.32	3.94	6.49	6.02
Movement LOS	C	A	D	D	A	C	A	A	A	A	A	A
d_A, Approach Delay [s/veh]	39.16			43.32			6.83			5.91		
Approach LOS	D			D			A			A		
d_I, Intersection Delay [s/veh]	11.57											
Intersection LOS	B											
Intersection V/C	0.217											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			0.0			0.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			0.00			0.00			0.00		
I_p,int, Pedestrian LOS Score for Intersection	0.000			0.000			0.000			0.000		
Crosswalk LOS	F			F			F			F		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	222			733			222			222		
d_b, Bicycle Delay [s]	35.56			18.05			35.56			35.56		
I_b,int, Bicycle LOS Score for Intersection	1.642			1.812			1.877			2.294		
Bicycle LOS	A			A			A			B		

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 11: Amarillo Valley Road & Val Vista Road

Control Type:	Two-way stop	Delay (sec / veh):	10.2
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.009

Intersection Setup

Name	Amarillo Valley Road		Amarillo Valley Road		Val Vista Road	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	↶		↷		↷	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Amarillo Valley Road		Amarillo Valley Road		Val Vista Road	
Base Volume Input [veh/h]	2	8	12	5	4	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.1951	1.1951	1.1951	1.1951	1.1951	1.1951
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	91	136	0	0	0
Total Hourly Volume [veh/h]	2	101	150	6	5	0
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	28	42	2	1	0
Total Analysis Volume [veh/h]	2	112	167	7	6	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	7.57	0.00	0.00	0.00	10.17	9.17
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.03	0.03
95th-Percentile Queue Length [ft/ln]	0.11	0.11	0.00	0.00	0.65	0.65
d_A, Approach Delay [s/veh]	0.13		0.00		10.17	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.26					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 12: Amarillo Valley Road & Miller Road

Control Type:	Two-way stop	Delay (sec / veh):	10.3
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.017

Intersection Setup

Name	Amarillo Valley Road		Amarillo Valley Road		Miller Road	
Approach	Northbound		Southbound		Westbound	
Lane Configuration	↬		↵		↶	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Amarillo Valley Road		Amarillo Valley Road		Miller Road	
Base Volume Input [veh/h]	0	6	7	5	9	10
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.1951	1.1951	1.1951	1.1951	1.1951	1.1951
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	91	0	0	136	0	0
Total Hourly Volume [veh/h]	91	7	8	142	11	12
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	25	2	2	39	3	3
Total Analysis Volume [veh/h]	101	8	9	158	12	13
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.01	0.00	0.02	0.01
d_M, Delay for Movement [s/veh]	0.00	0.00	7.45	0.00	10.25	8.93
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.02	0.02	0.10	0.10
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.46	0.46	2.38	2.38
d_A, Approach Delay [s/veh]	0.00		0.40		9.57	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]				1.02		
Intersection LOS				B		

Intersection Level Of Service Report
Intersection 1: SR 347 & Miller Road/Louis Johnson Drive

Control Type:	Two-way stop	Delay (sec / veh):	16.2
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.030

Intersection Setup

Name	SR 347			SR 347			Miller Road			Louis Johnson Drive		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	0	0	0	0	0	0
Entry Pocket Length [ft]	150.00	100.00	150.00	150.00	100.00	150.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	65.00			65.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	SR 347			SR 347			Miller Road			Louis Johnson Drive		
Base Volume Input [veh/h]	1	139	4	12	70	0	0	7	0	1	7	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	9.80	2.00	2.00	9.80	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.2190	1.2190	1.2190	1.2190	1.2190	1.2190	1.2190	1.2190	1.2190	1.2190	1.2190	1.2190
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	162	0	0	485	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	331	5	15	570	0	0	9	0	1	9	6
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	92	1	4	158	0	0	3	0	0	3	2
Total Analysis Volume [veh/h]	1	368	6	17	633	0	0	10	0	1	10	7
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			Yes	Yes
Number of Storage Spaces in Median	0	0	1	1

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.01	0.01	0.00	0.00	0.03	0.00	0.00	0.03	0.01
d_M, Delay for Movement [s/veh]	8.81	0.00	0.00	8.09	0.00	0.00	16.09	16.16	10.64	13.93	16.07	9.70
Movement LOS	A	A	A	A	A	A	C	C	B	B	C	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.04	0.00	0.00	0.09	0.09	0.09	0.13	0.13	0.13
95th-Percentile Queue Length [ft/ln]	0.08	0.00	0.00	1.09	0.00	0.00	2.32	2.32	2.32	3.17	3.17	3.17
d_A, Approach Delay [s/veh]	0.02			0.21			16.16			13.47		
Approach LOS	A			A			C			B		
d_I, Intersection Delay [s/veh]	0.52											
Intersection LOS	C											

**Intersection Level Of Service Report
Intersection 9: SR 347 & Papago Road**

Control Type:	Signalized	Delay (sec / veh):	40.3
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.863

Intersection Setup

Name	SR 347		SR 347		Papago Road	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	⇐		⇐		⇐⇐⇐	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	1	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	65.00		65.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	No		No		No	

Volumes

Name	SR 347		SR 347		Papago Road	
Base Volume Input [veh/h]	10	141	89	48	127	23
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	9.80	9.80	2.00	2.00	2.00
Growth Factor	1.2190	1.2190	1.2190	1.2190	1.2190	1.2190
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	162	0	0	546	1641	485
Right Turn on Red Volume [veh/h]	0	0	0	303	0	257
Total Hourly Volume [veh/h]	174	172	108	302	1796	256
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	48	48	30	84	499	71
Total Analysis Volume [veh/h]	193	191	120	336	1996	284
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing in	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPerm	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	1	6	2	0	3	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	5	10	10	0	5	0
Maximum Green [s]	30	30	30	0	30	0
Amber [s]	3.0	3.0	3.0	0.0	3.0	0.0
All red [s]	1.0	1.0	1.0	0.0	1.0	0.0
Split [s]	9	49	40	0	71	0
Vehicle Extension [s]	3.0	3.0	3.0	0.0	3.0	0.0
Walk [s]	0	5	5	0	5	0
Pedestrian Clearance [s]	0	10	10	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No	No		No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
Minimum Recall	No	No	No		No	
Maximum Recall	No	No	No		No	
Pedestrian Recall	No	No	No		No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R	L	R
C, Cycle Length [s]	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	45	45	36	36	67	67
g / C, Green / Cycle	0.38	0.38	0.30	0.30	0.56	0.56
(v / s)_i Volume / Saturation Flow Rate	0.14	0.06	0.04	0.21	0.58	0.18
s, saturation flow rate [veh/h]	1351	3338	3338	1589	3459	1589
c, Capacity [veh/h]	563	1252	1001	477	1931	887
d1, Uniform Delay [s]	26.93	24.86	30.50	37.28	26.50	14.25
k, delay calibration	0.14	0.50	0.50	0.50	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.45	0.26	0.24	8.47	19.91	0.21
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.34	0.15	0.12	0.70	1.03	0.32
d, Delay for Lane Group [s/veh]	27.39	25.12	30.74	45.75	46.41	14.46
Lane Group LOS	C	C	C	D	F	B
Critical Lane Group	Yes	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	3.61	1.70	1.21	9.16	31.22	4.14
50th-Percentile Queue Length [ft/ln]	90.28	42.54	30.19	228.88	780.45	103.60
95th-Percentile Queue Length [veh/ln]	6.50	3.06	2.17	14.12	41.51	7.46
95th-Percentile Queue Length [ft/ln]	162.50	76.58	54.34	352.94	1037.84	186.49

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	27.39	25.12	30.74	45.75	46.41	14.46
Movement LOS	C	C	C	D	F	B
d_A, Approach Delay [s/veh]	26.26		41.80		42.43	
Approach LOS	C		D		D	
d_I, Intersection Delay [s/veh]	40.35					
Intersection LOS	D					
Intersection V/C	0.863					

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft ² /ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00
I_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	0.000
Crosswalk LOS	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	750	600	1117
d_b, Bicycle Delay [s]	23.44	29.40	11.70
I_b,int, Bicycle LOS Score for Intersection	1.876	2.186	1.560
Bicycle LOS	A	B	A

Sequence





Ring 1	1	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 10: Amarillo Valley Road & Papago Road

Control Type:	Signalized	Delay (sec / veh):	24.1
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.433

Intersection Setup

Name	Amarillo Valley Road			Amarillo Valley Road			Papago Road			Papago Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Speed [mph]	45.00			45.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name	Amarillo Valley Road			Amarillo Valley Road			Papago Road			Papago Road		
Base Volume Input [veh/h]	4	0	9	0	0	0	0	135	6	4	57	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.2190	1.2190	1.2190	1.2190	1.2190	1.2190	1.2190	1.2190	1.2190	1.2190	1.2190	1.2190
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	22	19	127	619	17	150	119	366	19	56	270	210
Right Turn on Red Volume [veh/h]	0	0	69	0	0	75	0	0	13	0	0	105
Total Hourly Volume [veh/h]	27	19	69	619	17	75	119	531	13	61	339	105
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	5	19	172	5	21	33	148	4	17	94	29
Total Analysis Volume [veh/h]	30	21	77	688	19	83	132	590	14	68	377	117
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0			0			0	
v_di, Inbound Pedestrian Volume crossing in		0			0			0			0	
v_co, Outbound Pedestrian Volume crossing		0			0			0			0	
v_ci, Inbound Pedestrian Volume crossing mi		0			0			0			0	
v_ab, Corner Pedestrian Volume [ped/h]		0			0			0			0	
Bicycle Volume [bicycles/h]		0			0			0			0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	Protecte	Permiss	Permiss	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss
Signal Group	3	8	0	7	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	10	0	5	10	0	5	10	0	5	10	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	17	37	0	25	45	0	9	18	0	10	19	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	2.00	2.00	2.00	0.00	2.00	2.00	0.00	2.00	2.00
g_i, Effective Green Time [s]	33	9	9	20	26	26	49	41	41	49	40	40
g / C, Green / Cycle	0.37	0.10	0.10	0.22	0.29	0.29	0.54	0.45	0.45	0.54	0.44	0.44
(v / s)_i Volume / Saturation Flow Rate	0.02	0.01	0.05	0.20	0.01	0.05	0.12	0.17	0.01	0.07	0.11	0.07
s, saturation flow rate [veh/h]	1448	3560	1589	3459	1870	1589	1117	3560	1589	945	3560	1589
c, Capacity [veh/h]	644	365	163	763	549	466	655	1615	721	538	1579	705
d1, Uniform Delay [s]	18.30	36.46	38.09	34.12	22.70	23.70	10.39	16.11	13.56	10.40	15.59	15.05
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.50	0.11	0.50	0.50
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.03	0.06	2.12	4.26	0.03	0.18	0.69	0.64	0.05	0.10	0.36	0.51
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.05	0.06	0.47	0.90	0.03	0.18	0.20	0.37	0.02	0.13	0.24	0.17
d, Delay for Lane Group [s/veh]	18.33	36.52	40.20	38.38	22.72	23.88	11.08	16.75	13.61	10.50	15.95	15.55
Lane Group LOS	B	D	D	D	C	C	B	B	B	B	B	B
Critical Lane Group	No	No	Yes	Yes	No	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.38	0.20	1.62	7.29	0.27	1.26	1.24	3.71	0.15	0.57	2.26	1.40
50th-Percentile Queue Length [ft/ln]	9.48	5.07	40.60	182.19	6.87	31.47	31.08	92.72	3.81	14.24	56.43	35.12
95th-Percentile Queue Length [veh/ln]	0.68	0.36	2.92	11.71	0.49	2.27	2.24	6.68	0.27	1.03	4.06	2.53
95th-Percentile Queue Length [ft/ln]	17.07	9.12	73.08	292.87	12.36	56.64	55.94	166.89	6.85	25.63	101.57	63.21

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	18.33	36.52	40.20	38.38	22.72	23.88	11.08	16.75	13.61	10.50	15.95	15.55
Movement LOS	B	D	D	D	C	C	B	B	B	B	B	B
d_A, Approach Delay [s/veh]	34.47			36.48			15.67			15.21		
Approach LOS	C			D			B			B		
d_I, Intersection Delay [s/veh]	24.06											
Intersection LOS	C											
Intersection V/C	0.433											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			0.0			0.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			0.00			0.00			0.00		
I_p,int, Pedestrian LOS Score for Intersection	0.000			0.000			0.000			0.000		
Crosswalk LOS	F			F			F			F		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	733			911			311			333		
d_b, Bicycle Delay [s]	18.05			13.34			32.09			31.25		
I_b,int, Bicycle LOS Score for Intersection	1.722			2.987			2.178			2.110		
Bicycle LOS	A			C			B			B		

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 11: Amarillo Valley Road & Val Vista Road

Control Type:	Two-way stop	Delay (sec / veh):	10.5
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.015

Intersection Setup

Name	Amarillo Valley Road		Amarillo Valley Road		Val Vista Road	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	↶		↷		↵	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Amarillo Valley Road		Amarillo Valley Road		Val Vista Road	
Base Volume Input [veh/h]	1	4	6	2	7	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.2190	1.2190	1.2190	1.2190	1.2190	1.2190
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	173	103	0	0	0
Total Hourly Volume [veh/h]	1	178	110	2	9	1
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	49	31	1	3	0
Total Analysis Volume [veh/h]	1	198	122	2	10	1
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	7.46	0.00	0.00	0.00	10.46	8.96
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.05	0.05
95th-Percentile Queue Length [ft/ln]	0.05	0.05	0.00	0.00	1.22	1.22
d_A, Approach Delay [s/veh]	0.04		0.00		10.32	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.36					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 12: Amarillo Valley Road & Miller Road

Control Type:	Two-way stop	Delay (sec / veh):	10.7
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.009

Intersection Setup

Name	Amarillo Valley Road		Amarillo Valley Road		Miller Road	
Approach	Northbound		Southbound		Westbound	
Lane Configuration	↷		↶		↵	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Amarillo Valley Road		Amarillo Valley Road		Miller Road	
Base Volume Input [veh/h]	1	3	4	3	4	4
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.2190	1.2190	1.2190	1.2190	1.2190	1.2190
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	173	0	0	133	0	0
Total Hourly Volume [veh/h]	174	4	5	137	5	5
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	48	1	1	38	1	1
Total Analysis Volume [veh/h]	193	4	6	152	6	6
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0





Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.01	0.01
d_M, Delay for Movement [s/veh]	0.00	0.00	7.63	0.00	10.74	9.34
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.01	0.01	0.05	0.05
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.33	0.33	1.26	1.26
d_A, Approach Delay [s/veh]	0.00		0.29		10.04	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.45					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 1: SR 347 & Miller Road/Louis Johnson Drive

Control Type:	Two-way stop	Delay (sec / veh):	19.6
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.067

Intersection Setup

Name	SR 347			SR 347			Miller Road			Louis Johnson Drive		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	0	0	0	0	0	0
Entry Pocket Length [ft]	150.00	100.00	150.00	150.00	100.00	150.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	65.00			65.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	SR 347			SR 347			Miller Road			Louis Johnson Drive		
Base Volume Input [veh/h]	1	106	0	11	161	5	3	5	5	1	13	24
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	9.80	2.00	2.00	9.80	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.2190	1.2190	1.2190	1.2190	1.2190	1.2190	1.2190	1.2190	1.2190	1.2190	1.2190	1.2190
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	545	0	0	320	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	674	0	13	516	6	4	6	6	1	16	29
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	187	0	4	143	2	1	2	2	0	4	8
Total Analysis Volume [veh/h]	1	749	0	14	573	7	4	7	7	1	18	32
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			Yes	Yes
Number of Storage Spaces in Median	0	0	1	1

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.00	0.02	0.01	0.00	0.01	0.03	0.01	0.00	0.07	0.05
d_M, Delay for Movement [s/veh]	8.64	0.00	0.00	9.28	0.00	0.00	17.40	19.07	10.58	18.97	19.62	11.97
Movement LOS	A	A	A	A	A	A	C	C	B	C	C	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.05	0.00	0.00	0.16	0.16	0.16	0.41	0.41	0.41
95th-Percentile Queue Length [ft/ln]	0.08	0.00	0.00	1.25	0.00	0.00	3.89	3.89	3.89	10.33	10.33	10.33
d_A, Approach Delay [s/veh]	0.01			0.22			15.40			14.81		
Approach LOS	A			A			C			B		
d_I, Intersection Delay [s/veh]	0.83											
Intersection LOS	C											

**Intersection Level Of Service Report
Intersection 9: SR 347 & Papago Road**

Control Type:	Signalized	Delay (sec / veh):	244.4
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.518

Intersection Setup

Name	SR 347		SR 347		Papago Road	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	⇐		⇐		⇐⇐⇐	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	1	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	100.00
Speed [mph]	65.00		65.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	No		No		No	

Volumes

Name	SR 347		SR 347		Papago Road	
Base Volume Input [veh/h]	21	152	143	155	79	21
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	9.80	9.80	2.00	2.00	2.00
Growth Factor	1.2190	1.2190	1.2190	1.2190	1.2190	1.2190
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	545	0	0	1842	1083	320
Right Turn on Red Volume [veh/h]	0	0	0	508	0	173
Total Hourly Volume [veh/h]	571	185	174	1523	1179	173
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	159	51	48	423	328	48
Total Analysis Volume [veh/h]	634	206	193	1692	1310	192
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing in	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPerm	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	1	6	2	0	3	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	5	10	10	0	5	0
Maximum Green [s]	30	30	30	0	30	0
Amber [s]	3.0	3.0	3.0	0.0	3.0	0.0
All red [s]	1.0	1.0	1.0	0.0	1.0	0.0
Split [s]	9	88	79	0	32	0
Vehicle Extension [s]	3.0	3.0	3.0	0.0	3.0	0.0
Walk [s]	0	5	5	0	5	0
Pedestrian Clearance [s]	0	10	10	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No	No		No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
Minimum Recall	No	No	No		No	
Maximum Recall	No	No	No		No	
Pedestrian Recall	No	No	No		No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R	L	R
C, Cycle Length [s]	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	84	84	75	75	28	28
g / C, Green / Cycle	0.70	0.70	0.63	0.63	0.23	0.23
(v / s)_i Volume / Saturation Flow Rate	0.51	0.06	0.06	1.06	0.38	0.12
s, saturation flow rate [veh/h]	1239	3338	3338	1589	3459	1589
c, Capacity [veh/h]	930	2336	2086	993	807	371
d1, Uniform Delay [s]	10.92	5.76	8.96	22.50	46.00	40.11
k, delay calibration	0.50	0.50	0.50	0.50	0.27	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.03	0.07	0.09	320.77	283.62	1.12
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.68	0.09	0.09	1.70	1.62	0.52
d, Delay for Lane Group [s/veh]	14.95	5.83	9.04	343.27	329.62	41.23
Lane Group LOS	B	A	A	F	F	D
Critical Lane Group	Yes	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	6.48	0.63	0.85	109.77	43.72	5.07
50th-Percentile Queue Length [ft/ln]	161.96	15.76	21.18	2744.23	1093.02	126.66
95th-Percentile Queue Length [veh/ln]	10.65	1.13	1.52	174.90	67.59	8.76
95th-Percentile Queue Length [ft/ln]	266.32	28.37	38.12	4372.48	1689.63	218.94

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	14.95	5.83	9.04	343.27	329.62	41.23
Movement LOS	B	A	A	F	F	D
d_A, Approach Delay [s/veh]	12.71		309.05		292.75	
Approach LOS	B		F		F	
d_I, Intersection Delay [s/veh]	244.37					
Intersection LOS	F					
Intersection V/C	1.518					

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft ² /ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00
I_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	0.000
Crosswalk LOS	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1400	1250	467
d_b, Bicycle Delay [s]	5.40	8.44	35.27
I_b,int, Bicycle LOS Score for Intersection	2.253	3.534	1.560
Bicycle LOS	B	D	A

Sequence





Ring 1	1	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 10: Amarillo Valley Road & Papago Road

Control Type:	Signalized	Delay (sec / veh):	18.7
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.429

Intersection Setup

Name	Amarillo Valley Road			Amarillo Valley Road			Papago Road			Papago Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Speed [mph]	45.00			45.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name	Amarillo Valley Road			Amarillo Valley Road			Papago Road			Papago Road		
Base Volume Input [veh/h]	9	0	8	0	0	0	0	90	13	13	165	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.2190	1.2190	1.2190	1.2190	1.2190	1.2190	1.2190	1.2190	1.2190	1.2190	1.2190	1.2190
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	6	5	76	406	5	72	102	295	6	128	353	689
Right Turn on Red Volume [veh/h]	0	0	43	0	0	36	0	0	11	0	0	345
Total Hourly Volume [veh/h]	17	5	43	406	5	36	102	405	11	144	554	344
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	1	12	113	1	10	28	113	3	40	154	96
Total Analysis Volume [veh/h]	19	6	48	451	6	40	113	450	12	160	616	382
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0			0			0	
v_di, Inbound Pedestrian Volume crossing in		0			0			0			0	
v_co, Outbound Pedestrian Volume crossing		0			0			0			0	
v_ci, Inbound Pedestrian Volume crossing mi		0			0			0			0	
v_ab, Corner Pedestrian Volume [ped/h]		0			0			0			0	
Bicycle Volume [bicycles/h]		0			0			0			0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	Protecte	Permiss	Permiss	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss
Signal Group	3	8	0	7	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	10	0	5	10	0	5	10	0	5	10	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	9	46	0	21	58	0	9	14	0	9	14	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	2.00	2.00	2.00	0.00	2.00	2.00	0.00	2.00	2.00
g_i, Effective Green Time [s]	25	7	7	14	20	20	57	48	48	57	48	48
g / C, Green / Cycle	0.28	0.08	0.08	0.15	0.22	0.22	0.63	0.53	0.53	0.63	0.53	0.53
(v / s)_i Volume / Saturation Flow Rate	0.01	0.00	0.03	0.13	0.00	0.03	0.12	0.13	0.01	0.15	0.17	0.24
s, saturation flow rate [veh/h]	1466	3560	1589	3459	1870	1589	922	3560	1589	1044	3560	1589
c, Capacity [veh/h]	534	298	133	535	407	346	613	1880	839	704	1892	845
d1, Uniform Delay [s]	23.38	37.84	38.95	36.97	27.65	28.27	7.24	11.47	10.10	7.15	11.95	13.01
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.50	0.11	0.50	0.50
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.03	0.03	1.64	3.70	0.01	0.15	0.66	0.30	0.03	0.16	0.46	1.75
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.04	0.02	0.36	0.84	0.01	0.12	0.18	0.24	0.01	0.23	0.33	0.45
d, Delay for Lane Group [s/veh]	23.41	37.86	40.58	40.67	27.66	28.42	7.91	11.77	10.13	7.32	12.41	14.76
Lane Group LOS	C	D	D	D	C	C	A	B	B	A	B	B
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.28	0.06	1.02	4.83	0.10	0.67	0.80	2.19	0.11	1.04	3.15	4.50
50th-Percentile Queue Length [ft/ln]	7.00	1.48	25.47	120.76	2.45	16.78	20.05	54.85	2.66	25.90	78.72	112.47
95th-Percentile Queue Length [veh/ln]	0.50	0.11	1.83	8.43	0.18	1.21	1.44	3.95	0.19	1.86	5.67	7.98
95th-Percentile Queue Length [ft/ln]	12.61	2.67	45.84	210.86	4.41	30.21	36.10	98.72	4.79	46.62	141.70	199.43

Movement, Approach, & Intersection Results

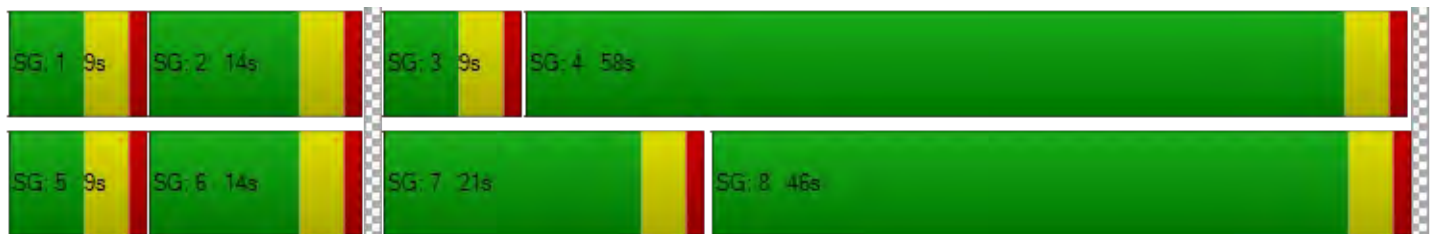
d_M, Delay for Movement [s/veh]	23.41	37.86	40.58	40.67	27.66	28.42	7.91	11.77	10.13	7.32	12.41	14.76
Movement LOS	C	D	D	D	C	C	A	B	B	A	B	B
d_A, Approach Delay [s/veh]	35.89			39.53			10.98			12.48		
Approach LOS	D			D			B			B		
d_I, Intersection Delay [s/veh]	18.68											
Intersection LOS	B											
Intersection V/C	0.429											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			0.0			0.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			0.00			0.00			0.00		
I_p,int, Pedestrian LOS Score for Intersection	0.000			0.000			0.000			0.000		
Crosswalk LOS	F			F			F			F		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	933			1200			222			222		
d_b, Bicycle Delay [s]	12.80			7.20			35.56			35.56		
I_b,int, Bicycle LOS Score for Intersection	1.655			2.439			2.043			2.800		
Bicycle LOS	A			B			B			C		

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 11: Amarillo Valley Road & Val Vista Road

Control Type:	Two-way stop	Delay (sec / veh):	10.4
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.009

Intersection Setup

Name	Amarillo Valley Road		Amarillo Valley Road		Val Vista Road	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	↶		↷		↷	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Amarillo Valley Road		Amarillo Valley Road		Val Vista Road	
Base Volume Input [veh/h]	2	8	12	5	4	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.2190	1.2190	1.2190	1.2190	1.2190	1.2190
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	105	150	0	0	0
Total Hourly Volume [veh/h]	2	115	165	6	5	0
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	32	46	2	1	0
Total Analysis Volume [veh/h]	2	128	183	7	6	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	7.61	0.00	0.00	0.00	10.39	9.26
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.03	0.03
95th-Percentile Queue Length [ft/ln]	0.11	0.11	0.00	0.00	0.67	0.67
d_A, Approach Delay [s/veh]	0.12		0.00		10.39	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.24					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 12: Amarillo Valley Road & Miller Road

Control Type:	Two-way stop	Delay (sec / veh):	10.5
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.018

Intersection Setup

Name	Amarillo Valley Road		Amarillo Valley Road		Miller Road	
Approach	Northbound		Southbound		Westbound	
Lane Configuration	↬		↵		↶	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Amarillo Valley Road		Amarillo Valley Road		Miller Road	
Base Volume Input [veh/h]	0	6	7	5	9	10
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.2190	1.2190	1.2190	1.2190	1.2190	1.2190
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	105	0	0	150	0	0
Total Hourly Volume [veh/h]	105	7	9	156	11	12
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	29	2	3	43	3	3
Total Analysis Volume [veh/h]	117	8	10	173	12	13
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.01	0.00	0.02	0.01
d_M, Delay for Movement [s/veh]	0.00	0.00	7.48	0.00	10.49	9.02
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.02	0.02	0.10	0.10
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.52	0.52	2.46	2.46
d_A, Approach Delay [s/veh]	0.00		0.41		9.73	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.95					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 1: SR 347 & Miller Road/Louis Johnson Drive

Control Type:	Two-way stop	Delay (sec / veh):	22.0
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.045

Intersection Setup

Name	SR 347			SR 347			Miller Road			Louis Johnson Drive		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	0	0	0	0	0	0
Entry Pocket Length [ft]	150.00	100.00	150.00	150.00	100.00	150.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	65.00			65.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	SR 347			SR 347			Miller Road			Louis Johnson Drive		
Base Volume Input [veh/h]	1	139	4	12	70	0	0	7	0	1	7	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	9.80	2.00	2.00	9.80	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.3459	1.3459	1.3459	1.3459	1.3459	1.3459	1.3459	1.3459	1.3459	1.3459	1.3459	1.3459
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	265	0	0	797	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	452	5	16	891	0	0	9	0	1	9	7
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	126	1	4	248	0	0	3	0	0	3	2
Total Analysis Volume [veh/h]	1	502	6	18	990	0	0	10	0	1	10	8
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			Yes	Yes
Number of Storage Spaces in Median	0	0	1	1

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.00	0.02	0.01	0.00	0.00	0.05	0.00	0.00	0.04	0.01
d_M, Delay for Movement [s/veh]	10.19	0.00	0.00	8.48	0.00	0.00	23.56	21.99	12.69	17.48	21.78	10.50
Movement LOS	B	A	A	A	A	A	C	C	B	C	C	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.05	0.00	0.00	0.14	0.14	0.14	0.19	0.19	0.19
95th-Percentile Queue Length [ft/ln]	0.11	0.00	0.00	1.30	0.00	0.00	3.52	3.52	3.52	4.65	4.65	4.65
d_A, Approach Delay [s/veh]	0.02			0.15			21.99			16.80		
Approach LOS	A			A			C			C		
d_I, Intersection Delay [s/veh]	0.45											
Intersection LOS	C											

**Intersection Level Of Service Report
Intersection 9: SR 347 & Papago Road**

Control Type:	Signalized	Delay (sec / veh):	32.5
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.717

Intersection Setup

Name	SR 347		SR 347		Papago Road	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	⇐		⇐		⇐⇐⇐	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	1	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	100.00
Speed [mph]	65.00		65.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	No		No		No	

Volumes

Name	SR 347		SR 347		Papago Road	
Base Volume Input [veh/h]	10	141	89	48	127	23
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	9.80	9.80	2.00	2.00	2.00
Growth Factor	1.3459	1.3459	1.3459	1.3459	1.3459	1.3459
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	265	0	0	418	1258	797
Right Turn on Red Volume [veh/h]	0	0	0	242	0	414
Total Hourly Volume [veh/h]	278	190	120	241	1429	414
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	77	53	33	67	397	115
Total Analysis Volume [veh/h]	309	211	133	268	1588	460
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing in	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protected	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	1	6	2	0	3	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	5	10	10	0	5	0
Maximum Green [s]	30	30	30	0	30	0
Amber [s]	3.0	3.0	3.0	0.0	3.0	0.0
All red [s]	1.0	1.0	1.0	0.0	1.0	0.0
Split [s]	38	52	14	0	68	0
Vehicle Extension [s]	3.0	3.0	3.0	0.0	3.0	0.0
Walk [s]	0	5	5	0	5	0
Pedestrian Clearance [s]	0	10	10	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No	No		No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
Minimum Recall	No	No	No		No	
Maximum Recall	No	No	No		No	
Pedestrian Recall	No	No	No		No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R	L	R
C, Cycle Length [s]	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	13	53	35	35	59	59
g / C, Green / Cycle	0.11	0.44	0.30	0.30	0.49	0.49
(v / s)_i Volume / Saturation Flow Rate	0.09	0.06	0.04	0.17	0.46	0.29
s, saturation flow rate [veh/h]	3459	3338	3338	1589	3459	1589
c, Capacity [veh/h]	387	1467	982	468	1707	785
d1, Uniform Delay [s]	51.95	20.11	31.12	35.94	28.44	21.65
k, delay calibration	0.11	0.50	0.50	0.50	0.11	0.13
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.80	0.21	0.29	5.03	2.78	0.83
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.80	0.14	0.14	0.57	0.93	0.59
d, Delay for Lane Group [s/veh]	55.75	20.32	31.41	40.97	31.22	22.48
Lane Group LOS	E	C	C	D	C	C
Critical Lane Group	Yes	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	4.47	1.64	1.36	6.78	21.20	9.24
50th-Percentile Queue Length [ft/ln]	111.78	41.03	33.91	169.60	530.07	230.99
95th-Percentile Queue Length [veh/ln]	7.94	2.95	2.44	11.06	28.75	14.22
95th-Percentile Queue Length [ft/ln]	198.48	73.86	61.04	276.39	718.86	355.62

Movement, Approach, & Intersection Results

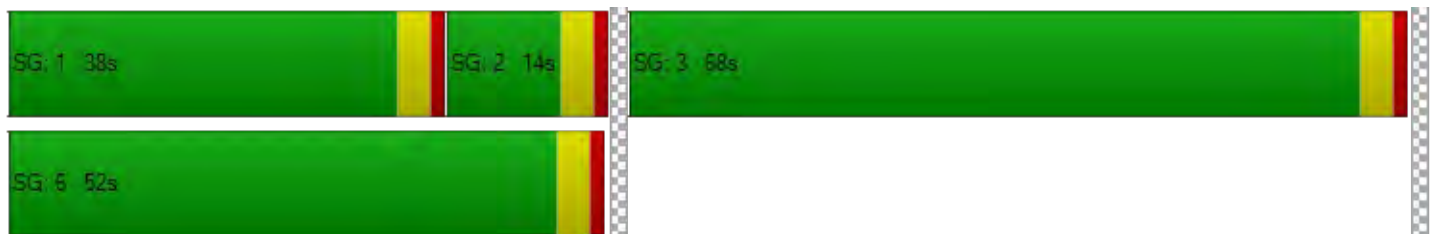
d_M, Delay for Movement [s/veh]	55.75	20.32	31.41	40.97	31.22	22.48
Movement LOS	E	C	C	D	C	C
d_A, Approach Delay [s/veh]	41.38		37.80		29.26	
Approach LOS	D		D		C	
d_I, Intersection Delay [s/veh]	32.53					
Intersection LOS	C					
Intersection V/C	0.717					

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft ² /ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00
I_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	0.000
Crosswalk LOS	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	800	167	1067
d_b, Bicycle Delay [s]	21.60	50.42	13.07
I_b,int, Bicycle LOS Score for Intersection	1.989	2.090	1.560
Bicycle LOS	A	B	A

Sequence





Ring 1	1	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 10: Amarillo Valley Road & Papago Road

Control Type:	Signalized	Delay (sec / veh):	26.7
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.645

Intersection Setup

Name	Amarillo Valley Road			Amarillo Valley Road			Papago Road			Papago Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Speed [mph]	45.00			45.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name	Amarillo Valley Road			Amarillo Valley Road			Papago Road			Papago Road		
Base Volume Input [veh/h]	4	0	9	0	0	0	0	135	6	4	57	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.3459	1.3459	1.3459	1.3459	1.3459	1.3459	1.3459	1.3459	1.3459	1.3459	1.3459	1.3459
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	57	100	181	603	256	231	132	609	134	187	463	203
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	62	100	193	603	256	231	132	791	142	192	540	203
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	17	28	54	168	71	64	37	220	39	53	150	56
Total Analysis Volume [veh/h]	69	111	214	670	284	257	147	879	158	213	600	226
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0			0			0	
v_di, Inbound Pedestrian Volume crossing in		0			0			0			0	
v_co, Outbound Pedestrian Volume crossing		0			0			0			0	
v_ci, Inbound Pedestrian Volume crossing mi		0			0			0			0	
v_ab, Corner Pedestrian Volume [ped/h]		0			0			0			0	
Bicycle Volume [bicycles/h]		0			0			0			0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	Protecte	Permiss	Permiss	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss
Signal Group	3	8	0	7	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	10	0	5	10	0	5	10	0	5	10	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	9	44	0	23	58	0	9	14	0	9	14	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	2.00	2.00	2.00	0.00	2.00	2.00	0.00	2.00	2.00
g_i, Effective Green Time [s]	38	15	15	19	30	30	44	35	35	44	35	35
g / C, Green / Cycle	0.42	0.16	0.16	0.21	0.33	0.33	0.49	0.39	0.39	0.49	0.39	0.39
(v / s)_i Volume / Saturation Flow Rate	0.06	0.03	0.13	0.19	0.15	0.16	0.15	0.25	0.10	0.26	0.17	0.14
s, saturation flow rate [veh/h]	1206	3560	1589	3459	1870	1589	971	3560	1589	813	3560	1589
c, Capacity [veh/h]	509	584	261	730	616	524	485	1394	622	386	1394	622
d1, Uniform Delay [s]	16.31	32.45	36.33	34.73	23.86	24.14	13.71	22.13	18.51	16.26	20.05	19.43
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.50	0.29	0.50	0.50
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.12	0.16	6.30	5.20	0.54	0.71	1.60	2.18	0.98	3.33	0.97	1.64
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.14	0.19	0.82	0.92	0.46	0.49	0.30	0.63	0.25	0.55	0.43	0.36
d, Delay for Lane Group [s/veh]	16.43	32.61	42.63	39.94	24.39	24.85	15.31	24.31	19.49	19.59	21.02	21.07
Lane Group LOS	B	C	D	D	C	C	B	C	B	B	C	C
Critical Lane Group	No	No	Yes	Yes	No	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.80	1.01	4.75	7.24	4.52	4.16	1.68	7.21	2.21	2.56	4.38	3.35
50th-Percentile Queue Length [ft/ln]	20.10	25.17	118.71	181.02	112.97	103.91	41.97	180.17	55.24	64.11	109.58	83.67
95th-Percentile Queue Length [veh/ln]	1.45	1.81	8.32	11.65	8.01	7.48	3.02	11.61	3.98	4.62	7.82	6.02
95th-Percentile Queue Length [ft/ln]	36.18	45.31	208.06	291.35	200.13	187.04	75.54	290.23	99.43	115.40	195.42	150.61

Movement, Approach, & Intersection Results

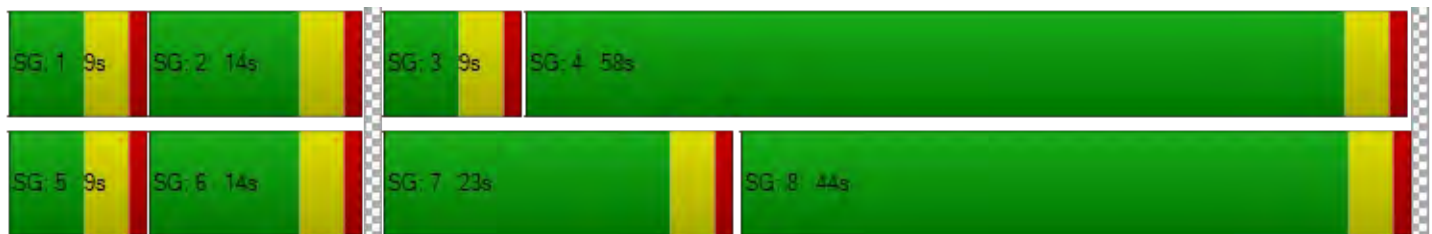
d_M, Delay for Movement [s/veh]	16.43	32.61	42.63	39.94	24.39	24.85	15.31	24.31	19.49	19.59	21.02	21.07
Movement LOS	B	C	D	D	C	C	B	C	B	B	C	C
d_A, Approach Delay [s/veh]	35.22			33.09			22.55			20.74		
Approach LOS	D			C			C			C		
d_I, Intersection Delay [s/veh]	26.70											
Intersection LOS	C											
Intersection V/C	0.645											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			0.0			0.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			0.00			0.00			0.00		
I_p,int, Pedestrian LOS Score for Intersection	0.000			0.000			0.000			0.000		
Crosswalk LOS	F			F			F			F		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	889			1200			222			222		
d_b, Bicycle Delay [s]	13.89			7.20			35.56			35.56		
I_b,int, Bicycle LOS Score for Intersection	1.885			3.558			2.536			2.417		
Bicycle LOS	A			D			B			B		

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 11: Amarillo Valley Road & Val Vista Road

Control Type:	Two-way stop	Delay (sec / veh):	19.6
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.039

Intersection Setup

Name	Amarillo Valley Road		Amarillo Valley Road		Val Vista Road	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	↶		↷		↷	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Amarillo Valley Road		Amarillo Valley Road		Val Vista Road	
Base Volume Input [veh/h]	1	4	6	2	7	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.3459	1.3459	1.3459	1.3459	1.3459	1.3459
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	323	593	0	0	0
Total Hourly Volume [veh/h]	1	328	601	3	9	1
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	91	167	1	3	0
Total Analysis Volume [veh/h]	1	364	668	3	10	1
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.01	0.00	0.04	0.00
d_M, Delay for Movement [s/veh]	8.92	0.00	0.00	0.00	19.62	13.45
Movement LOS	A	A	A	A	C	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.13	0.13
95th-Percentile Queue Length [ft/ln]	0.08	0.08	0.00	0.00	3.21	3.21
d_A, Approach Delay [s/veh]	0.02		0.00		19.06	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	0.21					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 12: Amarillo Valley Road & Miller Road

Control Type:	Two-way stop	Delay (sec / veh):	19.5
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.024

Intersection Setup

Name	Amarillo Valley Road		Amarillo Valley Road		Miller Road	
Approach	Northbound		Southbound		Westbound	
Lane Configuration	↬		↵		↶	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Amarillo Valley Road		Amarillo Valley Road		Miller Road	
Base Volume Input [veh/h]	1	3	4	3	4	4
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.3459	1.3459	1.3459	1.3459	1.3459	1.3459
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	323	0	0	593	0	0
Total Hourly Volume [veh/h]	324	4	5	597	5	5
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	90	1	1	166	1	1
Total Analysis Volume [veh/h]	360	4	6	663	6	6
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.01	0.01	0.02	0.01
d_M, Delay for Movement [s/veh]	0.00	0.00	8.03	0.00	19.49	10.60
Movement LOS	A	A	A	A	C	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.02	0.02	0.10	0.10
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.38	0.38	2.51	2.51
d_A, Approach Delay [s/veh]	0.00		0.07		15.05	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	0.22					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 1: SR 347 & Miller Road/Louis Johnson Drive

Control Type:	Two-way stop	Delay (sec / veh):	30.8
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.006

Intersection Setup

Name	SR 347			SR 347			Miller Road			Louis Johnson Drive		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	0	0	0	0	0	0
Entry Pocket Length [ft]	150.00	100.00	150.00	150.00	100.00	150.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	65.00			65.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	SR 347			SR 347			Miller Road			Louis Johnson Drive		
Base Volume Input [veh/h]	1	106	0	11	161	5	3	5	5	1	13	24
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	9.80	2.00	2.00	9.80	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.3459	1.3459	1.3459	1.3459	1.3459	1.3459	1.3459	1.3459	1.3459	1.3459	1.3459	1.3459
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	895	0	0	527	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	1038	0	15	744	7	4	7	7	1	17	32
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	288	0	4	207	2	1	2	2	0	5	9
Total Analysis Volume [veh/h]	1	1153	0	17	827	8	4	8	8	1	19	36
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			Yes	Yes
Number of Storage Spaces in Median	0	0	1	1

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.00	0.03	0.01	0.00	0.02	0.05	0.01	0.01	0.12	0.08
d_M, Delay for Movement [s/veh]	9.54	0.00	0.00	11.16	0.00	0.00	25.60	28.91	12.54	30.82	30.05	16.01
Movement LOS	A	A	A	B	A	A	D	D	B	D	D	C
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.09	0.00	0.00	0.28	0.28	0.28	0.73	0.73	0.73
95th-Percentile Queue Length [ft/ln]	0.09	0.00	0.00	2.18	0.00	0.00	6.89	6.89	6.89	18.27	18.27	18.27
d_A, Approach Delay [s/veh]	0.01			0.22			21.70			21.04		
Approach LOS	A			A			C			C		
d_I, Intersection Delay [s/veh]	0.87											
Intersection LOS	D											

**Intersection Level Of Service Report
Intersection 9: SR 347 & Papago Road**

Control Type:	Signalized	Delay (sec / veh):	263.2
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.448

Intersection Setup

Name	SR 347		SR 347		Papago Road	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	⇐		⇐		⇐⇐⇐	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	1	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	100.00
Speed [mph]	65.00		65.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	No		No		No	

Volumes

Name	SR 347		SR 347		Papago Road	
Base Volume Input [veh/h]	21	152	143	155	79	21
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	9.80	9.80	2.00	2.00	2.00
Growth Factor	1.3459	1.3459	1.3459	1.3459	1.3459	1.3459
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	895	0	0	1412	832	527
Right Turn on Red Volume [veh/h]	0	0	0	405	0	278
Total Hourly Volume [veh/h]	923	205	192	1216	938	277
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	256	57	53	338	261	77
Total Analysis Volume [veh/h]	1026	228	213	1351	1042	308
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing in	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protected	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	1	6	2	0	3	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	5	10	10	0	5	0
Maximum Green [s]	30	30	30	0	30	0
Amber [s]	3.0	3.0	3.0	0.0	3.0	0.0
All red [s]	1.0	1.0	1.0	0.0	1.0	0.0
Split [s]	27	93	66	0	27	0
Vehicle Extension [s]	3.0	3.0	3.0	0.0	3.0	0.0
Walk [s]	0	5	5	0	5	0
Pedestrian Clearance [s]	0	10	10	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No	No		No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
Minimum Recall	No	No	No		No	
Maximum Recall	No	No	No		No	
Pedestrian Recall	No	No	No		No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R	L	R
C, Cycle Length [s]	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	23	89	62	62	23	23
g / C, Green / Cycle	0.19	0.74	0.52	0.52	0.19	0.19
(v / s)_i Volume / Saturation Flow Rate	0.30	0.07	0.06	0.85	0.30	0.19
s, saturation flow rate [veh/h]	3459	3338	3338	1589	3459	1589
c, Capacity [veh/h]	663	2475	1724	821	663	305
d1, Uniform Delay [s]	48.50	4.30	14.97	29.00	48.50	48.50
k, delay calibration	0.15	0.50	0.50	0.50	0.16	0.29
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	248.80	0.07	0.15	295.78	259.70	41.74
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	1.55	0.09	0.12	1.65	1.57	1.01
d, Delay for Lane Group [s/veh]	297.30	4.37	15.12	324.78	308.20	90.24
Lane Group LOS	F	A	B	F	F	F
Critical Lane Group	Yes	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	32.12	0.53	1.36	87.24	33.78	12.60
50th-Percentile Queue Length [ft/ln]	802.98	13.28	33.97	2180.98	844.40	315.01
95th-Percentile Queue Length [veh/ln]	49.79	0.96	2.45	136.91	52.32	18.53
95th-Percentile Queue Length [ft/ln]	1244.71	23.90	61.14	3422.80	1308.06	463.24

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	297.30	4.37	15.12	324.78	308.20	90.24
Movement LOS	F	A	B	F	F	F
d_A, Approach Delay [s/veh]	244.04		282.60		258.48	
Approach LOS	F		F		F	
d_I, Intersection Delay [s/veh]	263.19					
Intersection LOS	F					
Intersection V/C	1.448					

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft ² /ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00
I_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	0.000
Crosswalk LOS	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1483	1033	383
d_b, Bicycle Delay [s]	4.00	14.02	39.20
I_b,int, Bicycle LOS Score for Intersection	2.594	3.184	1.560
Bicycle LOS	B	C	A

Sequence





Ring 1	1	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 10: Amarillo Valley Road & Papago Road

Control Type:	Signalized	Delay (sec / veh):	22.7
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.515

Intersection Setup

Name	Amarillo Valley Road			Amarillo Valley Road			Papago Road			Papago Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Speed [mph]	45.00			45.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name	Amarillo Valley Road			Amarillo Valley Road			Papago Road			Papago Road		
Base Volume Input [veh/h]	9	0	8	0	0	0	0	90	13	13	165	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.3459	1.3459	1.3459	1.3459	1.3459	1.3459	1.3459	1.3459	1.3459	1.3459	1.3459	1.3459
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	138	271	210	395	163	125	192	482	81	209	567	670
Right Turn on Red Volume [veh/h]	0	0	111	0	0	63	0	0	49	0	0	335
Total Hourly Volume [veh/h]	150	271	110	395	163	62	192	603	49	226	789	335
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	42	75	31	110	45	17	53	168	14	63	219	93
Total Analysis Volume [veh/h]	167	301	122	439	181	69	213	670	54	251	877	372
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0			0			0	
v_di, Inbound Pedestrian Volume crossing in		0			0			0			0	
v_co, Outbound Pedestrian Volume crossing		0			0			0			0	
v_ci, Inbound Pedestrian Volume crossing mi		0			0			0			0	
v_ab, Corner Pedestrian Volume [ped/h]		0			0			0			0	
Bicycle Volume [bicycles/h]		0			0			0			0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	Protecte	Permiss	Permiss	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss
Signal Group	3	8	0	7	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	10	0	5	10	0	5	10	0	5	10	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	30	48	0	19	37	0	9	14	0	9	14	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	2.00	2.00	2.00	0.00	2.00	2.00	0.00	2.00	2.00
g_i, Effective Green Time [s]	28	11	11	13	16	16	54	45	45	54	45	45
g / C, Green / Cycle	0.31	0.12	0.12	0.15	0.17	0.17	0.60	0.50	0.50	0.60	0.50	0.50
(v / s)_i Volume / Saturation Flow Rate	0.12	0.08	0.08	0.13	0.10	0.04	0.27	0.19	0.03	0.28	0.25	0.23
s, saturation flow rate [veh/h]	1419	3560	1589	3459	1870	1589	782	3560	1589	899	3560	1589
c, Capacity [veh/h]	467	427	190	516	325	276	475	1772	791	558	1772	791
d1, Uniform Delay [s]	23.75	38.08	37.76	37.31	34.00	32.10	10.41	13.99	11.75	9.59	15.07	14.82
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.50	0.33	0.50	0.50
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.46	2.15	3.56	4.05	1.49	0.47	3.05	0.62	0.17	1.74	0.99	2.00
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.36	0.71	0.64	0.85	0.56	0.25	0.45	0.38	0.07	0.45	0.49	0.47
d, Delay for Lane Group [s/veh]	24.21	40.23	41.32	41.36	35.49	32.57	13.46	14.60	11.92	11.33	16.06	16.83
Lane Group LOS	C	D	D	D	D	C	B	B	B	B	B	B
Critical Lane Group	No	Yes	No	Yes	No	No	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	2.57	3.16	2.63	4.74	3.56	1.27	1.97	3.85	0.54	2.16	5.46	4.80
50th-Percentile Queue Length [ft/ln]	64.26	79.07	65.70	118.55	89.09	31.75	49.18	96.32	13.45	53.99	136.56	119.90
95th-Percentile Queue Length [veh/ln]	4.63	5.69	4.73	8.31	6.41	2.29	3.54	6.94	0.97	3.89	9.30	8.39
95th-Percentile Queue Length [ft/ln]	115.67	142.32	118.27	207.83	160.37	57.16	88.52	173.38	24.21	97.18	232.38	209.70

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	24.21	40.23	41.32	41.36	35.49	32.57	13.46	14.60	11.92	11.33	16.06	16.83
Movement LOS	C	D	D	D	D	C	B	B	B	B	B	B
d_A, Approach Delay [s/veh]	35.92			38.94			14.19			15.46		
Approach LOS	D			D			B			B		
d_I, Intersection Delay [s/veh]	22.74											
Intersection LOS	C											
Intersection V/C	0.515											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			0.0			0.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			0.00			0.00			0.00		
I_p,int, Pedestrian LOS Score for Intersection	0.000			0.000			0.000			0.000		
Crosswalk LOS	F			F			F			F		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	978			733			222			222		
d_b, Bicycle Delay [s]	11.76			18.05			35.56			35.56		
I_b,int, Bicycle LOS Score for Intersection	2.138			2.800			2.373			3.073		
Bicycle LOS	B			C			B			C		

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 11: Amarillo Valley Road & Val Vista Road

Control Type:	Two-way stop	Delay (sec / veh):	25.0
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.032

Intersection Setup

Name	Amarillo Valley Road		Amarillo Valley Road		Val Vista Road	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	↶		↷		↷	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Amarillo Valley Road		Amarillo Valley Road		Val Vista Road	
Base Volume Input [veh/h]	2	8	12	5	4	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.3459	1.3459	1.3459	1.3459	1.3459	1.3459
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	637	464	0	0	0
Total Hourly Volume [veh/h]	3	648	480	7	5	0
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	180	133	2	1	0
Total Analysis Volume [veh/h]	3	720	533	8	6	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.01	0.00	0.03	0.00
d_M, Delay for Movement [s/veh]	8.51	0.00	0.00	0.00	24.95	12.26
Movement LOS	A	A	A	A	C	B
95th-Percentile Queue Length [veh/ln]	0.01	0.01	0.00	0.00	0.10	0.10
95th-Percentile Queue Length [ft/ln]	0.22	0.22	0.00	0.00	2.48	2.48
d_A, Approach Delay [s/veh]	0.04		0.00		24.95	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	0.14					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 12: Amarillo Valley Road & Miller Road

Control Type:	Two-way stop	Delay (sec / veh):	25.9
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.070

Intersection Setup

Name	Amarillo Valley Road		Amarillo Valley Road		Miller Road	
Approach	Northbound		Southbound		Westbound	
Lane Configuration	↬		↵		↵	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Amarillo Valley Road		Amarillo Valley Road		Miller Road	
Base Volume Input [veh/h]	0	6	7	5	9	10
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.3459	1.3459	1.3459	1.3459	1.3459	1.3459
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	637	0	0	464	0	0
Total Hourly Volume [veh/h]	637	8	9	471	12	13
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	177	2	3	131	3	4
Total Analysis Volume [veh/h]	708	9	10	523	13	14
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.01	0.01	0.07	0.03
d_M, Delay for Movement [s/veh]	0.00	0.00	9.12	0.00	25.87	14.88
Movement LOS	A	A	A	A	D	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.03	0.03	0.34	0.34
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.86	0.86	8.44	8.44
d_A, Approach Delay [s/veh]	0.00		0.17		20.17	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	0.50					
Intersection LOS	D					

Intersection Level Of Service Report
Intersection 1: SR 347 & Miller Road/Louis Johnson Drive

Control Type:	Two-way stop	Delay (sec / veh):	22.6
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.051

Intersection Setup

Name	SR 347			SR 347			Miller Road			Louis Johnson Drive		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	0	0	0	0	0	0
Entry Pocket Length [ft]	150.00	100.00	150.00	150.00	100.00	150.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	65.00			65.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	SR 347			SR 347			Miller Road			Louis Johnson Drive		
Base Volume Input [veh/h]	1	139	4	12	70	0	0	7	0	1	7	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	9.80	2.00	2.00	9.80	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.4859	1.4859	1.4859	1.4859	1.4859	1.4859	1.4859	1.4859	1.4859	1.4859	1.4859	1.4859
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	265	0	0	797	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	472	6	18	901	0	0	10	0	1	10	7
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	131	2	5	250	0	0	3	0	0	3	2
Total Analysis Volume [veh/h]	1	524	7	20	1001	0	0	11	0	1	11	8
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			Yes	Yes
Number of Storage Spaces in Median	0	0	1	1

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.00	0.02	0.01	0.00	0.00	0.05	0.00	0.00	0.05	0.01
d_M, Delay for Movement [s/veh]	10.25	0.00	0.00	8.56	0.00	0.00	24.19	22.59	12.87	18.00	22.33	10.69
Movement LOS	B	A	A	A	A	A	C	C	B	C	C	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.06	0.00	0.00	0.16	0.16	0.16	0.21	0.21	0.21
95th-Percentile Queue Length [ft/ln]	0.11	0.00	0.00	1.48	0.00	0.00	4.01	4.01	4.01	5.16	5.16	5.16
d_A, Approach Delay [s/veh]	0.02			0.17			22.59			17.46		
Approach LOS	A			A			C			C		
d_I, Intersection Delay [s/veh]	0.49											
Intersection LOS	C											

**Intersection Level Of Service Report
Intersection 9: SR 347 & Papago Road**

Control Type:	Signalized	Delay (sec / veh):	37.8
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.725

Intersection Setup

Name	SR 347		SR 347		Papago Road	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	⇐		⇐		⇐⇐⇐	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	1	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	100.00
Speed [mph]	65.00		65.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	No		No		No	

Volumes

Name	SR 347		SR 347		Papago Road	
Base Volume Input [veh/h]	10	141	89	48	127	23
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	9.80	9.80	2.00	2.00	2.00
Growth Factor	1.4859	1.4859	1.4859	1.4859	1.4859	1.4859
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	265	0	0	418	1258	797
Right Turn on Red Volume [veh/h]	0	0	0	245	0	416
Total Hourly Volume [veh/h]	280	210	132	244	1447	415
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	78	58	37	68	402	115
Total Analysis Volume [veh/h]	311	233	147	271	1608	461
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing in	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protected	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	1	6	2	0	3	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	5	10	10	0	5	0
Maximum Green [s]	30	30	30	0	30	0
Amber [s]	3.0	3.0	3.0	0.0	3.0	0.0
All red [s]	1.0	1.0	1.0	0.0	1.0	0.0
Split [s]	39	60	21	0	60	0
Vehicle Extension [s]	3.0	3.0	3.0	0.0	3.0	0.0
Walk [s]	0	5	5	0	5	0
Pedestrian Clearance [s]	0	10	10	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No	No		No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
Minimum Recall	No	No	No		No	
Maximum Recall	No	No	No		No	
Pedestrian Recall	No	No	No		No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R	L	R
C, Cycle Length [s]	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	13	56	39	39	56	56
g / C, Green / Cycle	0.11	0.47	0.32	0.32	0.47	0.47
(v / s)_i Volume / Saturation Flow Rate	0.09	0.07	0.04	0.17	0.46	0.29
s, saturation flow rate [veh/h]	3459	3338	3338	1589	3459	1589
c, Capacity [veh/h]	390	1558	1070	510	1614	742
d1, Uniform Delay [s]	51.90	18.35	28.97	33.39	31.90	24.04
k, delay calibration	0.11	0.50	0.50	0.50	0.11	0.19
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.78	0.20	0.27	3.94	9.59	1.47
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.80	0.15	0.14	0.53	1.00	0.62
d, Delay for Lane Group [s/veh]	55.68	18.55	29.24	37.32	41.49	25.51
Lane Group LOS	E	B	C	D	D	C
Critical Lane Group	Yes	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	4.50	1.71	1.43	6.48	24.53	9.97
50th-Percentile Queue Length [ft/ln]	112.45	42.74	35.86	162.10	613.23	249.36
95th-Percentile Queue Length [veh/ln]	7.98	3.08	2.58	10.66	32.65	15.15
95th-Percentile Queue Length [ft/ln]	199.40	76.94	64.56	266.50	816.29	378.85

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	55.68	18.55	29.24	37.32	41.49	25.51
Movement LOS	E	B	C	D	D	C
d_A, Approach Delay [s/veh]	39.78		34.48		37.93	
Approach LOS	D		C		D	
d_I, Intersection Delay [s/veh]	37.78					
Intersection LOS	D					
Intersection V/C	0.725					

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft ² /ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00
I_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	0.000
Crosswalk LOS	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	933	283	933
d_b, Bicycle Delay [s]	17.07	44.20	17.07
I_b,int, Bicycle LOS Score for Intersection	2.008	2.107	1.560
Bicycle LOS	B	B	A

Sequence





Ring 1	1	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 10: Amarillo Valley Road & Papago Road

Control Type:	Signalized	Delay (sec / veh):	24.8
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.579

Intersection Setup

Name	Amarillo Valley Road			Amarillo Valley Road			Papago Road			Papago Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Speed [mph]	45.00			45.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name	Amarillo Valley Road			Amarillo Valley Road			Papago Road			Papago Road		
Base Volume Input [veh/h]	4	0	9	0	0	0	0	135	6	4	57	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.4859	1.4859	1.4859	1.4859	1.4859	1.4859	1.4859	1.4859	1.4859	1.4859	1.4859	1.4859
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	57	100	181	603	256	231	132	609	134	187	463	203
Right Turn on Red Volume [veh/h]	0	0	97	0	0	116	0	0	72	0	0	102
Total Hourly Volume [veh/h]	63	100	97	603	256	115	132	810	71	193	548	101
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	18	28	27	168	71	32	37	225	20	54	152	28
Total Analysis Volume [veh/h]	70	111	108	670	284	128	147	900	79	214	609	112
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0			0			0	
v_di, Inbound Pedestrian Volume crossing in		0			0			0			0	
v_co, Outbound Pedestrian Volume crossing		0			0			0			0	
v_ci, Inbound Pedestrian Volume crossing mi		0			0			0			0	
v_ab, Corner Pedestrian Volume [ped/h]		0			0			0			0	
Bicycle Volume [bicycles/h]		0			0			0			0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	Protecte	Permiss	Permiss	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss
Signal Group	3	8	0	7	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	10	0	5	10	0	5	10	0	5	10	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	9	44	0	23	58	0	9	14	0	9	14	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	2.00	2.00	2.00	0.00	2.00	2.00	0.00	2.00	2.00
g_i, Effective Green Time [s]	33	10	10	19	25	25	49	40	40	49	40	40
g / C, Green / Cycle	0.37	0.11	0.11	0.21	0.28	0.28	0.54	0.44	0.44	0.54	0.44	0.44
(v / s)_i Volume / Saturation Flow Rate	0.06	0.03	0.07	0.19	0.15	0.08	0.15	0.25	0.05	0.27	0.17	0.07
s, saturation flow rate [veh/h]	1222	3560	1589	3459	1870	1589	950	3560	1589	785	3560	1589
c, Capacity [veh/h]	434	399	178	730	518	440	537	1579	705	425	1579	705
d1, Uniform Delay [s]	19.46	36.63	38.08	34.73	27.73	25.57	11.03	18.64	14.66	13.28	16.81	14.99
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.50	0.32	0.50	0.50
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.17	0.38	3.31	5.20	0.91	0.36	1.26	1.50	0.32	2.69	0.71	0.48
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.16	0.28	0.61	0.92	0.55	0.29	0.27	0.57	0.11	0.50	0.39	0.16
d, Delay for Lane Group [s/veh]	19.63	37.01	41.39	39.94	28.63	25.94	12.29	20.14	14.98	15.97	17.52	15.47
Lane Group LOS	B	D	D	D	C	C	B	C	B	B	B	B
Critical Lane Group	No	No	Yes	Yes	No	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.91	1.09	2.33	7.24	4.99	2.07	1.44	6.55	0.92	2.22	3.95	1.34
50th-Percentile Queue Length [ft/ln]	22.86	27.23	58.13	181.02	124.84	51.65	36.05	163.72	23.04	55.53	98.76	33.47
95th-Percentile Queue Length [veh/ln]	1.65	1.96	4.19	11.65	8.66	3.72	2.60	10.75	1.66	4.00	7.11	2.41
95th-Percentile Queue Length [ft/ln]	41.14	49.02	104.63	291.35	216.45	92.97	64.88	268.64	41.47	99.96	177.77	60.24

Movement, Approach, & Intersection Results

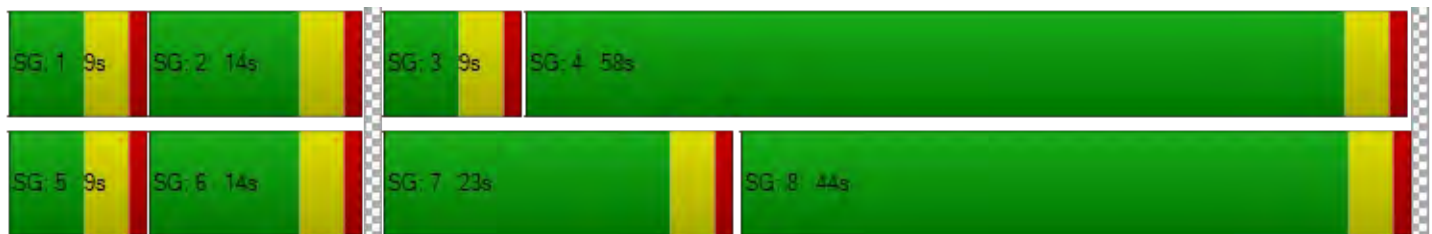
d_M, Delay for Movement [s/veh]	19.63	37.01	41.39	39.94	28.63	25.94	12.29	20.14	14.98	15.97	17.52	15.47
Movement LOS	B	D	D	D	C	C	B	C	B	B	B	B
d_A, Approach Delay [s/veh]	34.44			35.31			18.75			16.92		
Approach LOS	C			D			B			B		
d_I, Intersection Delay [s/veh]	24.80											
Intersection LOS	C											
Intersection V/C	0.579											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			0.0			0.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			0.00			0.00			0.00		
I_p,int, Pedestrian LOS Score for Intersection	0.000			0.000			0.000			0.000		
Crosswalk LOS	F			F			F			F		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	889			1200			222			222		
d_b, Bicycle Delay [s]	13.89			7.20			35.56			35.56		
I_b,int, Bicycle LOS Score for Intersection	1.878			3.536			2.548			2.415		
Bicycle LOS	A			D			B			B		

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 11: Amarillo Valley Road & Val Vista Road

Control Type:	Two-way stop	Delay (sec / veh):	19.7
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.043

Intersection Setup

Name	Amarillo Valley Road		Amarillo Valley Road		Val Vista Road	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	↶		↷		↷	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Amarillo Valley Road		Amarillo Valley Road		Val Vista Road	
Base Volume Input [veh/h]	1	4	6	2	7	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.4859	1.4859	1.4859	1.4859	1.4859	1.4859
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	323	593	0	0	0
Total Hourly Volume [veh/h]	1	329	602	3	10	1
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	91	167	1	3	0
Total Analysis Volume [veh/h]	1	366	669	3	11	1
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.01	0.00	0.04	0.00
d_M, Delay for Movement [s/veh]	8.92	0.00	0.00	0.00	19.75	13.53
Movement LOS	A	A	A	A	C	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.14	0.14
95th-Percentile Queue Length [ft/ln]	0.08	0.08	0.00	0.00	3.54	3.54
d_A, Approach Delay [s/veh]	0.02		0.00		19.23	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	0.23					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 12: Amarillo Valley Road & Miller Road

Control Type:	Two-way stop	Delay (sec / veh):	19.6
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.028

Intersection Setup

Name	Amarillo Valley Road		Amarillo Valley Road		Miller Road	
Approach	Northbound		Southbound		Westbound	
Lane Configuration	↬		↵		↵	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Amarillo Valley Road		Amarillo Valley Road		Miller Road	
Base Volume Input [veh/h]	1	3	4	3	4	4
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.4859	1.4859	1.4859	1.4859	1.4859	1.4859
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	323	0	0	593	0	0
Total Hourly Volume [veh/h]	324	4	6	597	6	6
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	90	1	2	166	2	2
Total Analysis Volume [veh/h]	360	4	7	663	7	7
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.01	0.01	0.03	0.01
d_M, Delay for Movement [s/veh]	0.00	0.00	8.03	0.00	19.61	10.66
Movement LOS	A	A	A	A	C	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.02	0.02	0.12	0.12
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.44	0.44	2.95	2.95
d_A, Approach Delay [s/veh]	0.00		0.08		15.13	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	0.26					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 1: SR 347 & Miller Road/Louis Johnson Drive

Control Type:	Two-way stop	Delay (sec / veh):	32.1
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.006

Intersection Setup

Name	SR 347			SR 347			Miller Road			Louis Johnson Drive		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	0	0	0	0	0	0
Entry Pocket Length [ft]	150.00	100.00	150.00	150.00	100.00	150.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	65.00			65.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	SR 347			SR 347			Miller Road			Louis Johnson Drive		
Base Volume Input [veh/h]	1	106	0	11	161	5	3	5	5	1	13	24
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	9.80	2.00	2.00	9.80	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.4859	1.4859	1.4859	1.4859	1.4859	1.4859	1.4859	1.4859	1.4859	1.4859	1.4859	1.4859
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	895	0	0	527	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	1053	0	16	766	7	4	7	7	1	19	36
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	293	0	4	213	2	1	2	2	0	5	10
Total Analysis Volume [veh/h]	1	1170	0	18	851	8	4	8	8	1	21	40
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			Yes	Yes
Number of Storage Spaces in Median	0	0	1	1

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.00	0.03	0.01	0.00	0.02	0.05	0.01	0.01	0.13	0.09
d_M, Delay for Movement [s/veh]	9.63	0.00	0.00	11.26	0.00	0.00	26.66	29.75	12.75	32.07	31.31	16.71
Movement LOS	A	A	A	B	A	A	D	D	B	D	D	C
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.09	0.00	0.00	0.29	0.29	0.29	0.85	0.85	0.85
95th-Percentile Queue Length [ft/ln]	0.10	0.00	0.00	2.35	0.00	0.00	7.15	7.15	7.15	21.21	21.21	21.21
d_A, Approach Delay [s/veh]	0.01			0.23			22.33			21.90		
Approach LOS	A			A			C			C		
d_I, Intersection Delay [s/veh]	0.95											
Intersection LOS	D											

**Intersection Level Of Service Report
Intersection 9: SR 347 & Papago Road**

Control Type:	Signalized	Delay (sec / veh):	270.2
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.463

Intersection Setup

Name	SR 347		SR 347		Papago Road	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	⇐		⇐		⇐⇐⇐	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	1	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	100.00
Speed [mph]	65.00		65.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	No		No		No	

Volumes

Name	SR 347		SR 347		Papago Road	
Base Volume Input [veh/h]	21	152	143	155	79	21
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	9.80	9.80	2.00	2.00	2.00
Growth Factor	1.4859	1.4859	1.4859	1.4859	1.4859	1.4859
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	895	0	0	1412	832	527
Right Turn on Red Volume [veh/h]	0	0	0	411	0	279
Total Hourly Volume [veh/h]	926	226	212	1231	949	279
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	257	63	59	342	264	78
Total Analysis Volume [veh/h]	1029	251	236	1368	1054	310
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing in	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protected	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	1	6	2	0	3	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	5	10	10	0	5	0
Maximum Green [s]	30	30	30	0	30	0
Amber [s]	3.0	3.0	3.0	0.0	3.0	0.0
All red [s]	1.0	1.0	1.0	0.0	1.0	0.0
Split [s]	26	93	67	0	27	0
Vehicle Extension [s]	3.0	3.0	3.0	0.0	3.0	0.0
Walk [s]	0	5	5	0	5	0
Pedestrian Clearance [s]	0	10	10	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No	No		No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
Minimum Recall	No	No	No		No	
Maximum Recall	No	No	No		No	
Pedestrian Recall	No	No	No		No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R	L	R
C, Cycle Length [s]	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	22	89	63	63	23	23
g / C, Green / Cycle	0.18	0.74	0.53	0.53	0.19	0.19
(v / s)_i Volume / Saturation Flow Rate	0.30	0.08	0.07	0.86	0.30	0.20
s, saturation flow rate [veh/h]	3459	3338	3338	1589	3459	1589
c, Capacity [veh/h]	634	2475	1752	834	663	305
d1, Uniform Delay [s]	49.00	4.33	14.57	28.50	48.50	48.50
k, delay calibration	0.15	0.50	0.50	0.50	0.16	0.29
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	282.53	0.08	0.16	293.13	267.88	43.72
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	1.62	0.10	0.13	1.64	1.59	1.02
d, Delay for Lane Group [s/veh]	331.53	4.41	14.73	321.63	316.38	92.22
Lane Group LOS	F	A	B	F	F	F
Critical Lane Group	Yes	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	33.71	0.59	1.48	87.90	34.53	12.77
50th-Percentile Queue Length [ft/ln]	842.77	14.73	37.02	2197.46	863.22	319.20
95th-Percentile Queue Length [veh/ln]	52.50	1.06	2.67	137.92	53.53	18.80
95th-Percentile Queue Length [ft/ln]	1312.53	26.51	66.64	3447.99	1338.37	470.01

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	331.53	4.41	14.73	321.63	316.38	92.22
Movement LOS	F	A	B	F	F	F
d_A, Approach Delay [s/veh]	267.39		276.48		265.43	
Approach LOS	F		F		F	
d_I, Intersection Delay [s/veh]	270.19					
Intersection LOS	F					
Intersection V/C	1.463					

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft ² /ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00
I_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	0.000
Crosswalk LOS	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1483	1050	383
d_b, Bicycle Delay [s]	4.00	13.54	39.20
I_b,int, Bicycle LOS Score for Intersection	2.616	3.222	1.560
Bicycle LOS	B	C	A

Sequence





Ring 1	1	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 10: Amarillo Valley Road & Papago Road

Control Type:	Signalized	Delay (sec / veh):	22.8
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.522

Intersection Setup

Name	Amarillo Valley Road			Amarillo Valley Road			Papago Road			Papago Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Speed [mph]	45.00			45.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name	Amarillo Valley Road			Amarillo Valley Road			Papago Road			Papago Road		
Base Volume Input [veh/h]	9	0	8	0	0	0	0	90	13	13	165	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.4859	1.4859	1.4859	1.4859	1.4859	1.4859	1.4859	1.4859	1.4859	1.4859	1.4859	1.4859
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	138	271	210	395	163	125	192	482	81	209	567	670
Right Turn on Red Volume [veh/h]	0	0	111	0	0	63	0	0	50	0	0	335
Total Hourly Volume [veh/h]	151	271	111	395	163	62	192	616	50	228	812	335
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	42	75	31	110	45	17	53	171	14	63	226	93
Total Analysis Volume [veh/h]	168	301	123	439	181	69	213	684	56	253	902	372
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0			0			0	
v_di, Inbound Pedestrian Volume crossing in		0			0			0			0	
v_co, Outbound Pedestrian Volume crossing		0			0			0			0	
v_ci, Inbound Pedestrian Volume crossing mi		0			0			0			0	
v_ab, Corner Pedestrian Volume [ped/h]		0			0			0			0	
Bicycle Volume [bicycles/h]		0			0			0			0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	Protecte	Permiss	Permiss	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss
Signal Group	3	8	0	7	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	10	0	5	10	0	5	10	0	5	10	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	30	48	0	19	37	0	9	14	0	9	14	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	2.00	2.00	2.00	0.00	2.00	2.00	0.00	2.00	2.00
g_i, Effective Green Time [s]	28	11	11	13	16	16	54	45	45	54	45	45
g / C, Green / Cycle	0.31	0.12	0.12	0.15	0.17	0.17	0.60	0.50	0.50	0.60	0.50	0.50
(v / s)_i Volume / Saturation Flow Rate	0.12	0.08	0.08	0.13	0.10	0.04	0.28	0.19	0.04	0.28	0.25	0.23
s, saturation flow rate [veh/h]	1420	3560	1589	3459	1870	1589	769	3560	1589	890	3560	1589
c, Capacity [veh/h]	468	427	191	516	324	276	466	1772	791	552	1772	791
d1, Uniform Delay [s]	23.76	38.08	37.78	37.31	34.03	32.13	10.59	14.06	11.77	9.67	15.21	14.83
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.50	0.34	0.50	0.50
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.47	2.15	3.64	4.05	1.50	0.47	3.22	0.64	0.17	1.88	1.05	2.00
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.36	0.71	0.65	0.85	0.56	0.25	0.46	0.39	0.07	0.46	0.51	0.47
d, Delay for Lane Group [s/veh]	24.22	40.22	41.42	41.36	35.54	32.60	13.81	14.70	11.95	11.55	16.26	16.83
Lane Group LOS	C	D	D	D	D	C	B	B	B	B	B	B
Critical Lane Group	No	Yes	No	Yes	No	No	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	2.59	3.16	2.65	4.74	3.57	1.27	1.98	3.95	0.56	2.20	5.68	4.80
50th-Percentile Queue Length [ft/ln]	64.68	79.06	66.34	118.55	89.17	31.78	49.54	98.86	13.97	54.90	141.91	119.92
95th-Percentile Queue Length [veh/ln]	4.66	5.69	4.78	8.31	6.42	2.29	3.57	7.12	1.01	3.95	9.58	8.39
95th-Percentile Queue Length [ft/ln]	116.43	142.30	119.42	207.83	160.50	57.20	89.16	177.94	25.14	98.82	239.59	209.72

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	24.22	40.22	41.42	41.36	35.54	32.60	13.81	14.70	11.95	11.55	16.26	16.83
Movement LOS	C	D	D	D	D	C	B	B	B	B	B	B
d_A, Approach Delay [s/veh]	35.93			38.96			14.34			15.62		
Approach LOS	D			D			B			B		
d_I, Intersection Delay [s/veh]	22.77											
Intersection LOS	C											
Intersection V/C	0.522											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			0.0			0.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			0.00			0.00			0.00		
I_p,int, Pedestrian LOS Score for Intersection	0.000			0.000			0.000			0.000		
Crosswalk LOS	F			F			F			F		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	978			733			222			222		
d_b, Bicycle Delay [s]	11.76			18.05			35.56			35.56		
I_b,int, Bicycle LOS Score for Intersection	2.140			2.800			2.387			3.096		
Bicycle LOS	B			C			B			C		

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 11: Amarillo Valley Road & Val Vista Road

Control Type:	Two-way stop	Delay (sec / veh):	25.2
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.038

Intersection Setup

Name	Amarillo Valley Road		Amarillo Valley Road		Val Vista Road	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	↶		↷		↷	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Amarillo Valley Road		Amarillo Valley Road		Val Vista Road	
Base Volume Input [veh/h]	2	8	12	5	4	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.4859	1.4859	1.4859	1.4859	1.4859	1.4859
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	637	464	0	0	0
Total Hourly Volume [veh/h]	3	649	482	7	6	0
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	180	134	2	2	0
Total Analysis Volume [veh/h]	3	721	536	8	7	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.01	0.00	0.04	0.00
d_M, Delay for Movement [s/veh]	8.52	0.00	0.00	0.00	25.18	12.41
Movement LOS	A	A	A	A	D	B
95th-Percentile Queue Length [veh/ln]	0.01	0.01	0.00	0.00	0.12	0.12
95th-Percentile Queue Length [ft/ln]	0.22	0.22	0.00	0.00	2.93	2.93
d_A, Approach Delay [s/veh]	0.04		0.00		25.18	
Approach LOS	A		A		D	
d_I, Intersection Delay [s/veh]	0.16					
Intersection LOS	D					

Intersection Level Of Service Report
Intersection 12: Amarillo Valley Road & Miller Road

Control Type:	Two-way stop	Delay (sec / veh):	26.1
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.076

Intersection Setup

Name	Amarillo Valley Road		Amarillo Valley Road		Miller Road	
Approach	Northbound		Southbound		Westbound	
Lane Configuration	↬		↵		↶	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Amarillo Valley Road		Amarillo Valley Road		Miller Road	
Base Volume Input [veh/h]	0	6	7	5	9	10
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.4859	1.4859	1.4859	1.4859	1.4859	1.4859
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	637	0	0	464	0	0
Total Hourly Volume [veh/h]	637	9	10	471	13	15
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	177	3	3	131	4	4
Total Analysis Volume [veh/h]	708	10	11	523	14	17
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.01	0.01	0.08	0.04
d_M, Delay for Movement [s/veh]	0.00	0.00	9.13	0.00	26.15	15.06
Movement LOS	A	A	A	A	D	C
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.04	0.04	0.38	0.38
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.95	0.95	9.61	9.61
d_A, Approach Delay [s/veh]	0.00		0.19		20.07	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	0.56					
Intersection LOS	D					

Intersection Level Of Service Report
Intersection 1: SR 347 & Miller Road/Louis Johnson Drive

Control Type:	Two-way stop	Delay (sec / veh):	11.7
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.015

Intersection Setup

Name	SR 347			SR 347			Miller Road			Louis Johnson Drive		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	0	0	0	0	0	0
Entry Pocket Length [ft]	150.00	100.00	150.00	150.00	100.00	150.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	65.00			65.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	SR 347			SR 347			Miller Road			Louis Johnson Drive		
Base Volume Input [veh/h]	1	139	4	12	70	0	0	7	0	1	7	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	9.80	2.00	2.00	9.80	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0612	1.0612	1.0612	1.0612	1.0612	1.0612	1.0612	1.0612	1.0612	1.0612	1.0612	1.0612
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	25	0	0	76	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	16	0	0	47	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	189	4	13	197	0	0	7	0	1	7	5
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	53	1	4	55	0	0	2	0	0	2	1
Total Analysis Volume [veh/h]	1	210	4	14	219	0	0	8	0	1	8	6
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			Yes	Yes
Number of Storage Spaces in Median	0	0	1	1

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.01	0.00	0.00	0.01	0.01
d_M, Delay for Movement [s/veh]	7.67	0.00	0.00	7.69	0.00	0.00	11.03	11.73	9.00	10.92	11.70	9.00
Movement LOS	A	A	A	A	A	A	B	B	A	B	B	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.03	0.00	0.00	0.04	0.04	0.04	0.07	0.07	0.07
95th-Percentile Queue Length [ft/ln]	0.06	0.00	0.00	0.78	0.00	0.00	1.12	1.12	1.12	1.74	1.74	1.74
d_A, Approach Delay [s/veh]	0.04			0.46			11.73			10.57		
Approach LOS	A			A			B			B		
d_I, Intersection Delay [s/veh]	0.78											
Intersection LOS	B											

**Intersection Level Of Service Report
Intersection 2: SR 347 & Access A**

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 14.0
 Level Of Service: B
 Volume to Capacity (v/c): 0.386

Intersection Setup

Name	SR 347		SR 347		Access A	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	↩ ↑		↑ ↪		↩↪	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	65.00		65.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	SR 347		SR 347		Access A	
Base Volume Input [veh/h]	0	144	86	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	9.80	9.80	2.00	2.00	2.00
Growth Factor	1.0000	1.0612	1.0612	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	25	0	0	75	226	76
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	16	47	0	0	0
Total Hourly Volume [veh/h]	25	169	138	75	226	76
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	7	47	38	21	63	21
Total Analysis Volume [veh/h]	28	188	153	83	251	84
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.00	0.00	0.00	0.39	0.09
d_M, Delay for Movement [s/veh]	7.77	0.00	0.00	0.00	13.97	9.07
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.06	0.00	0.00	0.00	1.82	0.28
95th-Percentile Queue Length [ft/ln]	1.61	0.00	0.00	0.00	45.47	7.10
d_A, Approach Delay [s/veh]	1.01		0.00		12.74	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	5.70					
Intersection LOS	B					

**Intersection Level Of Service Report
Intersection 9: SR 347 & Papago Road**

Control Type:	Two-way stop	Delay (sec / veh):	16.4
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.456

Intersection Setup

Name	SR 347		SR 347		Papago Road	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	↵		↵		↵	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	65.00		65.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	SR 347		SR 347		Papago Road	
Base Volume Input [veh/h]	10	141	89	48	127	23
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	9.80	9.80	2.00	2.00	2.00
Growth Factor	1.0612	1.0612	1.0612	1.0612	1.0612	1.0612
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	226	75	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	16	0	0	43	132	47
Total Hourly Volume [veh/h]	27	376	169	94	267	71
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	104	47	26	74	20
Total Analysis Volume [veh/h]	30	418	188	104	297	79
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			Yes
Number of Storage Spaces in Median	0	0	2

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.00	0.00	0.00	0.46	0.08
d_M, Delay for Movement [s/veh]	7.91	0.00	0.00	0.00	16.43	14.71
Movement LOS	A	A	A	A	C	B
95th-Percentile Queue Length [veh/ln]	0.07	0.00	0.00	0.00	3.26	3.26
95th-Percentile Queue Length [ft/ln]	1.82	0.00	0.00	0.00	81.38	81.38
d_A, Approach Delay [s/veh]	0.53		0.00		16.07	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	5.63					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 10: Amarillo Valley Road & Papago Road

Control Type:	Two-way stop	Delay (sec / veh):	10.2
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.019

Intersection Setup

Name	Amarillo Valley Road			Amarillo Valley Road			Papago Road			Papago Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	0	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Amarillo Valley Road			Amarillo Valley Road			Papago Road			Papago Road		
Base Volume Input [veh/h]	4	0	9	0	0	0	0	135	6	4	57	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0612	1.0612	1.0612	1.0612	1.0612	1.0612	1.0612	1.0612	1.0612	1.0612	1.0612	1.0612
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	3	0	0	0	0	0	0	9	0	0
Total Hourly Volume [veh/h]	4	0	13	0	0	0	0	143	6	13	60	0
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	0	4	0	0	0	0	40	2	4	17	0
Total Analysis Volume [veh/h]	4	0	14	0	0	0	0	159	7	14	67	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.18	0.01	0.02	0.08	0.00
d_M, Delay for Movement [s/veh]	7.22	0.00	0.00	7.24	0.00	0.00	9.98	10.10	9.27	10.22	9.55	8.35
Movement LOS	A	A	A	A	A	A	A	B	A	B	A	A
95th-Percentile Queue Length [veh/ln]	0.01	0.01	0.01	0.00	0.00	0.00	0.70	0.70	0.70	0.31	0.31	0.00
95th-Percentile Queue Length [ft/ln]	0.19	0.19	0.19	0.00	0.00	0.00	17.38	17.38	17.38	7.84	7.84	0.00
d_A, Approach Delay [s/veh]	1.61			2.41			10.06			9.66		
Approach LOS	A			A			B			A		
d_I, Intersection Delay [s/veh]	9.37											
Intersection LOS	B											

Intersection Level Of Service Report
Intersection 11: Amarillo Valley Road & Val Vista Road

Control Type:	Two-way stop	Delay (sec / veh):	8.7
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.008

Intersection Setup

Name	Amarillo Valley Road		Amarillo Valley Road		Val Vista Road	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	↰		↳		↱	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Amarillo Valley Road		Amarillo Valley Road		Val Vista Road	
Base Volume Input [veh/h]	1	4	6	2	7	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0612	1.0612	1.0612	1.0612	1.0612	1.0612
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	3	9	0	0	0
Total Hourly Volume [veh/h]	1	7	15	2	7	1
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	2	4	1	2	0
Total Analysis Volume [veh/h]	1	8	17	2	8	1
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	7.25	0.00	0.00	0.00	8.68	8.43
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.03	0.03
95th-Percentile Queue Length [ft/ln]	0.05	0.05	0.00	0.00	0.69	0.69
d_A, Approach Delay [s/veh]	0.81		0.00		8.65	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	2.30					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 12: Amarillo Valley Road & Miller Road

Control Type:	Two-way stop	Delay (sec / veh):	8.7
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.004

Intersection Setup

Name	Amarillo Valley Road		Amarillo Valley Road		Miller Road	
Approach	Northbound		Southbound		Westbound	
Lane Configuration	↬		↵		↶	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Amarillo Valley Road		Amarillo Valley Road		Miller Road	
Base Volume Input [veh/h]	1	3	4	3	4	4
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0612	1.0612	1.0612	1.0612	1.0612	1.0612
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	3	0	0	9	0	0
Total Hourly Volume [veh/h]	4	3	4	12	4	4
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	1	1	3	1	1
Total Analysis Volume [veh/h]	4	3	4	13	4	4
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	7.24	0.00	8.68	8.37
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.01	0.01	0.02	0.02
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.19	0.19	0.59	0.59
d_A, Approach Delay [s/veh]	0.00		1.70		8.52	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	3.04					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 1: SR 347 & Miller Road/Louis Johnson Drive

Control Type:	Two-way stop	Delay (sec / veh):	12.7
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.033

Intersection Setup

Name	SR 347			SR 347			Miller Road			Louis Johnson Drive		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	0	0	0	0	0	0
Entry Pocket Length [ft]	150.00	100.00	150.00	150.00	100.00	150.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	65.00			65.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	SR 347			SR 347			Miller Road			Louis Johnson Drive		
Base Volume Input [veh/h]	1	106	0	11	161	5	3	5	5	1	13	24
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	9.80	2.00	2.00	9.80	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0612	1.0612	1.0612	1.0612	1.0612	1.0612	1.0612	1.0612	1.0612	1.0612	1.0612	1.0612
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	85	0	0	50	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	53	0	0	31	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	250	0	12	252	5	3	5	5	1	14	25
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	69	0	3	70	1	1	1	1	0	4	7
Total Analysis Volume [veh/h]	1	278	0	13	280	6	3	6	6	1	16	28
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			Yes	Yes
Number of Storage Spaces in Median	0	0	1	1

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.01	0.00	0.00	0.01	0.01	0.01	0.00	0.03	0.03
d_M, Delay for Movement [s/veh]	7.83	0.00	0.00	7.84	0.00	0.00	11.88	12.49	9.23	11.83	12.71	9.45
Movement LOS	A	A	A	A	A	A	B	B	A	B	B	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.03	0.00	0.00	0.08	0.08	0.08	0.21	0.21	0.21
95th-Percentile Queue Length [ft/ln]	0.06	0.00	0.00	0.77	0.00	0.00	1.89	1.89	1.89	5.29	5.29	5.29
d_A, Approach Delay [s/veh]	0.03			0.34			11.06			10.66		
Approach LOS	A			A			B			B		
d_I, Intersection Delay [s/veh]	1.18											
Intersection LOS	B											

**Intersection Level Of Service Report
Intersection 2: SR 347 & Access A**

Control Type:	Two-way stop	Delay (sec / veh):	18.6
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.386

Intersection Setup

Name	SR 347		SR 347		Access A	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	↩ ↑		↑ ↪		↩↪	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	65.00		65.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	SR 347		SR 347		Access A	
Base Volume Input [veh/h]	0	133	177	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	9.80	9.80	2.00	2.00	2.00
Growth Factor	1.0000	1.0612	1.0612	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	85	0	0	254	149	50
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	53	31	0	0	0
Total Hourly Volume [veh/h]	85	194	219	254	149	50
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	24	54	61	71	41	14
Total Analysis Volume [veh/h]	94	216	243	282	166	56
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.09	0.00	0.00	0.00	0.39	0.06
d_M, Delay for Movement [s/veh]	8.81	0.00	0.00	0.00	18.55	9.23
Movement LOS	A	A	A	A	C	A
95th-Percentile Queue Length [veh/ln]	0.30	0.00	0.00	0.00	1.79	0.20
95th-Percentile Queue Length [ft/ln]	7.45	0.00	0.00	0.00	44.77	4.93
d_A, Approach Delay [s/veh]	2.67		0.00		16.20	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	4.19					
Intersection LOS	C					

**Intersection Level Of Service Report
Intersection 9: SR 347 & Papago Road**

Control Type:	Two-way stop	Delay (sec / veh):	18.3
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.393

Intersection Setup

Name	SR 347		SR 347		Papago Road	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	↵		↵		↵	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	65.00		65.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	SR 347		SR 347		Papago Road	
Base Volume Input [veh/h]	21	152	143	155	79	21
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	9.80	9.80	2.00	2.00	2.00
Growth Factor	1.0612	1.0612	1.0612	1.0612	1.0612	1.0612
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	149	254	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	53	0	0	148	87	31
Total Hourly Volume [veh/h]	75	310	406	312	171	53
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	21	86	113	87	48	15
Total Analysis Volume [veh/h]	83	344	451	347	190	59
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			Yes
Number of Storage Spaces in Median	0	0	2

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.10	0.00	0.00	0.00	0.39	0.08
d_M, Delay for Movement [s/veh]	9.88	0.00	0.00	0.00	18.31	15.49
Movement LOS	A	A	A	A	C	C
95th-Percentile Queue Length [veh/ln]	0.34	0.00	0.00	0.00	2.48	2.48
95th-Percentile Queue Length [ft/ln]	8.41	0.00	0.00	0.00	61.96	61.96
d_A, Approach Delay [s/veh]	1.92		0.00		17.64	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	3.54					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 10: Amarillo Valley Road & Papago Road

Control Type:	Two-way stop	Delay (sec / veh):	11.0
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.028

Intersection Setup

Name	Amarillo Valley Road			Amarillo Valley Road			Papago Road			Papago Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0	0	0	0	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00			45.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Amarillo Valley Road			Amarillo Valley Road			Papago Road			Papago Road		
Base Volume Input [veh/h]	9	0	8	0	0	0	0	90	13	13	165	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0612	1.0612	1.0612	1.0612	1.0612	1.0612	1.0612	1.0612	1.0612	1.0612	1.0612	1.0612
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	11	0	0	0	0	0	0	6	0	0
Total Hourly Volume [veh/h]	10	0	19	0	0	0	0	96	14	20	175	0
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	0	5	0	0	0	0	27	4	6	49	0
Total Analysis Volume [veh/h]	11	0	21	0	0	0	0	107	16	22	194	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			No	No
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.13	0.01	0.03	0.23	0.00
d_M, Delay for Movement [s/veh]	7.23	0.00	0.00	7.26	0.00	0.00	10.88	9.95	9.00	11.02	10.66	8.36
Movement LOS	A	A	A	A	A	A	B	A	A	B	B	A
95th-Percentile Queue Length [veh/ln]	0.02	0.02	0.02	0.00	0.00	0.00	0.49	0.49	0.49	1.01	1.01	0.00
95th-Percentile Queue Length [ft/ln]	0.51	0.51	0.51	0.00	0.00	0.00	12.31	12.31	12.31	25.35	25.35	0.00
d_A, Approach Delay [s/veh]	2.49			2.42			9.83			10.70		
Approach LOS	A			A			A			B		
d_I, Intersection Delay [s/veh]	9.70											
Intersection LOS	B											

Intersection Level Of Service Report
Intersection 11: Amarillo Valley Road & Val Vista Road

Control Type:	Two-way stop	Delay (sec / veh):	8.8
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.004

Intersection Setup

Name	Amarillo Valley Road		Amarillo Valley Road		Val Vista Road	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	↶		↷		↷	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Amarillo Valley Road		Amarillo Valley Road		Val Vista Road	
Base Volume Input [veh/h]	2	8	12	5	4	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0612	1.0612	1.0612	1.0612	1.0612	1.0612
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	11	6	0	0	0
Total Hourly Volume [veh/h]	2	19	19	5	4	0
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	5	5	1	1	0
Total Analysis Volume [veh/h]	2	21	21	6	4	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	7.27	0.00	0.00	0.00	8.77	8.44
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.01	0.01
95th-Percentile Queue Length [ft/ln]	0.09	0.09	0.00	0.00	0.31	0.31
d_A, Approach Delay [s/veh]	0.63		0.00		8.77	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.92					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 12: Amarillo Valley Road & Miller Road

Control Type:	Two-way stop	Delay (sec / veh):	8.8
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.011

Intersection Setup

Name	Amarillo Valley Road		Amarillo Valley Road		Miller Road	
Approach	Northbound		Southbound		Westbound	
Lane Configuration	↬		↵		↶	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Amarillo Valley Road		Amarillo Valley Road		Miller Road	
Base Volume Input [veh/h]	0	6	7	5	9	10
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0612	1.0612	1.0612	1.0612	1.0612	1.0612
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	11	0	0	6	0	0
Total Hourly Volume [veh/h]	11	6	7	11	10	11
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	2	2	3	3	3
Total Analysis Volume [veh/h]	12	7	8	12	11	12
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.01	0.00	0.01	0.01
d_M, Delay for Movement [s/veh]	0.00	0.00	7.26	0.00	8.82	8.47
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.02	0.02	0.07	0.07
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.38	0.38	1.74	1.74
d_A, Approach Delay [s/veh]	0.00		2.91		8.64	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	4.14					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 1: SR 347 & Miller Road/Louis Johnson Drive

Control Type:	Two-way stop	Delay (sec / veh):	15.2
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.025

Intersection Setup

Name	SR 347			SR 347			Miller Road			Louis Johnson Drive		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	0	0	0	0	0	0
Entry Pocket Length [ft]	150.00	100.00	150.00	150.00	100.00	150.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	65.00			65.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	SR 347			SR 347			Miller Road			Louis Johnson Drive		
Base Volume Input [veh/h]	1	139	4	12	70	0	0	7	0	1	7	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	9.80	2.00	2.00	9.80	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.1041	1.1041	1.1041	1.1041	1.1041	1.1041	1.1041	1.1041	1.1041	1.1041	1.1041	1.1041
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	54	0	0	163	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	92	0	0	279	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	299	4	13	519	0	0	8	0	1	8	6
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	83	1	4	144	0	0	2	0	0	2	2
Total Analysis Volume [veh/h]	1	332	4	14	577	0	0	9	0	1	9	7
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			Yes	Yes
Number of Storage Spaces in Median	0	0	1	1

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.01	0.01	0.00	0.00	0.02	0.00	0.00	0.02	0.01
d_M, Delay for Movement [s/veh]	8.63	0.00	0.00	7.99	0.00	0.00	15.04	15.21	10.34	13.23	15.16	9.51
Movement LOS	A	A	A	A	A	A	C	C	B	B	C	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.03	0.00	0.00	0.08	0.08	0.08	0.11	0.11	0.11
95th-Percentile Queue Length [ft/ln]	0.08	0.00	0.00	0.87	0.00	0.00	1.91	1.91	1.91	2.73	2.73	2.73
d_A, Approach Delay [s/veh]	0.03			0.19			15.21			12.72		
Approach LOS	A			A			C			B		
d_I, Intersection Delay [s/veh]	0.50											
Intersection LOS	C											

**Intersection Level Of Service Report
Intersection 2: SR 347 & Access A**

Control Type:	Signalized	Delay (sec / veh):	20.5
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.445

Intersection Setup

Name	SR 347		SR 347		Access A	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	⇐		⇐		⇐⇐	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	65.00		65.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	No		No		No	

Volumes

Name	SR 347		SR 347		Access A	
Base Volume Input [veh/h]	0	144	86	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	9.80	9.80	2.00	2.00	2.00
Growth Factor	1.0000	1.1041	1.1041	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	54	0	0	162	487	163
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	92	279	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	54	251	374	162	487	163
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	15	70	104	45	135	45
Total Analysis Volume [veh/h]	60	279	416	180	541	181
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing in	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPerm	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	1	6	2	0	3	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	5	10	10	0	5	0
Maximum Green [s]	30	30	30	0	30	0
Amber [s]	3.0	3.0	3.0	0.0	3.0	0.0
All red [s]	1.0	1.0	1.0	0.0	1.0	0.0
Split [s]	9	23	14	0	67	0
Vehicle Extension [s]	3.0	3.0	3.0	0.0	3.0	0.0
Walk [s]	0	5	5	0	5	0
Pedestrian Clearance [s]	0	10	10	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No	No		No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
Minimum Recall	No	No	No		No	
Maximum Recall	No	No	No		No	
Pedestrian Recall	No	No	No		No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R	L	R
C, Cycle Length [s]	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	52	52	44	44	30	30
g / C, Green / Cycle	0.58	0.58	0.49	0.49	0.33	0.33
(v / s)_i Volume / Saturation Flow Rate	0.06	0.08	0.12	0.11	0.30	0.11
s, saturation flow rate [veh/h]	1063	3338	3338	1589	1781	1589
c, Capacity [veh/h]	638	1922	1629	776	597	533
d1, Uniform Delay [s]	8.82	8.83	13.48	13.30	28.57	22.45
k, delay calibration	0.11	0.50	0.50	0.50	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.06	0.16	0.38	0.70	5.57	0.38
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.09	0.15	0.26	0.23	0.91	0.34
d, Delay for Lane Group [s/veh]	8.88	8.99	13.86	14.00	34.15	22.82
Lane Group LOS	A	A	B	B	C	C
Critical Lane Group	Yes	No	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.39	0.97	2.06	1.84	11.61	2.86
50th-Percentile Queue Length [ft/ln]	9.77	24.32	51.48	45.92	290.20	71.60
95th-Percentile Queue Length [veh/ln]	0.70	1.75	3.71	3.31	17.20	5.16
95th-Percentile Queue Length [ft/ln]	17.58	43.77	92.67	82.66	429.89	128.88

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	8.88	8.99	13.86	14.00	34.15	22.82
Movement LOS	A	A	B	B	C	C
d_A, Approach Delay [s/veh]	8.97		13.90		31.31	
Approach LOS	A		B		C	
d_I, Intersection Delay [s/veh]	20.48					
Intersection LOS	C					
Intersection V/C	0.445					

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft ² /ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00
I_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	0.000
Crosswalk LOS	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	422	222	1400
d_b, Bicycle Delay [s]	28.01	35.56	4.05
I_b,int, Bicycle LOS Score for Intersection	1.839	2.051	1.560
Bicycle LOS	A	B	A

Sequence

Ring 1	1	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report
Intersection 9: SR 347 & Papago Road**

Control Type:	Signalized	Delay (sec / veh):	45.1
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.874

Intersection Setup

Name	SR 347		SR 347		Papago Road	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	⇐		⇐		⇐⇐	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	65.00		65.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	No		No		No	

Volumes

Name	SR 347		SR 347		Papago Road	
Base Volume Input [veh/h]	10	141	89	48	127	23
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	9.80	9.80	2.00	2.00	2.00
Growth Factor	1.1041	1.1041	1.1041	1.1041	1.1041	1.1041
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	487	162	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	92	0	0	306	918	279
Right Turn on Red Volume [veh/h]	0	0	0	180	0	152
Total Hourly Volume [veh/h]	103	643	260	179	1058	152
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	29	179	72	50	294	42
Total Analysis Volume [veh/h]	114	714	289	199	1176	169
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing in	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPerm	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	1	6	2	0	3	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	5	10	10	0	5	0
Maximum Green [s]	30	30	30	0	30	0
Amber [s]	3.0	3.0	3.0	0.0	3.0	0.0
All red [s]	1.0	1.0	1.0	0.0	1.0	0.0
Split [s]	9	38	29	0	82	0
Vehicle Extension [s]	3.0	3.0	3.0	0.0	3.0	0.0
Walk [s]	0	5	5	0	5	0
Pedestrian Clearance [s]	0	10	10	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No	No		No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
Minimum Recall	No	No	No		No	
Maximum Recall	No	No	No		No	
Pedestrian Recall	No	No	No		No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R	L	R
C, Cycle Length [s]	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	34	34	25	25	78	78
g / C, Green / Cycle	0.28	0.28	0.21	0.21	0.65	0.65
(v / s)_i Volume / Saturation Flow Rate	0.09	0.21	0.09	0.13	0.66	0.11
s, saturation flow rate [veh/h]	1232	3338	3338	1589	1781	1589
c, Capacity [veh/h]	358	946	695	331	1158	1033
d1, Uniform Delay [s]	33.29	39.20	41.17	42.99	21.00	8.22
k, delay calibration	0.11	0.50	0.50	0.50	0.49	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.51	5.58	1.83	7.84	30.28	0.07
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.32	0.76	0.42	0.60	1.02	0.16
d, Delay for Lane Group [s/veh]	33.80	44.79	43.00	50.83	51.28	8.30
Lane Group LOS	C	D	D	D	F	A
Critical Lane Group	No	Yes	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	2.41	9.55	3.64	5.71	38.78	1.68
50th-Percentile Queue Length [ft/ln]	60.36	238.73	91.07	142.65	969.59	42.05
95th-Percentile Queue Length [veh/ln]	4.35	14.62	6.56	9.62	49.71	3.03
95th-Percentile Queue Length [ft/ln]	108.66	365.43	163.93	240.58	1242.70	75.69

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	33.80	44.79	43.00	50.83	51.28	8.30
Movement LOS	C	D	D	D	F	A
d_A, Approach Delay [s/veh]	43.27		46.19		45.88	
Approach LOS	D		D		D	
d_I, Intersection Delay [s/veh]	45.12					
Intersection LOS	D					
Intersection V/C	0.874					

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft ² /ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00
I_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	0.000
Crosswalk LOS	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	567	417	1300
d_b, Bicycle Delay [s]	30.82	37.60	7.35
I_b,int, Bicycle LOS Score for Intersection	2.243	2.111	1.560
Bicycle LOS	B	B	A

Sequence





Ring 1	1	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 10: Amarillo Valley Road & Papago Road

Control Type:	Signalized	Delay (sec / veh):	16.7
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.242

Intersection Setup

Name	Amarillo Valley Road			Amarillo Valley Road			Papago Road			Papago Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Speed [mph]	45.00			45.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name	Amarillo Valley Road			Amarillo Valley Road			Papago Road			Papago Road		
Base Volume Input [veh/h]	4	0	9	0	0	0	0	135	6	4	57	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.1041	1.1041	1.1041	1.1041	1.1041	1.1041	1.1041	1.1041	1.1041	1.1041	1.1041	1.1041
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	115	190	0	21	7	254	0	47	156	64
Right Turn on Red Volume [veh/h]	0	0	63	0	0	11	0	0	4	0	0	32
Total Hourly Volume [veh/h]	4	0	62	190	0	10	7	403	3	51	219	32
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	0	17	53	0	3	2	112	1	14	61	9
Total Analysis Volume [veh/h]	4	0	69	211	0	11	8	448	3	57	243	36
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0			0			0	
v_di, Inbound Pedestrian Volume crossing in		0			0			0			0	
v_co, Outbound Pedestrian Volume crossing		0			0			0			0	
v_ci, Inbound Pedestrian Volume crossing mi		0			0			0			0	
v_ab, Corner Pedestrian Volume [ped/h]		0			0			0			0	
Bicycle Volume [bicycles/h]		0			0			0			0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	Protecte	Permiss	Permiss	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss
Signal Group	3	8	0	7	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	10	0	5	10	0	5	10	0	5	10	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	9	14	0	40	45	0	9	27	0	9	27	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	2.00	2.00	2.00	0.00	2.00	2.00	0.00	2.00	2.00
g_i, Effective Green Time [s]	20	8	8	8	16	16	62	54	54	62	57	57
g / C, Green / Cycle	0.22	0.09	0.09	0.09	0.17	0.17	0.69	0.60	0.60	0.69	0.63	0.63
(v / s)_i Volume / Saturation Flow Rate	0.00	0.00	0.04	0.06	0.00	0.01	0.01	0.13	0.00	0.06	0.07	0.02
s, saturation flow rate [veh/h]	1462	3560	1589	3459	1870	1589	1167	3560	1589	1021	3560	1589
c, Capacity [veh/h]	448	326	145	307	327	278	878	2135	953	756	2248	1004
d1, Uniform Delay [s]	27.11	0.00	38.83	39.79	0.00	30.87	4.51	8.25	7.23	4.80	6.56	6.25
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.50	0.11	0.50	0.50
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.01	0.00	2.39	2.72	0.00	0.06	0.02	0.22	0.01	0.04	0.10	0.07
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.01	0.00	0.47	0.69	0.00	0.04	0.01	0.21	0.00	0.08	0.11	0.04
d, Delay for Lane Group [s/veh]	27.11	0.00	41.22	42.51	0.00	30.93	4.53	8.48	7.23	4.84	6.66	6.32
Lane Group LOS	C	A	D	D	A	C	A	A	A	A	A	A
Critical Lane Group	No	No	Yes	Yes	No	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.06	0.00	1.48	2.28	0.00	0.19	0.04	1.71	0.02	0.26	0.76	0.23
50th-Percentile Queue Length [ft/ln]	1.61	0.00	36.95	56.93	0.00	4.84	0.97	42.79	0.52	6.48	19.08	5.64
95th-Percentile Queue Length [veh/ln]	0.12	0.00	2.66	4.10	0.00	0.35	0.07	3.08	0.04	0.47	1.37	0.41
95th-Percentile Queue Length [ft/ln]	2.90	0.00	66.51	102.48	0.00	8.72	1.75	77.02	0.94	11.67	34.35	10.15

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	27.11	0.00	41.22	42.51	0.00	30.93	4.53	8.48	7.23	4.84	6.66	6.32
Movement LOS	C	A	D	D	A	C	A	A	A	A	A	A
d_A, Approach Delay [s/veh]	40.45			41.94			8.40			6.31		
Approach LOS	D			D			A			A		
d_I, Intersection Delay [s/veh]	16.73											
Intersection LOS	B											
Intersection V/C	0.242											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			0.0			0.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			0.00			0.00			0.00		
I_p,int, Pedestrian LOS Score for Intersection	0.000			0.000			0.000			0.000		
Crosswalk LOS	F			F			F			F		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	222			911			511			511		
d_b, Bicycle Delay [s]	35.56			13.34			24.94			24.94		
I_b,int, Bicycle LOS Score for Intersection	1.672			1.944			1.942			1.863		
Bicycle LOS	A			A			A			A		

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 11: Amarillo Valley Road & Val Vista Road

Control Type:	Two-way stop	Delay (sec / veh):	9.7
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.012

Intersection Setup

Name	Amarillo Valley Road		Amarillo Valley Road		Val Vista Road	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	↶		↷		↷	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Amarillo Valley Road		Amarillo Valley Road		Val Vista Road	
Base Volume Input [veh/h]	1	4	6	2	7	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.1041	1.1041	1.1041	1.1041	1.1041	1.1041
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	120	63	0	0	0
Total Hourly Volume [veh/h]	1	124	70	2	8	1
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	34	19	1	2	0
Total Analysis Volume [veh/h]	1	138	78	2	9	1
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	7.37	0.00	0.00	0.00	9.74	8.73
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.04	0.04
95th-Percentile Queue Length [ft/ln]	0.05	0.05	0.00	0.00	0.97	0.97
d_A, Approach Delay [s/veh]	0.05		0.00		9.64	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.45					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 12: Amarillo Valley Road & Miller Road

Control Type:	Two-way stop	Delay (sec / veh):	9.7
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.005

Intersection Setup

Name	Amarillo Valley Road		Amarillo Valley Road		Miller Road	
Approach	Northbound		Southbound		Westbound	
Lane Configuration	↬		↰		↵	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Amarillo Valley Road		Amarillo Valley Road		Miller Road	
Base Volume Input [veh/h]	1	3	4	3	4	4
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.1041	1.1041	1.1041	1.1041	1.1041	1.1041
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	120	0	0	63	0	0
Total Hourly Volume [veh/h]	121	3	4	66	4	4
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	34	1	1	18	1	1
Total Analysis Volume [veh/h]	134	3	4	73	4	4
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	7.49	0.00	9.72	8.98
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.01	0.01	0.03	0.03
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.21	0.21	0.73	0.73
d_A, Approach Delay [s/veh]	0.00		0.39		9.35	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.47					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 1: SR 347 & Miller Road/Louis Johnson Drive

Control Type:	Two-way stop	Delay (sec / veh):	18.1
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.054

Intersection Setup

Name	SR 347			SR 347			Miller Road			Louis Johnson Drive		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	↔↔↔			↔↔↔			⊕			⊕		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	0	0	0	0	0	0
Entry Pocket Length [ft]	150.00	100.00	150.00	150.00	100.00	150.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	65.00			65.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	SR 347			SR 347			Miller Road			Louis Johnson Drive		
Base Volume Input [veh/h]	1	106	0	11	161	5	3	5	5	1	13	24
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	9.80	2.00	2.00	9.80	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.1041	1.1041	1.1041	1.1041	1.1041	1.1041	1.1041	1.1041	1.1041	1.1041	1.1041	1.1041
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	183	0	0	107	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	313	0	0	184	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1	613	0	12	469	6	3	6	6	1	14	26
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	170	0	3	130	2	1	2	2	0	4	7
Total Analysis Volume [veh/h]	1	681	0	13	521	7	3	7	7	1	16	29
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			Yes	Yes
Number of Storage Spaces in Median	0	0	1	1

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.00	0.01	0.01	0.00	0.01	0.02	0.01	0.00	0.05	0.04
d_M, Delay for Movement [s/veh]	8.48	0.00	0.00	9.02	0.00	0.00	16.16	17.72	10.27	17.44	18.14	11.39
Movement LOS	A	A	A	A	A	A	C	C	B	C	C	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.04	0.00	0.00	0.13	0.13	0.13	0.34	0.34	0.34
95th-Percentile Queue Length [ft/ln]	0.07	0.00	0.00	1.09	0.00	0.00	3.31	3.31	3.31	8.45	8.45	8.45
d_A, Approach Delay [s/veh]	0.01			0.22			14.38			13.87		
Approach LOS	A			A			B			B		
d_I, Intersection Delay [s/veh]	0.78											
Intersection LOS	C											

**Intersection Level Of Service Report
Intersection 2: SR 347 & Access A**

Control Type:	Signalized	Delay (sec / veh):	16.0
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.629

Intersection Setup

Name	SR 347		SR 347		Access A	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	⇐		⇐		⇐⇐	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	65.00		65.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	No		No		No	

Volumes

Name	SR 347		SR 347		Access A	
Base Volume Input [veh/h]	0	133	177	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	9.80	9.80	2.00	2.00	2.00
Growth Factor	1.0000	1.1041	1.1041	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	183	0	0	548	322	107
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	313	184	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	183	460	379	548	322	107
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	51	128	105	152	89	30
Total Analysis Volume [veh/h]	203	511	421	609	358	119
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing in	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPerm	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	1	6	2	0	3	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	5	10	10	0	5	0
Maximum Green [s]	30	30	30	0	30	0
Amber [s]	3.0	3.0	3.0	0.0	3.0	0.0
All red [s]	1.0	1.0	1.0	0.0	1.0	0.0
Split [s]	9	23	14	0	67	0
Vehicle Extension [s]	3.0	3.0	3.0	0.0	3.0	0.0
Walk [s]	0	5	5	0	5	0
Pedestrian Clearance [s]	0	10	10	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No	No		No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
Minimum Recall	No	No	No		No	
Maximum Recall	No	No	No		No	
Pedestrian Recall	No	No	No		No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R	L	R
C, Cycle Length [s]	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	61	61	52	52	21	21
g / C, Green / Cycle	0.68	0.68	0.58	0.58	0.23	0.23
(v / s)_i Volume / Saturation Flow Rate	0.19	0.15	0.13	0.38	0.20	0.07
s, saturation flow rate [veh/h]	1059	3338	3338	1589	1781	1589
c, Capacity [veh/h]	763	2270	1937	922	411	367
d1, Uniform Delay [s]	5.55	5.43	9.07	12.85	33.32	28.78
k, delay calibration	0.14	0.50	0.50	0.50	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.24	0.23	0.26	3.70	5.80	0.51
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.27	0.23	0.22	0.66	0.87	0.32
d, Delay for Lane Group [s/veh]	5.79	5.66	9.33	16.55	39.12	29.29
Lane Group LOS	A	A	A	B	D	C
Critical Lane Group	Yes	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	0.85	1.13	1.51	6.87	8.00	2.16
50th-Percentile Queue Length [ft/ln]	21.28	28.18	37.84	171.69	199.88	53.92
95th-Percentile Queue Length [veh/ln]	1.53	2.03	2.72	11.17	12.63	3.88
95th-Percentile Queue Length [ft/ln]	38.30	50.72	68.11	279.13	315.81	97.06

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	5.79	5.66	9.33	16.55	39.12	29.29
Movement LOS	A	A	A	B	D	C
d_A, Approach Delay [s/veh]	5.70		13.60		36.67	
Approach LOS	A		B		D	
d_I, Intersection Delay [s/veh]	16.01					
Intersection LOS	B					
Intersection V/C	0.629					

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft ² /ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00
I_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	0.000
Crosswalk LOS	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	422	222	1400
d_b, Bicycle Delay [s]	28.01	35.56	4.05
I_b,int, Bicycle LOS Score for Intersection	2.149	2.409	1.560
Bicycle LOS	B	B	A

Sequence

Ring 1	1	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report
Intersection 9: SR 347 & Papago Road**

Control Type:	Signalized	Delay (sec / veh):	87.0
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.137

Intersection Setup

Name	SR 347		SR 347		Papago Road	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	↩ ↑		↑ ↪		↩↪	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	65.00		65.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	No		No		No	

Volumes

Name	SR 347		SR 347		Papago Road	
Base Volume Input [veh/h]	21	152	143	155	79	21
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	9.80	9.80	2.00	2.00	2.00
Growth Factor	1.1041	1.1041	1.1041	1.1041	1.1041	1.1041
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	322	548	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	313	0	0	1030	606	184
Right Turn on Red Volume [veh/h]	0	0	0	300	0	104
Total Hourly Volume [veh/h]	336	490	706	901	693	103
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	93	136	196	250	193	29
Total Analysis Volume [veh/h]	373	544	784	1001	770	114
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing in	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPerm	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	1	6	2	0	3	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	5	10	10	0	5	0
Maximum Green [s]	30	30	30	0	30	0
Amber [s]	3.0	3.0	3.0	0.0	3.0	0.0
All red [s]	1.0	1.0	1.0	0.0	1.0	0.0
Split [s]	9	73	64	0	47	0
Vehicle Extension [s]	3.0	3.0	3.0	0.0	3.0	0.0
Walk [s]	0	5	5	0	5	0
Pedestrian Clearance [s]	0	10	10	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No	No		No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
Minimum Recall	No	No	No		No	
Maximum Recall	No	No	No		No	
Pedestrian Recall	No	No	No		No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R	L	R
C, Cycle Length [s]	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	69	69	60	60	43	43
g / C, Green / Cycle	0.58	0.58	0.50	0.50	0.36	0.36
(v / s)_i Volume / Saturation Flow Rate	0.47	0.16	0.23	0.63	0.43	0.07
s, saturation flow rate [veh/h]	800	3338	3338	1589	1781	1589
c, Capacity [veh/h]	446	1919	1669	795	638	570
d1, Uniform Delay [s]	26.91	12.95	19.61	30.00	38.50	26.61
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	16.82	0.37	0.95	126.90	107.24	0.17
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.84	0.28	0.47	1.26	1.21	0.20
d, Delay for Lane Group [s/veh]	43.73	13.32	20.56	156.90	145.74	26.78
Lane Group LOS	D	B	C	F	F	C
Critical Lane Group	Yes	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	6.65	3.25	6.47	47.39	37.41	2.30
50th-Percentile Queue Length [ft/ln]	166.36	81.19	161.65	1184.75	935.36	57.49
95th-Percentile Queue Length [veh/ln]	10.89	5.85	10.64	68.99	53.54	4.14
95th-Percentile Queue Length [ft/ln]	272.13	146.14	265.90	1724.85	1338.58	103.48

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	43.73	13.32	20.56	156.90	145.74	26.78
Movement LOS	D	B	C	F	F	C
d_A, Approach Delay [s/veh]	25.69		97.02		130.40	
Approach LOS	C		F		F	
d_I, Intersection Delay [s/veh]	87.01					
Intersection LOS	F					
Intersection V/C	1.137					

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft ² /ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00
I_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	0.000
Crosswalk LOS	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1150	1000	717
d_b, Bicycle Delay [s]	10.84	15.00	24.70
I_b,int, Bicycle LOS Score for Intersection	2.316	3.280	1.560
Bicycle LOS	B	C	A

Sequence





Ring 1	1	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 10: Amarillo Valley Road & Papago Road

Control Type:	Signalized	Delay (sec / veh):	13.0
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.249

Intersection Setup

Name	Amarillo Valley Road			Amarillo Valley Road			Papago Road			Papago Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Speed [mph]	45.00			45.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name	Amarillo Valley Road			Amarillo Valley Road			Papago Road			Papago Road		
Base Volume Input [veh/h]	9	0	8	0	0	0	0	90	13	13	165	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.1041	1.1041	1.1041	1.1041	1.1041	1.1041	1.1041	1.1041	1.1041	1.1041	1.1041	1.1041
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	73	125	0	13	23	200	0	125	263	210
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	10	0	82	125	0	13	23	299	14	139	445	210
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	0	23	35	0	4	6	83	4	39	124	58
Total Analysis Volume [veh/h]	11	0	91	139	0	14	26	332	16	154	494	233
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0			0			0	
v_di, Inbound Pedestrian Volume crossing in		0			0			0			0	
v_co, Outbound Pedestrian Volume crossing		0			0			0			0	
v_ci, Inbound Pedestrian Volume crossing mi		0			0			0			0	
v_ab, Corner Pedestrian Volume [ped/h]		0			0			0			0	
Bicycle Volume [bicycles/h]		0			0			0			0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	Protecte	Permiss	Permiss	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss
Signal Group	3	8	0	7	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	10	0	5	10	0	5	10	0	5	10	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	28	14	0	52	38	0	9	15	0	9	15	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	2.00	2.00	2.00	0.00	2.00	2.00	0.00	2.00	2.00
g_i, Effective Green Time [s]	19	9	9	6	14	14	63	54	54	63	57	57
g / C, Green / Cycle	0.21	0.10	0.10	0.06	0.15	0.15	0.70	0.60	0.60	0.70	0.63	0.63
(v / s)_i Volume / Saturation Flow Rate	0.01	0.00	0.06	0.04	0.00	0.01	0.03	0.09	0.01	0.14	0.14	0.15
s, saturation flow rate [veh/h]	1481	3560	1589	3459	1870	1589	964	3560	1589	1128	3560	1589
c, Capacity [veh/h]	429	355	159	224	281	239	734	2148	959	860	2246	1003
d1, Uniform Delay [s]	28.33	0.00	38.69	41.00	0.00	32.78	4.28	7.81	7.16	4.50	7.12	7.18
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.50	0.11	0.50	0.50
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.02	0.00	3.25	2.77	0.00	0.10	0.09	0.15	0.03	0.10	0.23	0.54
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.03	0.00	0.57	0.62	0.00	0.06	0.04	0.15	0.02	0.18	0.22	0.23
d, Delay for Lane Group [s/veh]	28.35	0.00	41.94	43.77	0.00	32.88	4.37	7.97	7.19	4.60	7.34	7.73
Lane Group LOS	C	A	D	D	A	C	A	A	A	A	A	A
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.18	0.00	1.97	1.52	0.00	0.26	0.12	1.21	0.11	0.68	1.69	1.69
50th-Percentile Queue Length [ft/ln]	4.56	0.00	49.29	38.06	0.00	6.41	3.01	30.15	2.77	16.88	42.22	42.29
95th-Percentile Queue Length [veh/ln]	0.33	0.00	3.55	2.74	0.00	0.46	0.22	2.17	0.20	1.22	3.04	3.04
95th-Percentile Queue Length [ft/ln]	8.21	0.00	88.72	68.51	0.00	11.54	5.42	54.26	4.99	30.39	75.99	76.12

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	28.35	0.00	41.94	43.77	0.00	32.88	4.37	7.97	7.19	4.60	7.34	7.73
Movement LOS	C	A	D	D	A	C	A	A	A	A	A	A
d_A, Approach Delay [s/veh]	40.47			42.77			7.68			6.96		
Approach LOS	D			D			A			A		
d_I, Intersection Delay [s/veh]	13.03											
Intersection LOS	B											
Intersection V/C	0.249											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			0.0			0.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			0.00			0.00			0.00		
I_p,int, Pedestrian LOS Score for Intersection	0.000			0.000			0.000			0.000		
Crosswalk LOS	F			F			F			F		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	222			756			244			244		
d_b, Bicycle Delay [s]	35.56			17.42			34.67			34.67		
I_b,int, Bicycle LOS Score for Intersection	1.644			1.812			1.868			2.286		
Bicycle LOS	A			A			A			B		

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 11: Amarillo Valley Road & Val Vista Road

Control Type:	Two-way stop	Delay (sec / veh):	10.1
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.006

Intersection Setup

Name	Amarillo Valley Road		Amarillo Valley Road		Val Vista Road	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	↶		↷		↷	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Amarillo Valley Road		Amarillo Valley Road		Val Vista Road	
Base Volume Input [veh/h]	2	8	12	5	4	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.1041	1.1041	1.1041	1.1041	1.1041	1.1041
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	91	136	0	0	0
Total Hourly Volume [veh/h]	2	100	149	6	4	0
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	28	41	2	1	0
Total Analysis Volume [veh/h]	2	111	166	7	4	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	7.57	0.00	0.00	0.00	10.14	9.15
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.02	0.02
95th-Percentile Queue Length [ft/ln]	0.11	0.11	0.00	0.00	0.43	0.43
d_A, Approach Delay [s/veh]	0.13		0.00		10.14	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.19					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 12: Amarillo Valley Road & Miller Road

Control Type:	Two-way stop	Delay (sec / veh):	10.2
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.016

Intersection Setup

Name	Amarillo Valley Road		Amarillo Valley Road		Miller Road	
Approach	Northbound		Southbound		Westbound	
Lane Configuration	↬		↵		↶	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Amarillo Valley Road		Amarillo Valley Road		Miller Road	
Base Volume Input [veh/h]	0	6	7	5	9	10
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.1041	1.1041	1.1041	1.1041	1.1041	1.1041
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	91	0	0	136	0	0
Total Hourly Volume [veh/h]	91	7	8	142	10	11
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	25	2	2	39	3	3
Total Analysis Volume [veh/h]	101	8	9	158	11	12
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.01	0.00	0.02	0.01
d_M, Delay for Movement [s/veh]	0.00	0.00	7.45	0.00	10.24	8.92
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.02	0.02	0.09	0.09
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.46	0.46	2.18	2.18
d_A, Approach Delay [s/veh]	0.00		0.40		9.55	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.96					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 1: SR 347 & Miller Road/Louis Johnson Drive

Control Type:	Signalized	Delay (sec / veh):	23.4
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.291

Intersection Setup

Name	SR 347			SR 347			Miller Road			Louis Johnson Drive		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	[Diagram]			[Diagram]			[Diagram]			[Diagram]		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	150.00	100.00	150.00	150.00	100.00	150.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00	0.00	0.00	0.00
Speed [mph]	65.00			65.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name	SR 347			SR 347			Miller Road			Louis Johnson Drive		
Base Volume Input [veh/h]	1	139	4	12	70	0	0	7	0	1	7	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	9.80	2.00	2.00	9.80	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.1487	1.1487	1.1487	1.1487	1.1487	1.1487	1.1487	1.1487	1.1487	1.1487	1.1487	1.1487
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	48	55	0	129	147	101	172	122	141	0	45	54
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	92	0	0	279	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	49	307	5	143	506	101	172	130	141	1	53	60
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	14	85	1	40	141	28	48	36	39	0	15	17
Total Analysis Volume [veh/h]	54	341	6	159	562	112	191	144	157	1	59	67
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing in	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	10	0	5	10	0	5	10	0	5	10	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	10	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	27	14	0	34	21	0	28	32	0	10	14	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		Yes	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	4	47	47	10	53	53	7	17	17	0	10	10
g / C, Green / Cycle	0.04	0.52	0.52	0.11	0.59	0.59	0.08	0.19	0.19	0.00	0.11	0.11
(v / s)_i Volume / Saturation Flow Rate	0.02	0.10	0.00	0.09	0.17	0.07	0.06	0.08	0.10	0.00	0.03	0.04
s, saturation flow rate [veh/h]	3459	3338	1589	1781	3338	1589	3459	1870	1589	1781	1870	1589
c, Capacity [veh/h]	147	1743	830	199	1975	940	282	349	297	3	200	170
d1, Uniform Delay [s]	42.00	11.46	10.33	39.06	9.04	8.09	40.27	32.32	33.10	44.95	37.13	37.54
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.53	0.25	0.02	7.17	0.36	0.26	2.85	0.78	1.46	46.80	0.81	1.48
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.37	0.20	0.01	0.80	0.28	0.12	0.68	0.41	0.53	0.31	0.29	0.39
d, Delay for Lane Group [s/veh]	43.53	11.71	10.34	46.23	9.40	8.35	43.12	33.10	34.57	91.75	37.94	39.02
Lane Group LOS	D	B	B	D	A	A	D	C	C	F	D	D
Critical Lane Group	No	Yes	No	Yes	No	No	No	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.57	1.47	0.05	3.50	2.03	0.76	2.14	2.80	3.17	0.06	1.23	1.43
50th-Percentile Queue Length [ft/ln]	14.15	36.86	1.21	87.46	50.70	18.88	53.62	70.10	79.17	1.60	30.78	35.80
95th-Percentile Queue Length [veh/ln]	1.02	2.65	0.09	6.30	3.65	1.36	3.86	5.05	5.70	0.12	2.22	2.58
95th-Percentile Queue Length [ft/ln]	25.47	66.35	2.18	157.42	91.26	33.99	96.52	126.17	142.51	2.89	55.41	64.43

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	43.53	11.71	10.34	46.23	9.40	8.35	43.12	33.10	34.57	91.75	37.94	39.02
Movement LOS	D	B	B	D	A	A	D	C	C	F	D	D
d_A, Approach Delay [s/veh]	15.97			16.29			37.46			38.94		
Approach LOS	B			B			D			D		
d_I, Intersection Delay [s/veh]	23.39											
Intersection LOS	C											
Intersection V/C	0.291											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			0.0			0.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			0.00			0.00			0.00		
I_p,int, Pedestrian LOS Score for Intersection	0.000			0.000			0.000			0.000		
Crosswalk LOS	F			F			F			F		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	222			377			622			222		
d_b, Bicycle Delay [s]	35.60			29.65			21.40			35.60		
I_b,int, Bicycle LOS Score for Intersection	1.890			2.247			2.371			1.769		
Bicycle LOS	A			B			B			A		

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report
Intersection 2: SR 347 & Access A**

Control Type:	Signalized	Delay (sec / veh):	11.4
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.282

Intersection Setup

Name	SR 347		SR 347		Access A	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	⇐		⇐		⇐⇐	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	65.00		65.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	No		No		No	

Volumes

Name	SR 347		SR 347		Access A	
Base Volume Input [veh/h]	0	144	86	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	9.80	9.80	2.00	2.00	2.00
Growth Factor	1.0000	1.1487	1.1487	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	63	244	81	38	90	165
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	92	279	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	63	501	459	38	90	165
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	18	139	128	11	25	46
Total Analysis Volume [veh/h]	70	557	510	42	100	183
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing in	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPerm	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	1	6	2	0	3	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	5	10	10	0	5	0
Maximum Green [s]	30	30	30	0	30	0
Amber [s]	3.0	3.0	3.0	0.0	3.0	0.0
All red [s]	1.0	1.0	1.0	0.0	1.0	0.0
Split [s]	9	23	14	0	67	0
Vehicle Extension [s]	3.0	3.0	3.0	0.0	3.0	0.0
Walk [s]	0	5	5	0	5	0
Pedestrian Clearance [s]	0	10	10	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No	No		No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
Minimum Recall	No	No	No		No	
Maximum Recall	No	No	No		No	
Pedestrian Recall	No	No	No		No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R	L	R
C, Cycle Length [s]	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	69	69	61	61	13	13
g / C, Green / Cycle	0.77	0.77	0.68	0.68	0.14	0.14
(v / s)_i Volume / Saturation Flow Rate	0.07	0.17	0.15	0.03	0.06	0.12
s, saturation flow rate [veh/h]	969	3338	3338	1589	1781	1589
c, Capacity [veh/h]	797	2562	2260	1076	256	228
d1, Uniform Delay [s]	2.80	2.92	5.54	4.82	34.97	37.30
k, delay calibration	0.11	0.50	0.50	0.50	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.05	0.20	0.23	0.07	0.97	6.45
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.09	0.22	0.23	0.04	0.39	0.80
d, Delay for Lane Group [s/veh]	2.84	3.11	5.77	4.89	35.95	43.75
Lane Group LOS	A	A	A	A	D	D
Critical Lane Group	No	Yes	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.11	0.51	1.15	0.17	2.03	4.25
50th-Percentile Queue Length [ft/ln]	2.65	12.68	28.68	4.36	50.87	106.13
95th-Percentile Queue Length [veh/ln]	0.19	0.91	2.06	0.31	3.66	7.62
95th-Percentile Queue Length [ft/ln]	4.76	22.82	51.62	7.84	91.56	190.60

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	2.84	3.11	5.77	4.89	35.95	43.75
Movement LOS	A	A	A	A	D	D
d_A, Approach Delay [s/veh]	3.08		5.70		40.99	
Approach LOS	A		A		D	
d_I, Intersection Delay [s/veh]	11.41					
Intersection LOS	B					
Intersection V/C	0.282					

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft ² /ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00
I_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	0.000
Crosswalk LOS	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	422	222	1400
d_b, Bicycle Delay [s]	28.01	35.56	4.05
I_b,int, Bicycle LOS Score for Intersection	2.077	2.015	1.560
Bicycle LOS	B	B	A

Sequence

Ring 1	1	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report
Intersection 3: SR 347 & Access B**

Control Type:	Signalized	Delay (sec / veh):	10.8
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.319

Intersection Setup

Name	SR 347		SR 347		Access B	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	⇐		⇐		⇐⇐	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	1	0	0	0	0
Exit Pocket Length [ft]	0.00	49.21	0.00	0.00	0.00	0.00
Speed [mph]	65.00		65.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	No		No		No	

Volumes

Name	SR 347		SR 347		Access B	
Base Volume Input [veh/h]	0	144	86	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	9.80	9.80	2.00	2.00	2.00
Growth Factor	1.0000	1.1487	1.1487	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	55	226	219	27	81	158
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	92	279	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	55	483	597	27	81	158
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	15	134	166	8	23	44
Total Analysis Volume [veh/h]	61	537	663	30	90	176
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing in	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPerm	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	1	6	2	0	3	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	5	10	10	0	5	0
Maximum Green [s]	30	30	30	0	30	0
Amber [s]	3.0	3.0	3.0	0.0	3.0	0.0
All red [s]	1.0	1.0	1.0	0.0	1.0	0.0
Split [s]	9	54	45	0	36	0
Vehicle Extension [s]	3.0	3.0	3.0	0.0	3.0	0.0
Walk [s]	0	5	5	0	5	0
Pedestrian Clearance [s]	0	10	10	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No	No		No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
Minimum Recall	No	No	No		No	
Maximum Recall	No	No	No		No	
Pedestrian Recall	No	No	No		No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R	L	R
C, Cycle Length [s]	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	70	70	62	62	12	12
g / C, Green / Cycle	0.77	0.77	0.69	0.69	0.14	0.14
(v / s)_i Volume / Saturation Flow Rate	0.07	0.16	0.20	0.02	0.05	0.11
s, saturation flow rate [veh/h]	858	3338	3338	1589	1781	1589
c, Capacity [veh/h]	712	2580	2286	1089	246	219
d1, Uniform Delay [s]	2.81	2.76	5.57	4.55	35.21	37.59
k, delay calibration	0.11	0.50	0.50	0.50	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.05	0.18	0.32	0.05	0.91	6.68
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.09	0.21	0.29	0.03	0.37	0.80
d, Delay for Lane Group [s/veh]	2.86	2.95	5.90	4.60	36.12	44.27
Lane Group LOS	A	A	A	A	D	D
Critical Lane Group	Yes	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.08	0.44	1.50	0.12	1.83	4.11
50th-Percentile Queue Length [ft/ln]	2.11	11.04	37.45	2.93	45.83	102.63
95th-Percentile Queue Length [veh/ln]	0.15	0.79	2.70	0.21	3.30	7.39
95th-Percentile Queue Length [ft/ln]	3.79	19.87	67.42	5.28	82.50	184.73

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	2.86	2.95	5.90	4.60	36.12	44.27
Movement LOS	A	A	A	A	D	D
d_A, Approach Delay [s/veh]	2.94		5.84		41.51	
Approach LOS	A		A		D	
d_I, Intersection Delay [s/veh]	10.82					
Intersection LOS	B					
Intersection V/C	0.319					

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft ² /ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00
I_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	0.000
Crosswalk LOS	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1111	911	711
d_b, Bicycle Delay [s]	8.89	13.34	18.69
I_b,int, Bicycle LOS Score for Intersection	2.053	2.131	1.560
Bicycle LOS	B	B	A

Sequence

Ring 1	1	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report
Intersection 7: Access E & Miller Road**

Control Type:	Two-way stop	Delay (sec / veh):	11.6
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.300

Intersection Setup

Name	Access E		Miller Road		Miller Road	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration	↵↵		↵		↵	
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	1	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Access E		Miller Road		Miller Road	
Base Volume Input [veh/h]	0	0	0	7	8	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.1487	1.1487	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	209	40	30	66	109	69
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	209	40	30	74	118	69
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	58	11	8	21	33	19
Total Analysis Volume [veh/h]	232	44	33	82	131	77
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	Yes		
Number of Storage Spaces in Median	2	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.30	0.05	0.02	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	11.65	9.12	7.71	0.00	0.00	0.00
Movement LOS	B	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	1.26	0.15	0.07	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	31.60	3.77	1.86	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	11.24		2.21		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	5.61					
Intersection LOS	B					

**Intersection Level Of Service Report
Intersection 8: Access F & Miller Road**

Control Type:	Two-way stop	Delay (sec / veh):	14.7
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.394

Intersection Setup

Name	Access F		Miller Road		Miller Road	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration	↵↵		↵		↵	
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	1	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Access F		Miller Road		Miller Road	
Base Volume Input [veh/h]	0	0	0	7	8	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.1487	1.1487	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	217	62	56	218	116	78
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	217	62	56	226	125	78
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	60	17	16	63	35	22
Total Analysis Volume [veh/h]	241	69	62	251	139	87
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	Yes		
Number of Storage Spaces in Median	2	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.39	0.08	0.05	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	14.67	9.28	7.81	0.00	0.00	0.00
Movement LOS	B	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	1.88	0.25	0.15	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	46.91	6.15	3.63	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	13.47		1.55		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	5.49					
Intersection LOS	B					

**Intersection Level Of Service Report
Intersection 9: SR 347 & Papago Road**

Control Type:	Signalized	Delay (sec / veh):	44.7
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.839

Intersection Setup

Name	SR 347		SR 347		Papago Road	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	⇐		⇐		⇐⇐	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	65.00		65.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	No		No		No	

Volumes

Name	SR 347		SR 347		Papago Road	
Base Volume Input [veh/h]	10	141	89	48	127	23
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	9.80	9.80	2.00	2.00	2.00
Growth Factor	1.1487	1.1487	1.1487	1.1487	1.1487	1.1487
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	334	119	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	92	0	0	306	918	279
Right Turn on Red Volume [veh/h]	0	0	0	181	0	153
Total Hourly Volume [veh/h]	103	496	221	180	1064	152
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	29	138	61	50	296	42
Total Analysis Volume [veh/h]	114	551	246	200	1182	169
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing in	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPerm	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	1	6	2	0	3	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	5	10	10	0	5	0
Maximum Green [s]	30	30	30	0	30	0
Amber [s]	3.0	3.0	3.0	0.0	3.0	0.0
All red [s]	1.0	1.0	1.0	0.0	1.0	0.0
Split [s]	9	38	29	0	82	0
Vehicle Extension [s]	3.0	3.0	3.0	0.0	3.0	0.0
Walk [s]	0	5	5	0	5	0
Pedestrian Clearance [s]	0	10	10	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No	No		No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
Minimum Recall	No	No	No		No	
Maximum Recall	No	No	No		No	
Pedestrian Recall	No	No	No		No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R	L	R
C, Cycle Length [s]	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	34	34	25	25	78	78
g / C, Green / Cycle	0.28	0.28	0.21	0.21	0.65	0.65
(v / s)_i Volume / Saturation Flow Rate	0.09	0.17	0.07	0.13	0.66	0.11
s, saturation flow rate [veh/h]	1267	3338	3338	1589	1781	1589
c, Capacity [veh/h]	378	946	695	331	1158	1033
d1, Uniform Delay [s]	33.18	36.91	40.60	43.02	21.00	8.22
k, delay calibration	0.11	0.50	0.50	0.50	0.50	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.44	2.62	1.41	7.94	31.80	0.07
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.30	0.58	0.35	0.60	1.02	0.16
d, Delay for Lane Group [s/veh]	33.62	39.53	42.01	50.95	52.80	8.30
Lane Group LOS	C	D	D	D	F	A
Critical Lane Group	Yes	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	2.41	6.75	3.05	5.74	39.27	1.68
50th-Percentile Queue Length [ft/ln]	60.27	168.74	76.14	143.58	981.79	42.05
95th-Percentile Queue Length [veh/ln]	4.34	11.01	5.48	9.67	50.50	3.03
95th-Percentile Queue Length [ft/ln]	108.49	275.26	137.06	241.83	1262.48	75.69

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	33.62	39.53	42.01	50.95	52.80	8.30
Movement LOS	C	D	D	D	F	A
d_A, Approach Delay [s/veh]	38.52		46.02		47.23	
Approach LOS	D		D		D	
d_I, Intersection Delay [s/veh]	44.66					
Intersection LOS	D					
Intersection V/C	0.839					

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft ² /ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00
I_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	0.000
Crosswalk LOS	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	567	417	1300
d_b, Bicycle Delay [s]	30.82	37.60	7.35
I_b,int, Bicycle LOS Score for Intersection	2.108	2.077	1.560
Bicycle LOS	B	B	A

Sequence





Ring 1	1	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 10: Amarillo Valley Road & Papago Road

Control Type:	Signalized	Delay (sec / veh):	18.1
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.288

Intersection Setup

Name	Amarillo Valley Road			Amarillo Valley Road			Papago Road			Papago Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Speed [mph]	45.00			45.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name	Amarillo Valley Road			Amarillo Valley Road			Papago Road			Papago Road		
Base Volume Input [veh/h]	4	0	9	0	0	0	0	135	6	4	57	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.1487	1.1487	1.1487	1.1487	1.1487	1.1487	1.1487	1.1487	1.1487	1.1487	1.1487	1.1487
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	149	0	0	0	0	0	0	0	96	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	115	190	0	21	7	254	0	47	156	64
Right Turn on Red Volume [veh/h]	0	0	63	0	0	11	0	0	52	0	0	32
Total Hourly Volume [veh/h]	154	0	62	190	0	10	7	409	51	52	221	32
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	43	0	17	53	0	3	2	114	14	14	61	9
Total Analysis Volume [veh/h]	171	0	69	211	0	11	8	454	57	58	246	36
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0			0			0	
v_di, Inbound Pedestrian Volume crossing in		0			0			0			0	
v_co, Outbound Pedestrian Volume crossing		0			0			0			0	
v_ci, Inbound Pedestrian Volume crossing mi		0			0			0			0	
v_ab, Corner Pedestrian Volume [ped/h]		0			0			0			0	
Bicycle Volume [bicycles/h]		0			0			0			0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	Protecte	Permiss	Permiss	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss
Signal Group	3	8	0	7	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	10	0	5	10	0	5	10	0	5	10	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	25	14	0	40	29	0	9	26	0	10	27	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	2.00	2.00	2.00	0.00	2.00	2.00	0.00	2.00	2.00
g_i, Effective Green Time [s]	20	8	8	8	7	7	62	54	54	62	57	57
g / C, Green / Cycle	0.22	0.09	0.09	0.09	0.07	0.07	0.69	0.60	0.60	0.69	0.63	0.63
(v / s)_i Volume / Saturation Flow Rate	0.11	0.00	0.04	0.06	0.00	0.01	0.01	0.13	0.04	0.06	0.07	0.02
s, saturation flow rate [veh/h]	1624	3560	1589	3459	1870	1589	1164	3560	1589	1017	3560	1589
c, Capacity [veh/h]	485	326	145	307	140	119	876	2133	952	752	2248	1004
d1, Uniform Delay [s]	29.92	0.00	38.83	39.79	0.00	38.79	4.51	8.29	7.50	4.81	6.56	6.25
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.50	0.11	0.50	0.50
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.44	0.00	2.39	2.72	0.00	0.33	0.02	0.23	0.12	0.04	0.10	0.07
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.35	0.00	0.47	0.69	0.00	0.09	0.01	0.21	0.06	0.08	0.11	0.04
d, Delay for Lane Group [s/veh]	30.36	0.00	41.22	42.51	0.00	39.13	4.53	8.51	7.62	4.85	6.66	6.32
Lane Group LOS	C	A	D	D	A	D	A	A	A	A	A	A
Critical Lane Group	Yes	No	No	Yes	No	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	3.05	0.00	1.48	2.28	0.00	0.23	0.04	1.74	0.41	0.26	0.77	0.23
50th-Percentile Queue Length [ft/ln]	76.37	0.00	36.95	56.93	0.00	5.70	0.97	43.51	10.30	6.60	19.33	5.64
95th-Percentile Queue Length [veh/ln]	5.50	0.00	2.66	4.10	0.00	0.41	0.07	3.13	0.74	0.48	1.39	0.41
95th-Percentile Queue Length [ft/ln]	137.47	0.00	66.51	102.48	0.00	10.26	1.75	78.32	18.54	11.88	34.80	10.15

Movement, Approach, & Intersection Results

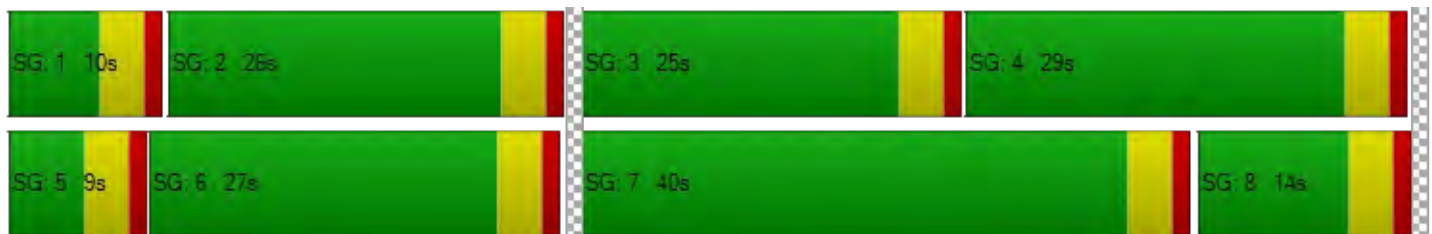
d_M, Delay for Movement [s/veh]	30.36	0.00	41.22	42.51	0.00	39.13	4.53	8.51	7.62	4.85	6.66	6.32
Movement LOS	C	A	D	D	A	D	A	A	A	A	A	A
d_A, Approach Delay [s/veh]	33.48			42.34			8.35			6.32		
Approach LOS	C			D			A			A		
d_I, Intersection Delay [s/veh]	18.11											
Intersection LOS	B											
Intersection V/C	0.288											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			0.0			0.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			0.00			0.00			0.00		
I_p,int, Pedestrian LOS Score for Intersection	0.000			0.000			0.000			0.000		
Crosswalk LOS	F			F			F			F		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	222			556			489			511		
d_b, Bicycle Delay [s]	35.56			23.47			25.69			24.94		
I_b,int, Bicycle LOS Score for Intersection	1.810			1.944			2.031			1.867		
Bicycle LOS	A			A			B			A		

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 11: Amarillo Valley Road & Val Vista Road

Control Type:	Two-way stop	Delay (sec / veh):	11.8
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.017

Intersection Setup

Name	Amarillo Valley Road		Amarillo Valley Road		Val Vista Road	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	↰		↳		↱	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Amarillo Valley Road		Amarillo Valley Road		Val Vista Road	
Base Volume Input [veh/h]	1	4	6	2	7	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.1487	1.1487	1.1487	1.1487	1.1487	1.1487
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	149	96	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	120	63	0	0	0
Total Hourly Volume [veh/h]	1	274	166	2	8	1
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	76	46	1	2	0
Total Analysis Volume [veh/h]	1	304	184	2	9	1
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0




Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.02	0.00
d_M, Delay for Movement [s/veh]	7.59	0.00	0.00	0.00	11.83	9.32
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.05	0.05
95th-Percentile Queue Length [ft/ln]	0.05	0.05	0.00	0.00	1.37	1.37
d_A, Approach Delay [s/veh]	0.02		0.00		11.58	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.25					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 12: Amarillo Valley Road & Miller Road

Control Type:	Two-way stop	Delay (sec / veh):	12.7
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.011

Intersection Setup

Name	Amarillo Valley Road		Amarillo Valley Road		Miller Road	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Amarillo Valley Road		Amarillo Valley Road		Miller Road	
Base Volume Input [veh/h]	1	3	4	3	4	4
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.1487	1.1487	1.1487	1.1487	1.1487	1.1487
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	96	0	0	149
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	120	0	0	63	0	0
Total Hourly Volume [veh/h]	121	3	101	66	5	154
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	34	1	28	18	1	43
Total Analysis Volume [veh/h]	134	3	112	73	6	171
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.08	0.00	0.01	0.19
d_M, Delay for Movement [s/veh]	0.00	0.00	7.70	0.00	12.75	9.94
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.25	0.25	0.74	0.74
95th-Percentile Queue Length [ft/ln]	0.00	0.00	6.28	6.28	18.42	18.42
d_A, Approach Delay [s/veh]	0.00		4.66		10.03	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	5.29					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 1: SR 347 & Miller Road/Louis Johnson Drive

Control Type:	Signalized	Delay (sec / veh):	25.2
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.345

Intersection Setup

Name	SR 347			SR 347			Miller Road			Louis Johnson Drive		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	[Diagram]			[Diagram]			[Diagram]			[Diagram]		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	150.00	100.00	150.00	150.00	100.00	150.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00	0.00	0.00	0.00
Speed [mph]	65.00			65.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name	SR 347			SR 347			Miller Road			Louis Johnson Drive		
Base Volume Input [veh/h]	1	0	0	0	0	0	0	5	5	1	13	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	9.80	2.00	2.00	9.80	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.1487	1.1487	1.1487	1.1487	1.1487	1.1487	1.1487	1.1487	1.1487	1.1487	1.1487	1.1487
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	157	159	0	80	94	201	139	78	93	0	132	134
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	313	0	0	184	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	158	472	0	80	278	201	139	84	99	1	147	134
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	44	131	0	22	77	56	39	23	28	0	41	37
Total Analysis Volume [veh/h]	176	524	0	89	309	223	154	93	110	1	163	149
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing in	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	10	0	5	10	0	5	10	0	5	10	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	10	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	24	16	0	23	15	0	37	14	0	37	14	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		Yes	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	7	51	51	6	50	50	6	17	17	0	11	11
g / C, Green / Cycle	0.08	0.57	0.57	0.07	0.56	0.56	0.07	0.19	0.19	0.00	0.12	0.12
(v / s)_i Volume / Saturation Flow Rate	0.05	0.16	0.00	0.05	0.09	0.14	0.04	0.05	0.07	0.00	0.09	0.09
s, saturation flow rate [veh/h]	3459	3338	1589	1781	3338	1589	3459	1870	1589	1781	1870	1589
c, Capacity [veh/h]	263	1883	897	118	1851	881	241	356	303	3	229	195
d1, Uniform Delay [s]	40.57	10.16	0.00	41.39	9.86	10.41	40.84	31.10	31.75	44.95	38.04	38.32
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.95	0.37	0.00	9.41	0.19	0.69	2.79	0.39	0.73	46.80	4.07	6.17
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.67	0.28	0.00	0.76	0.17	0.25	0.64	0.26	0.36	0.31	0.71	0.77
d, Delay for Lane Group [s/veh]	43.52	10.52	0.00	50.80	10.06	11.10	43.63	31.49	32.49	91.75	42.12	44.49
Lane Group LOS	D	B	A	D	B	B	D	C	C	F	D	D
Critical Lane Group	No	Yes	No	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.84	2.08	0.00	2.08	1.18	1.89	1.74	1.74	2.12	0.06	3.67	3.47
50th-Percentile Queue Length [ft/ln]	45.95	52.03	0.00	51.98	29.49	47.24	43.46	43.53	52.95	1.60	91.70	86.81
95th-Percentile Queue Length [veh/ln]	3.31	3.75	0.00	3.74	2.12	3.40	3.13	3.13	3.81	0.12	6.60	6.25
95th-Percentile Queue Length [ft/ln]	82.71	93.65	0.00	93.56	53.08	85.04	78.23	78.35	95.30	2.89	165.07	156.27

Movement, Approach, & Intersection Results

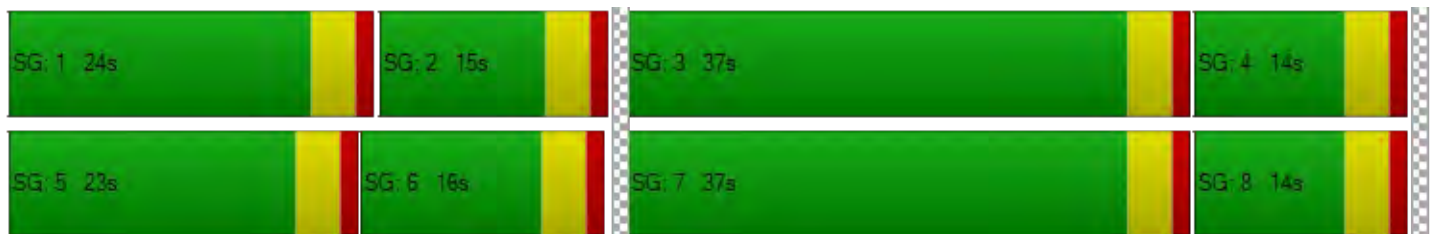
d_M, Delay for Movement [s/veh]	43.52	10.52	0.00	50.80	10.06	11.10	43.63	31.49	32.49	91.75	42.12	44.49
Movement LOS	D	B	A	D	B	B	D	C	C	F	D	D
d_A, Approach Delay [s/veh]	18.82			16.27			37.03			43.41		
Approach LOS	B			B			D			D		
d_I, Intersection Delay [s/veh]	25.16											
Intersection LOS	C											
Intersection V/C	0.345											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			0.0			0.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			0.00			0.00			0.00		
I_p,int, Pedestrian LOS Score for Intersection	0.000			0.000			0.000			0.000		
Crosswalk LOS	F			F			F			F		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	266			244			222			222		
d_b, Bicycle Delay [s]	33.84			34.72			35.60			35.60		
I_b,int, Bicycle LOS Score for Intersection	2.137			2.072			2.149			2.076		
Bicycle LOS	B			B			B			B		

Sequence




Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report
Intersection 2: SR 347 & Access A**

Control Type:	Signalized	Delay (sec / veh):	7.1
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.314

Intersection Setup

Name	SR 347		SR 347		Access A	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	65.00		65.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	No		No		No	

Volumes

Name	SR 347		SR 347		Access A	
Base Volume Input [veh/h]	0	133	177	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	9.80	9.80	2.00	2.00	2.00
Growth Factor	1.0000	1.1487	1.1487	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	163	161	274	94	57	97
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	313	184	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	163	627	661	94	57	97
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	45	174	184	26	16	27
Total Analysis Volume [veh/h]	181	697	734	104	63	108
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing in	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPerm	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	1	6	2	0	3	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	5	10	10	0	5	0
Maximum Green [s]	30	30	30	0	30	0
Amber [s]	3.0	3.0	3.0	0.0	3.0	0.0
All red [s]	1.0	1.0	1.0	0.0	1.0	0.0
Split [s]	9	23	14	0	67	0
Vehicle Extension [s]	3.0	3.0	3.0	0.0	3.0	0.0
Walk [s]	0	5	5	0	5	0
Pedestrian Clearance [s]	0	10	10	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No	No		No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
Minimum Recall	No	No	No		No	
Maximum Recall	No	No	No		No	
Pedestrian Recall	No	No	No		No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R	L	R
C, Cycle Length [s]	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	74	74	65	65	8	8
g / C, Green / Cycle	0.82	0.82	0.72	0.72	0.09	0.09
(v / s)_i Volume / Saturation Flow Rate	0.22	0.21	0.22	0.07	0.04	0.07
s, saturation flow rate [veh/h]	823	3338	3338	1589	1781	1589
c, Capacity [veh/h]	727	2730	2398	1142	166	148
d1, Uniform Delay [s]	2.16	1.89	4.57	3.82	38.36	39.70
k, delay calibration	0.20	0.50	0.50	0.50	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.33	0.23	0.33	0.16	1.42	6.69
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.25	0.26	0.31	0.09	0.38	0.73
d, Delay for Lane Group [s/veh]	2.49	2.11	4.90	3.97	39.78	46.38
Lane Group LOS	A	A	A	A	D	D
Critical Lane Group	Yes	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.08	0.11	1.31	0.33	1.36	2.57
50th-Percentile Queue Length [ft/ln]	1.96	2.78	32.66	8.33	33.98	64.25
95th-Percentile Queue Length [veh/ln]	0.14	0.20	2.35	0.60	2.45	4.63
95th-Percentile Queue Length [ft/ln]	3.52	5.00	58.80	14.99	61.16	115.64

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	2.49	2.11	4.90	3.97	39.78	46.38
Movement LOS	A	A	A	A	D	D
d_A, Approach Delay [s/veh]	2.19		4.79		43.95	
Approach LOS	A		A		D	
d_I, Intersection Delay [s/veh]	7.13					
Intersection LOS	A					
Intersection V/C	0.314					

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft ² /ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00
I_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	0.000
Crosswalk LOS	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	422	222	1400
d_b, Bicycle Delay [s]	28.01	35.56	4.05
I_b,int, Bicycle LOS Score for Intersection	2.284	2.251	1.560
Bicycle LOS	B	B	A

Sequence

Ring 1	1	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report
Intersection 3: SR 347 & Access B**

Control Type:	Signalized	Delay (sec / veh):	6.8
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.315

Intersection Setup

Name	SR 347		SR 347		Access B	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	⇐		⇐		⇐⇐	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	1	0	0	0	0
Exit Pocket Length [ft]	0.00	49.21	0.00	0.00	0.00	0.00
Speed [mph]	65.00		65.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	No		No		No	

Volumes

Name	SR 347		SR 347		Access B	
Base Volume Input [veh/h]	0	133	177	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	9.80	9.80	2.00	2.00	2.00
Growth Factor	1.0000	1.1487	1.1487	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	161	271	280	91	54	95
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	313	184	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	161	737	667	91	54	95
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	45	205	185	25	15	26
Total Analysis Volume [veh/h]	179	819	741	101	60	106
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing in	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPerm	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	1	6	2	0	3	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	5	10	10	0	5	0
Maximum Green [s]	30	30	30	0	30	0
Amber [s]	3.0	3.0	3.0	0.0	3.0	0.0
All red [s]	1.0	1.0	1.0	0.0	1.0	0.0
Split [s]	9	23	14	0	67	0
Vehicle Extension [s]	3.0	3.0	3.0	0.0	3.0	0.0
Walk [s]	0	5	5	0	5	0
Pedestrian Clearance [s]	0	10	10	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No	No		No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
Minimum Recall	No	No	No		No	
Maximum Recall	No	No	No		No	
Pedestrian Recall	No	No	No		No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R	L	R
C, Cycle Length [s]	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	74	74	65	65	8	8
g / C, Green / Cycle	0.82	0.82	0.72	0.72	0.09	0.09
(v / s)_i Volume / Saturation Flow Rate	0.22	0.25	0.22	0.06	0.03	0.07
s, saturation flow rate [veh/h]	818	3338	3338	1589	1781	1589
c, Capacity [veh/h]	724	2735	2403	1144	163	146
d1, Uniform Delay [s]	2.14	1.95	4.54	3.77	38.41	39.77
k, delay calibration	0.20	0.50	0.50	0.50	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.32	0.28	0.33	0.15	1.37	6.73
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.25	0.30	0.31	0.09	0.37	0.73
d, Delay for Lane Group [s/veh]	2.46	2.23	4.87	3.92	39.79	46.50
Lane Group LOS	A	A	A	A	D	D
Critical Lane Group	Yes	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.07	0.12	1.30	0.32	1.29	2.53
50th-Percentile Queue Length [ft/ln]	1.73	2.95	32.61	7.96	32.36	63.14
95th-Percentile Queue Length [veh/ln]	0.12	0.21	2.35	0.57	2.33	4.55
95th-Percentile Queue Length [ft/ln]	3.12	5.31	58.70	14.34	58.24	113.66

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	2.46	2.23	4.87	3.92	39.79	46.50
Movement LOS	A	A	A	A	D	D
d_A, Approach Delay [s/veh]	2.27		4.76		44.07	
Approach LOS	A		A		D	
d_I, Intersection Delay [s/veh]	6.77					
Intersection LOS	A					
Intersection V/C	0.315					

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft ² /ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00
I_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	0.000
Crosswalk LOS	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	422	222	1400
d_b, Bicycle Delay [s]	28.01	35.56	4.05
I_b,int, Bicycle LOS Score for Intersection	2.383	2.254	1.560
Bicycle LOS	B	B	A

Sequence

Ring 1	1	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report
Intersection 7: Access E & Miller Road**

Control Type:	Two-way stop	Delay (sec / veh):	11.0
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.204

Intersection Setup

Name	Access E		Miller Road		Miller Road	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration	↵↵		↵		↵	
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	1	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Access E		Miller Road		Miller Road	
Base Volume Input [veh/h]	0	0	0	13	19	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.1487	1.1487	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	138	26	41	78	51	235
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	138	26	41	93	73	235
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	38	7	11	26	20	65
Total Analysis Volume [veh/h]	153	29	46	103	81	261
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	Yes		
Number of Storage Spaces in Median	2	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.20	0.03	0.04	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	11.02	8.79	8.07	0.00	0.00	0.00
Movement LOS	B	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.76	0.09	0.12	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	19.01	2.29	2.94	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	10.67		2.49		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	3.44					
Intersection LOS	B					

**Intersection Level Of Service Report
Intersection 8: Access F & Miller Road**

Control Type:	Two-way stop	Delay (sec / veh):	13.2
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.262

Intersection Setup

Name	Access F		Miller Road		Miller Road	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration	↵↵		↵		↵	
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	1	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Access F		Miller Road		Miller Road	
Base Volume Input [veh/h]	0	0	0	13	19	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.1487	1.1487	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	140	33	47	169	253	237
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	140	33	47	184	275	237
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	39	9	13	51	76	66
Total Analysis Volume [veh/h]	156	37	52	204	306	263
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	Yes		
Number of Storage Spaces in Median	2	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.26	0.05	0.05	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	13.18	10.17	8.78	0.00	0.00	0.00
Movement LOS	B	B	A	A	A	A
95th-Percentile Queue Length [veh/ln]	1.05	0.16	0.16	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	26.14	3.97	4.09	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	12.60		1.78		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	2.84					
Intersection LOS	B					

**Intersection Level Of Service Report
Intersection 9: SR 347 & Papago Road**

Control Type:	Signalized	Delay (sec / veh):	92.9
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.143

Intersection Setup

Name	SR 347		SR 347		Papago Road	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	↵		↵		↵↵	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	65.00		65.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	No		No		No	

Volumes

Name	SR 347		SR 347		Papago Road	
Base Volume Input [veh/h]	21	152	143	155	79	21
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	9.80	9.80	2.00	2.00	2.00
Growth Factor	1.1487	1.1487	1.1487	1.1487	1.1487	1.1487
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	218	368	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	313	0	0	1030	606	184
Right Turn on Red Volume [veh/h]	0	0	0	302	0	104
Total Hourly Volume [veh/h]	337	393	532	906	697	104
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	94	109	148	252	194	29
Total Analysis Volume [veh/h]	374	437	591	1007	774	116
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing in	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPerm	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	1	6	2	0	3	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	5	10	10	0	5	0
Maximum Green [s]	30	30	30	0	30	0
Amber [s]	3.0	3.0	3.0	0.0	3.0	0.0
All red [s]	1.0	1.0	1.0	0.0	1.0	0.0
Split [s]	9	73	64	0	47	0
Vehicle Extension [s]	3.0	3.0	3.0	0.0	3.0	0.0
Walk [s]	0	5	5	0	5	0
Pedestrian Clearance [s]	0	10	10	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No	No		No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
Minimum Recall	No	No	No		No	
Maximum Recall	No	No	No		No	
Pedestrian Recall	No	No	No		No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R	L	R
C, Cycle Length [s]	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	69	69	60	60	43	43
g / C, Green / Cycle	0.58	0.58	0.50	0.50	0.36	0.36
(v / s)_i Volume / Saturation Flow Rate	0.41	0.13	0.18	0.63	0.43	0.07
s, saturation flow rate [veh/h]	922	3338	3338	1589	1781	1589
c, Capacity [veh/h]	533	1919	1669	795	638	570
d1, Uniform Delay [s]	21.15	12.47	18.23	30.00	38.50	26.65
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	7.54	0.28	0.59	130.11	109.80	0.17
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.70	0.23	0.35	1.27	1.21	0.20
d, Delay for Lane Group [s/veh]	28.69	12.75	18.82	160.11	148.30	26.82
Lane Group LOS	C	B	B	F	F	C
Critical Lane Group	Yes	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	5.70	2.51	4.51	48.10	37.87	2.34
50th-Percentile Queue Length [ft/ln]	142.57	62.74	112.84	1202.45	946.70	58.58
95th-Percentile Queue Length [veh/ln]	9.62	4.52	8.00	70.17	54.28	4.22
95th-Percentile Queue Length [ft/ln]	240.48	112.94	199.95	1754.26	1357.05	105.44

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	28.69	12.75	18.82	160.11	148.30	26.82
Movement LOS	C	B	B	F	F	C
d_A, Approach Delay [s/veh]	20.10		107.86		132.47	
Approach LOS	C		F		F	
d_I, Intersection Delay [s/veh]	92.92					
Intersection LOS	F					
Intersection V/C	1.143					

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft ² /ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00
I_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	0.000
Crosswalk LOS	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1150	1000	717
d_b, Bicycle Delay [s]	10.84	15.00	24.70
I_b,int, Bicycle LOS Score for Intersection	2.229	3.127	1.560
Bicycle LOS	B	C	A

Sequence





Ring 1	1	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 10: Amarillo Valley Road & Papago Road

Control Type:	Signalized	Delay (sec / veh):	12.9
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.215

Intersection Setup

Name	Amarillo Valley Road			Amarillo Valley Road			Papago Road			Papago Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Speed [mph]	45.00			45.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name	Amarillo Valley Road			Amarillo Valley Road			Papago Road			Papago Road		
Base Volume Input [veh/h]	9	0	8	0	0	0	0	90	13	13	165	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.1487	1.1487	1.1487	1.1487	1.1487	1.1487	1.1487	1.1487	1.1487	1.1487	1.1487	1.1487
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	77	0	0	0	0	0	0	0	119	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	73	125	0	13	23	200	0	125	263	210
Right Turn on Red Volume [veh/h]	0	0	41	0	0	7	0	0	67	0	0	105
Total Hourly Volume [veh/h]	87	0	41	125	0	6	23	303	67	140	453	105
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	24	0	11	35	0	2	6	84	19	39	126	29
Total Analysis Volume [veh/h]	97	0	46	139	0	7	26	337	74	156	503	117
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing in	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	Protecte	Permiss	Permiss	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss
Signal Group	3	8	0	7	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	10	0	5	10	0	5	10	0	5	10	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	9	14	0	53	58	0	9	14	0	9	14	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	2.00	2.00	2.00	0.00	2.00	2.00	0.00	2.00	2.00
g_i, Effective Green Time [s]	17	7	7	6	8	8	65	56	56	65	59	59
g / C, Green / Cycle	0.18	0.08	0.08	0.06	0.08	0.08	0.73	0.63	0.63	0.73	0.66	0.66
(v / s)_i Volume / Saturation Flow Rate	0.07	0.00	0.03	0.04	0.00	0.00	0.03	0.09	0.05	0.15	0.14	0.07
s, saturation flow rate [veh/h]	1309	3560	1589	3459	1870	1589	872	3560	1589	1052	3560	1589
c, Capacity [veh/h]	232	271	121	225	160	136	698	2231	996	836	2330	1040
d1, Uniform Delay [s]	35.84	0.00	39.56	40.99	0.00	37.80	3.65	6.92	6.58	3.84	6.26	5.80
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.50	0.11	0.50	0.50
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.20	0.00	1.96	2.77	0.00	0.16	0.10	0.14	0.14	0.11	0.21	0.22
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.42	0.00	0.38	0.62	0.00	0.05	0.04	0.15	0.07	0.19	0.22	0.11
d, Delay for Lane Group [s/veh]	37.04	0.00	41.52	43.76	0.00	37.96	3.75	7.07	6.72	3.94	6.47	6.02
Lane Group LOS	D	A	D	D	A	D	A	A	A	A	A	A
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	1.80	0.00	0.99	1.52	0.00	0.14	0.11	1.11	0.49	0.58	1.55	0.70
50th-Percentile Queue Length [ft/ln]	45.06	0.00	24.78	38.05	0.00	3.54	2.64	27.85	12.15	14.61	38.71	17.53
95th-Percentile Queue Length [veh/ln]	3.24	0.00	1.78	2.74	0.00	0.26	0.19	2.01	0.87	1.05	2.79	1.26
95th-Percentile Queue Length [ft/ln]	81.11	0.00	44.61	68.50	0.00	6.38	4.76	50.13	21.87	26.30	69.67	31.56

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	37.04	0.00	41.52	43.76	0.00	37.96	3.75	7.07	6.72	3.94	6.47	6.02
Movement LOS	D	A	D	D	A	D	A	A	A	A	A	A
d_A, Approach Delay [s/veh]	38.48			43.48			6.81			5.89		
Approach LOS	D			D			A			A		
d_I, Intersection Delay [s/veh]	12.92											
Intersection LOS	B											
Intersection V/C	0.215											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			0.0			0.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			0.00			0.00			0.00		
I_p,int, Pedestrian LOS Score for Intersection	0.000			0.000			0.000			0.000		
Crosswalk LOS	F			F			F			F		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	222			1200			222			222		
d_b, Bicycle Delay [s]	35.56			7.20			35.56			35.56		
I_b,int, Bicycle LOS Score for Intersection	1.711			1.812			1.975			2.286		
Bicycle LOS	A			A			A			B		

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 11: Amarillo Valley Road & Val Vista Road

Control Type:	Two-way stop	Delay (sec / veh):	11.9
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.011

Intersection Setup

Name	Amarillo Valley Road		Amarillo Valley Road		Val Vista Road	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	↶		↷		↷	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Amarillo Valley Road		Amarillo Valley Road		Val Vista Road	
Base Volume Input [veh/h]	2	8	12	5	4	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.1487	1.1487	1.1487	1.1487	1.1487	1.1487
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	77	119	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	91	136	0	0	0
Total Hourly Volume [veh/h]	2	177	269	6	5	0
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	49	75	2	1	0
Total Analysis Volume [veh/h]	2	197	299	7	6	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	7.87	0.00	0.00	0.00	11.91	9.96
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.03	0.03
95th-Percentile Queue Length [ft/ln]	0.12	0.12	0.00	0.00	0.86	0.86
d_A, Approach Delay [s/veh]	0.08		0.00		11.91	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.17					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 12: Amarillo Valley Road & Miller Road

Control Type:	Two-way stop	Delay (sec / veh):	13.7
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.025

Intersection Setup

Name	Amarillo Valley Road		Amarillo Valley Road		Miller Road	
Approach	Northbound		Southbound		Westbound	
Lane Configuration	↬		↵		↶	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Amarillo Valley Road		Amarillo Valley Road		Miller Road	
Base Volume Input [veh/h]	0	6	7	5	9	10
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.1487	1.1487	1.1487	1.1487	1.1487	1.1487
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	119	0	0	77
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	91	0	0	136	0	0
Total Hourly Volume [veh/h]	91	7	127	142	10	88
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	25	2	35	39	3	24
Total Analysis Volume [veh/h]	101	8	141	158	11	98
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.10	0.00	0.02	0.10
d_M, Delay for Movement [s/veh]	0.00	0.00	7.69	0.00	13.67	9.41
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.31	0.31	0.44	0.44
95th-Percentile Queue Length [ft/ln]	0.00	0.00	7.87	7.87	10.94	10.94
d_A, Approach Delay [s/veh]	0.00		3.62		9.84	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	4.17					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 1: SR 347 & Miller Road/Louis Johnson Drive

Control Type:	Signalized	Delay (sec / veh):	24.8
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.353

Intersection Setup

Name	SR 347			SR 347			Miller Road			Louis Johnson Drive		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	⇐⇐⇐			⇐⇐⇐			⇐⇐⇐			⇐⇐⇐		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	150.00	100.00	150.00	150.00	100.00	150.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00	0.00	0.00	0.00
Speed [mph]	65.00			65.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name	SR 347			SR 347			Miller Road			Louis Johnson Drive		
Base Volume Input [veh/h]	1	139	4	12	70	0	0	7	0	1	7	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	9.80	2.00	2.00	9.80	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.1951	1.1951	1.1951	1.1951	1.1951	1.1951	1.1951	1.1951	1.1951	1.1951	1.1951	1.1951
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	57	75	0	182	207	94	200	140	165	0	50	73
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	92	0	0	279	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	58	333	5	196	570	94	200	148	165	1	58	79
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	16	93	1	54	158	26	56	41	46	0	16	22
Total Analysis Volume [veh/h]	64	370	6	218	633	104	222	164	183	1	64	88
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing in	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	10	0	5	10	0	5	10	0	5	10	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	27	14	0	35	22	0	27	31	0	10	14	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	4	43	43	13	52	52	8	18	18	0	10	10
g / C, Green / Cycle	0.04	0.48	0.48	0.15	0.58	0.58	0.09	0.20	0.20	0.00	0.11	0.11
(v / s)_i Volume / Saturation Flow Rate	0.02	0.11	0.00	0.12	0.19	0.07	0.06	0.09	0.12	0.00	0.03	0.06
s, saturation flow rate [veh/h]	3459	3338	1589	1781	3338	1589	3459	1870	1589	1781	1870	1589
c, Capacity [veh/h]	158	1587	756	261	1925	917	315	370	314	5	204	173
d1, Uniform Delay [s]	41.84	13.94	12.45	37.41	9.97	8.65	39.80	31.82	32.81	44.87	37.06	37.88
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.67	0.34	0.02	6.88	0.46	0.25	2.87	0.84	1.71	20.39	0.87	2.29
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.41	0.23	0.01	0.83	0.33	0.11	0.70	0.44	0.58	0.21	0.31	0.51
d, Delay for Lane Group [s/veh]	43.52	14.29	12.46	44.29	10.43	8.90	42.67	32.66	34.52	65.27	37.92	40.17
Lane Group LOS	D	B	B	D	B	A	D	C	C	E	D	D
Critical Lane Group	No	Yes	No	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.67	1.87	0.06	4.70	2.50	0.74	2.48	3.18	3.71	0.05	1.34	1.92
50th-Percentile Queue Length [ft/ln]	16.75	46.71	1.40	117.38	62.48	18.53	62.07	79.44	92.66	1.23	33.40	47.97
95th-Percentile Queue Length [veh/ln]	1.21	3.36	0.10	8.25	4.50	1.33	4.47	5.72	6.67	0.09	2.40	3.45
95th-Percentile Queue Length [ft/ln]	30.14	84.08	2.51	206.22	112.47	33.35	111.73	143.00	166.79	2.21	60.12	86.35

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	43.52	14.29	12.46	44.29	10.43	8.90	42.67	32.66	34.52	65.27	37.92	40.17
Movement LOS	D	B	B	D	B	A	D	C	C	E	D	D
d_A, Approach Delay [s/veh]	18.52			17.99			37.16			39.40		
Approach LOS	B			B			D			D		
d_I, Intersection Delay [s/veh]	24.80											
Intersection LOS	C											
Intersection V/C	0.353											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			0.0			0.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			0.00			0.00			0.00		
I_p,int, Pedestrian LOS Score for Intersection	0.000			0.000			0.000			0.000		
Crosswalk LOS	F			F			F			F		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	222			400			599			222		
d_b, Bicycle Delay [s]	35.60			28.84			22.09			35.60		
I_b,int, Bicycle LOS Score for Intersection	1.923			2.347			2.498			1.812		
Bicycle LOS	A			B			B			A		

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report
Intersection 2: SR 347 & Access A**

Control Type:	Signalized	Delay (sec / veh):	12.9
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.336

Intersection Setup

Name	SR 347		SR 347		Access A	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	⇐		⇐		⇐⇐	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	65.00		65.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	No		No		No	

Volumes

Name	SR 347		SR 347		Access A	
Base Volume Input [veh/h]	0	144	86	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	9.80	9.80	2.00	2.00	2.00
Growth Factor	1.0000	1.1951	1.1951	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	82	307	102	50	125	209
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	92	279	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	82	571	484	50	125	209
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	23	159	134	14	35	58
Total Analysis Volume [veh/h]	91	634	538	56	139	232
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing in	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPerm	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	1	6	2	0	3	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	5	10	10	0	5	0
Maximum Green [s]	30	30	30	0	30	0
Amber [s]	3.0	3.0	3.0	0.0	3.0	0.0
All red [s]	1.0	1.0	1.0	0.0	1.0	0.0
Split [s]	9	23	14	0	67	0
Vehicle Extension [s]	3.0	3.0	3.0	0.0	3.0	0.0
Walk [s]	0	5	5	0	5	0
Pedestrian Clearance [s]	0	10	10	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No	No		No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
Minimum Recall	No	No	No		No	
Maximum Recall	No	No	No		No	
Pedestrian Recall	No	No	No		No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R	L	R
C, Cycle Length [s]	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	66	66	58	58	16	16
g / C, Green / Cycle	0.74	0.74	0.64	0.64	0.17	0.17
(v / s)_i Volume / Saturation Flow Rate	0.10	0.19	0.16	0.04	0.08	0.15
s, saturation flow rate [veh/h]	957	3338	3338	1589	1781	1589
c, Capacity [veh/h]	752	2456	2141	1020	312	279
d1, Uniform Delay [s]	3.65	3.88	6.90	6.00	33.20	35.84
k, delay calibration	0.11	0.50	0.50	0.50	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.07	0.25	0.28	0.10	1.00	6.41
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.12	0.26	0.25	0.05	0.45	0.83
d, Delay for Lane Group [s/veh]	3.72	4.13	7.18	6.10	34.20	42.25
Lane Group LOS	A	A	A	A	C	D
Critical Lane Group	No	Yes	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.22	0.91	1.52	0.29	2.76	5.32
50th-Percentile Queue Length [ft/ln]	5.43	22.81	37.92	7.21	69.07	132.95
95th-Percentile Queue Length [veh/ln]	0.39	1.64	2.73	0.52	4.97	9.10
95th-Percentile Queue Length [ft/ln]	9.77	41.06	68.25	12.98	124.32	227.51

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	3.72	4.13	7.18	6.10	34.20	42.25
Movement LOS	A	A	A	A	C	D
d_A, Approach Delay [s/veh]	4.08		7.08		39.24	
Approach LOS	A		A		D	
d_I, Intersection Delay [s/veh]	12.85					
Intersection LOS	B					
Intersection V/C	0.336					

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft ² /ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00
I_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	0.000
Crosswalk LOS	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	422	222	1400
d_b, Bicycle Delay [s]	28.01	35.56	4.05
I_b,int, Bicycle LOS Score for Intersection	2.158	2.050	1.560
Bicycle LOS	B	B	A

Sequence

Ring 1	1	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report
Intersection 3: SR 347 & Access B**

Control Type:	Signalized	Delay (sec / veh):	12.6
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.381

Intersection Setup

Name	SR 347		SR 347		Access B	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	⇐		⇐		⇐⇐	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	1	0	0	0	0
Exit Pocket Length [ft]	0.00	49.21	0.00	0.00	0.00	0.00
Speed [mph]	65.00		65.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	No		No		No	

Volumes

Name	SR 347		SR 347		Access B	
Base Volume Input [veh/h]	0	144	86	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	9.80	9.80	2.00	2.00	2.00
Growth Factor	1.0000	1.1951	1.1951	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	77	272	273	39	116	210
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	92	279	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	77	536	655	39	116	210
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	21	149	182	11	32	58
Total Analysis Volume [veh/h]	86	596	728	43	129	233
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing in	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPerm	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	1	6	2	0	3	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	5	10	10	0	5	0
Maximum Green [s]	30	30	30	0	30	0
Amber [s]	3.0	3.0	3.0	0.0	3.0	0.0
All red [s]	1.0	1.0	1.0	0.0	1.0	0.0
Split [s]	9	41	32	0	49	0
Vehicle Extension [s]	3.0	3.0	3.0	0.0	3.0	0.0
Walk [s]	0	5	5	0	5	0
Pedestrian Clearance [s]	0	10	10	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No	No		No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
Minimum Recall	No	No	No		No	
Maximum Recall	No	No	No		No	
Pedestrian Recall	No	No	No		No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R	L	R
C, Cycle Length [s]	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	66	66	58	58	16	16
g / C, Green / Cycle	0.74	0.74	0.64	0.64	0.18	0.18
(v / s)_i Volume / Saturation Flow Rate	0.10	0.18	0.22	0.03	0.07	0.15
s, saturation flow rate [veh/h]	829	3338	3338	1589	1781	1589
c, Capacity [veh/h]	643	2453	2141	1020	314	280
d1, Uniform Delay [s]	4.04	3.85	7.40	5.95	32.94	35.80
k, delay calibration	0.11	0.50	0.50	0.50	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.09	0.24	0.43	0.08	0.86	6.38
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.13	0.24	0.34	0.04	0.41	0.83
d, Delay for Lane Group [s/veh]	4.13	4.08	7.83	6.02	33.80	42.18
Lane Group LOS	A	A	A	A	C	D
Critical Lane Group	Yes	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.21	0.85	2.21	0.22	2.54	5.34
50th-Percentile Queue Length [ft/ln]	5.21	21.25	55.14	5.48	63.56	133.47
95th-Percentile Queue Length [veh/ln]	0.38	1.53	3.97	0.39	4.58	9.13
95th-Percentile Queue Length [ft/ln]	9.38	38.24	99.25	9.86	114.40	228.20

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	4.13	4.08	7.83	6.02	33.80	42.18
Movement LOS	A	A	A	A	C	D
d_A, Approach Delay [s/veh]	4.09		7.73		39.19	
Approach LOS	A		A		D	
d_I, Intersection Delay [s/veh]	12.64					
Intersection LOS	B					
Intersection V/C	0.381					

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft ² /ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00
I_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	0.000
Crosswalk LOS	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	822	622	1000
d_b, Bicycle Delay [s]	15.61	21.36	11.25
I_b,int, Bicycle LOS Score for Intersection	2.122	2.196	1.560
Bicycle LOS	B	B	A

Sequence

Ring 1	1	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report
Intersection 4: Green Road & Access C**

Control Type:	Two-way stop	Delay (sec / veh):	9.5
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.168

Intersection Setup

Name	Green Road		Green Road		Access C	
Approach	Northbound		Southbound		Westbound	
Lane Configuration	↑↔		↔↓		↔↔	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	1	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Green Road		Green Road		Access C	
Base Volume Input [veh/h]	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	61	0	0	147	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	61	0	0	147	0
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	17	0	0	41	0
Total Analysis Volume [veh/h]	0	68	0	0	163	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			Yes
Number of Storage Spaces in Median	0	0	2

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.17	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	7.35	0.00	9.45	8.32
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.60	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	15.04	0.00
d_A, Approach Delay [s/veh]	0.00		3.67		9.45	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	6.67					
Intersection LOS	A					

**Intersection Level Of Service Report
Intersection 5: Green Road & Access D**

Control Type:	Two-way stop	Delay (sec / veh):	10.6
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.202

Intersection Setup

Name	Green Road		Green Road		Access D	
Approach	Northbound		Southbound		Westbound	
Lane Configuration	↑↔		↔↓		↔↔	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	1	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Green Road		Green Road		Access D	
Base Volume Input [veh/h]	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	61	61	0	147	147	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	61	61	0	147	147	0
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	17	17	0	41	41	0
Total Analysis Volume [veh/h]	68	68	0	163	163	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			Yes
Number of Storage Spaces in Median	0	0	2

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.20	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	7.49	0.00	10.60	8.62
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.75	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	18.86	0.00
d_A, Approach Delay [s/veh]	0.00		0.00		10.60	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	3.74					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 6: Green Road & Miller Road

Control Type:	Two-way stop	Delay (sec / veh):	13.5
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.366

Intersection Setup

Name	Green Road		Miller Road		Miller Road	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration	↵↵		↵		↵	
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	1	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Green Road		Miller Road		Miller Road	
Base Volume Input [veh/h]	0	0	0	7	8	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.1951	1.1951	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	218	76	49	57	101	73
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	218	76	49	65	111	73
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	61	21	14	18	31	20
Total Analysis Volume [veh/h]	242	84	54	72	123	81
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.37	0.09	0.04	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	13.55	9.27	7.74	0.00	0.00	0.00
Movement LOS	B	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	1.68	0.30	0.12	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	41.92	7.44	3.08	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	12.44		3.32		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	6.82					
Intersection LOS	B					

**Intersection Level Of Service Report
Intersection 7: Access E & Miller Road**

Control Type:	Two-way stop	Delay (sec / veh):	12.8
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.282

Intersection Setup

Name	Access E		Miller Road		Miller Road	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration	↵↵		↵		↵	
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	1	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Access E		Miller Road		Miller Road	
Base Volume Input [veh/h]	0	0	0	7	8	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.1951	1.1951	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	163	38	24	250	135	54
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	163	38	24	258	145	54
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	45	11	7	72	40	15
Total Analysis Volume [veh/h]	181	42	27	287	161	60
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	Yes		
Number of Storage Spaces in Median	2	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.28	0.05	0.02	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	12.80	9.28	7.72	0.00	0.00	0.00
Movement LOS	B	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	1.16	0.15	0.06	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	28.88	3.74	1.53	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	12.14		0.66		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	3.85					
Intersection LOS	B					

**Intersection Level Of Service Report
Intersection 8: Access F & Miller Road**

Control Type:	Two-way stop	Delay (sec / veh):	13.5
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.232

Intersection Setup

Name	Access F		Miller Road		Miller Road	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration	↵↵		↵		↵	
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	1	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Access F		Miller Road		Miller Road	
Base Volume Input [veh/h]	0	0	0	7	8	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.1951	1.1951	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	115	32	22	391	157	43
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	115	32	22	399	167	43
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	32	9	6	111	46	12
Total Analysis Volume [veh/h]	128	36	24	443	186	48
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	Yes		
Number of Storage Spaces in Median	2	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.23	0.04	0.02	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	13.49	9.39	7.75	0.00	0.00	0.00
Movement LOS	B	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.89	0.13	0.05	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	22.30	3.29	1.37	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	12.59		0.40		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	2.60					
Intersection LOS	B					

**Intersection Level Of Service Report
Intersection 9: SR 347 & Papago Road**

Control Type:	Signalized	Delay (sec / veh):	44.8
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.868

Intersection Setup

Name	SR 347		SR 347		Papago Road	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	⇐		⇐		⇐⇐	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	65.00		65.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	No		No		No	

Volumes

Name	SR 347		SR 347		Papago Road	
Base Volume Input [veh/h]	10	141	89	48	127	23
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	9.80	9.80	2.00	2.00	2.00
Growth Factor	1.1951	1.1951	1.1951	1.1951	1.1951	1.1951
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	432	152	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	92	0	0	306	918	279
Right Turn on Red Volume [veh/h]	0	0	0	182	0	153
Total Hourly Volume [veh/h]	104	601	258	181	1070	153
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	29	167	72	50	297	43
Total Analysis Volume [veh/h]	116	668	287	201	1189	170
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing in	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPerm	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	1	6	2	0	3	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	5	10	10	0	5	0
Maximum Green [s]	30	30	30	0	30	0
Amber [s]	3.0	3.0	3.0	0.0	3.0	0.0
All red [s]	1.0	1.0	1.0	0.0	1.0	0.0
Split [s]	9	37	28	0	83	0
Vehicle Extension [s]	3.0	3.0	3.0	0.0	3.0	0.0
Walk [s]	0	5	5	0	5	0
Pedestrian Clearance [s]	0	10	10	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No	No		No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
Minimum Recall	No	No	No		No	
Maximum Recall	No	No	No		No	
Pedestrian Recall	No	No	No		No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R	L	R
C, Cycle Length [s]	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	33	33	24	24	79	79
g / C, Green / Cycle	0.28	0.28	0.20	0.20	0.66	0.66
(v / s)_i Volume / Saturation Flow Rate	0.09	0.20	0.09	0.13	0.67	0.11
s, saturation flow rate [veh/h]	1238	3338	3338	1589	1781	1589
c, Capacity [veh/h]	349	918	668	318	1172	1046
d1, Uniform Delay [s]	34.10	39.43	42.01	43.96	20.50	7.84
k, delay calibration	0.11	0.50	0.50	0.50	0.49	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.55	5.04	2.02	9.22	29.61	0.07
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.33	0.73	0.43	0.63	1.01	0.16
d, Delay for Lane Group [s/veh]	34.66	44.47	44.03	53.18	50.11	7.92
Lane Group LOS	C	D	D	D	F	A
Critical Lane Group	No	Yes	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	2.50	8.86	3.67	5.92	38.83	1.64
50th-Percentile Queue Length [ft/ln]	62.42	221.60	91.77	148.00	970.69	41.00
95th-Percentile Queue Length [veh/ln]	4.49	13.75	6.61	9.91	49.68	2.95
95th-Percentile Queue Length [ft/ln]	112.35	343.66	165.19	247.76	1242.07	73.80

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	34.66	44.47	44.03	53.18	50.11	7.92
Movement LOS	C	D	D	D	F	A
d_A, Approach Delay [s/veh]	43.01		47.80		44.83	
Approach LOS	D		D		D	
d_I, Intersection Delay [s/veh]	44.84					
Intersection LOS	D					
Intersection V/C	0.868					

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft ² /ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00
I_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	0.000
Crosswalk LOS	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	550	400	1317
d_b, Bicycle Delay [s]	31.54	38.40	7.00
I_b,int, Bicycle LOS Score for Intersection	2.206	2.112	1.560
Bicycle LOS	B	B	A

Sequence





Ring 1	1	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 10: Amarillo Valley Road & Papago Road

Control Type:	Signalized	Delay (sec / veh):	18.4
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.307

Intersection Setup

Name	Amarillo Valley Road			Amarillo Valley Road			Papago Road			Papago Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Speed [mph]	45.00			45.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name	Amarillo Valley Road			Amarillo Valley Road			Papago Road			Papago Road		
Base Volume Input [veh/h]	4	0	9	0	0	0	0	135	6	4	57	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.1951	1.1951	1.1951	1.1951	1.1951	1.1951	1.1951	1.1951	1.1951	1.1951	1.1951	1.1951
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	177	0	0	0	0	0	0	0	105	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	115	190	0	21	7	254	0	47	156	64
Right Turn on Red Volume [veh/h]	0	0	63	0	0	11	0	0	56	0	0	32
Total Hourly Volume [veh/h]	182	0	63	190	0	10	7	415	56	52	224	32
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	51	0	18	53	0	3	2	115	16	14	62	9
Total Analysis Volume [veh/h]	202	0	70	211	0	11	8	461	62	58	249	36
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0			0			0	
v_di, Inbound Pedestrian Volume crossing in		0			0			0			0	
v_co, Outbound Pedestrian Volume crossing		0			0			0			0	
v_ci, Inbound Pedestrian Volume crossing mi		0			0			0			0	
v_ab, Corner Pedestrian Volume [ped/h]		0			0			0			0	
Bicycle Volume [bicycles/h]		0			0			0			0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	Protecte	Permiss	Permiss	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss
Signal Group	3	8	0	7	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	10	0	5	10	0	5	10	0	5	10	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	30	14	0	40	24	0	9	26	0	10	27	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	2.00	2.00	2.00	0.00	2.00	2.00	0.00	2.00	2.00
g_i, Effective Green Time [s]	20	8	8	8	5	5	62	54	54	62	57	57
g / C, Green / Cycle	0.22	0.09	0.09	0.09	0.06	0.06	0.69	0.60	0.60	0.69	0.63	0.63
(v / s)_i Volume / Saturation Flow Rate	0.12	0.00	0.04	0.06	0.00	0.01	0.01	0.13	0.04	0.06	0.07	0.02
s, saturation flow rate [veh/h]	1654	3560	1589	3459	1870	1589	1161	3560	1589	1011	3560	1589
c, Capacity [veh/h]	492	327	146	307	106	90	873	2132	952	747	2247	1003
d1, Uniform Delay [s]	30.47	0.00	38.81	39.79	0.00	40.33	4.53	8.32	7.54	4.83	6.59	6.27
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.50	0.11	0.50	0.50
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.55	0.00	2.42	2.72	0.00	0.60	0.02	0.23	0.13	0.04	0.10	0.07
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.41	0.00	0.48	0.69	0.00	0.12	0.01	0.22	0.07	0.08	0.11	0.04
d, Delay for Lane Group [s/veh]	31.02	0.00	41.23	42.51	0.00	40.93	4.55	8.56	7.67	4.88	6.69	6.34
Lane Group LOS	C	A	D	D	A	D	A	A	A	A	A	A
Critical Lane Group	Yes	No	No	Yes	No	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	3.68	0.00	1.50	2.28	0.00	0.24	0.04	1.77	0.45	0.26	0.79	0.23
50th-Percentile Queue Length [ft/ln]	92.03	0.00	37.49	56.93	0.00	5.93	0.97	44.37	11.26	6.62	19.63	5.65
95th-Percentile Queue Length [veh/ln]	6.63	0.00	2.70	4.10	0.00	0.43	0.07	3.19	0.81	0.48	1.41	0.41
95th-Percentile Queue Length [ft/ln]	165.65	0.00	67.48	102.48	0.00	10.67	1.75	79.86	20.27	11.92	35.33	10.17

Movement, Approach, & Intersection Results

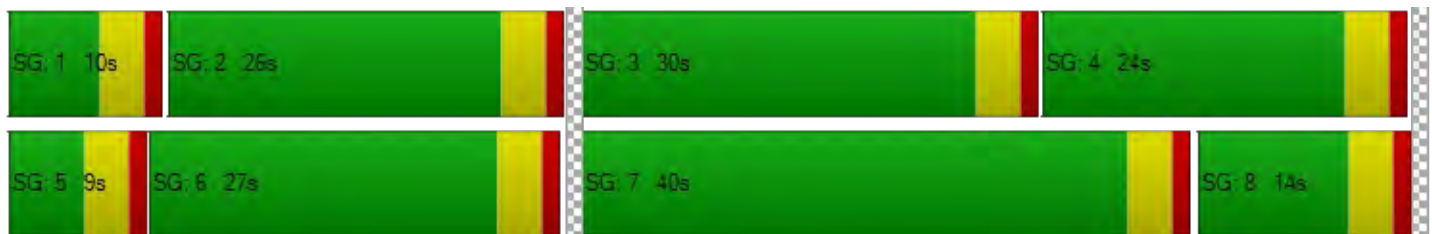
d_M, Delay for Movement [s/veh]	31.02	0.00	41.23	42.51	0.00	40.93	4.55	8.56	7.67	4.88	6.69	6.34
Movement LOS	C	A	D	D	A	D	A	A	A	A	A	A
d_A, Approach Delay [s/veh]	33.65			42.43			8.39			6.34		
Approach LOS	C			D			A			A		
d_I, Intersection Delay [s/veh]	18.42											
Intersection LOS	B											
Intersection V/C	0.307											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			0.0			0.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			0.00			0.00			0.00		
I_p,int, Pedestrian LOS Score for Intersection	0.000			0.000			0.000			0.000		
Crosswalk LOS	F			F			F			F		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	222			444			489			511		
d_b, Bicycle Delay [s]	35.56			27.22			25.69			24.94		
I_b,int, Bicycle LOS Score for Intersection	1.836			1.944			2.044			1.869		
Bicycle LOS	A			A			B			A		

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 11: Amarillo Valley Road & Val Vista Road

Control Type:	Two-way stop	Delay (sec / veh):	12.2
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.018

Intersection Setup

Name	Amarillo Valley Road		Amarillo Valley Road		Val Vista Road	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	↰		↳		↻	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Amarillo Valley Road		Amarillo Valley Road		Val Vista Road	
Base Volume Input [veh/h]	1	4	6	2	7	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.1951	1.1951	1.1951	1.1951	1.1951	1.1951
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	177	105	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	120	63	0	0	0
Total Hourly Volume [veh/h]	1	302	175	2	8	1
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	84	49	1	2	0
Total Analysis Volume [veh/h]	1	336	194	2	9	1
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.02	0.00
d_M, Delay for Movement [s/veh]	7.62	0.00	0.00	0.00	12.23	9.39
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.06	0.06
95th-Percentile Queue Length [ft/ln]	0.05	0.05	0.00	0.00	1.45	1.45
d_A, Approach Delay [s/veh]	0.02		0.00		11.95	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.23					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 12: Amarillo Valley Road & Miller Road

Control Type:	Two-way stop	Delay (sec / veh):	13.2
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.012

Intersection Setup

Name	Amarillo Valley Road		Amarillo Valley Road		Miller Road	
Approach	Northbound		Southbound		Westbound	
Lane Configuration	↬		↵		↶	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Amarillo Valley Road		Amarillo Valley Road		Miller Road	
Base Volume Input [veh/h]	1	3	4	3	4	4
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.1951	1.1951	1.1951	1.1951	1.1951	1.1951
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	105	0	0	177
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	120	0	0	63	0	0
Total Hourly Volume [veh/h]	121	4	110	67	5	182
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	34	1	31	19	1	51
Total Analysis Volume [veh/h]	134	4	122	74	6	202
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.08	0.00	0.01	0.22
d_M, Delay for Movement [s/veh]	0.00	0.00	7.72	0.00	13.22	10.17
Movement LOS	A	A	A	A	B	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.28	0.28	0.90	0.90
95th-Percentile Queue Length [ft/ln]	0.00	0.00	6.90	6.90	22.55	22.55
d_A, Approach Delay [s/veh]	0.00		4.80		10.25	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	5.67					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 1: SR 347 & Miller Road/Louis Johnson Drive

Control Type:	Signalized	Delay (sec / veh):	26.3
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.507

Intersection Setup

Name	SR 347			SR 347			Miller Road			Louis Johnson Drive		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	⇐ ⇐ ⇐			⇐ ⇐			⇐ ⇐ ⇐			⇐ ⇐		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	150.00	100.00	150.00	150.00	100.00	150.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00	0.00	0.00	0.00
Speed [mph]	65.00			65.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name	SR 347			SR 347			Miller Road			Louis Johnson Drive		
Base Volume Input [veh/h]	1	106	0	11	161	5	3	5	5	1	13	24
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	9.80	2.00	2.00	9.80	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.1951	1.1951	1.1951	1.1951	1.1951	1.1951	1.1951	1.1951	1.1951	1.1951	1.1951	1.1951
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	184	227	0	114	134	234	160	91	109	0	154	191
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	313	0	0	184	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	185	667	0	127	510	240	164	97	115	1	170	220
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	51	185	0	35	142	67	46	27	32	0	47	61
Total Analysis Volume [veh/h]	206	741	0	141	567	267	182	108	128	1	189	244
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0			0			0	
v_di, Inbound Pedestrian Volume crossing in		0			0			0			0	
v_co, Outbound Pedestrian Volume crossing		0			0			0			0	
v_ci, Inbound Pedestrian Volume crossing mi		0			0			0			0	
v_ab, Corner Pedestrian Volume [ped/h]		0			0			0			0	
Bicycle Volume [bicycles/h]		0			0			0			0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	10	0	5	10	0	5	10	0	5	10	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	24	26	0	19	21	0	10	35	0	10	35	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	8	43	43	9	44	44	6	22	22	0	16	16
g / C, Green / Cycle	0.08	0.47	0.47	0.10	0.49	0.49	0.07	0.25	0.25	0.00	0.18	0.18
(v / s)_i Volume / Saturation Flow Rate	0.06	0.22	0.00	0.08	0.17	0.17	0.05	0.06	0.08	0.00	0.10	0.15
s, saturation flow rate [veh/h]	3459	3338	1589	1781	3338	1589	3459	1870	1589	1781	1870	1589
c, Capacity [veh/h]	296	1578	752	177	1625	774	234	463	393	5	342	290
d1, Uniform Delay [s]	40.10	16.10	0.00	39.71	14.30	14.27	41.38	27.10	27.77	44.87	33.51	35.59
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.96	1.01	0.00	7.88	0.59	1.22	5.55	0.26	0.48	20.39	1.40	6.48
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.70	0.47	0.00	0.80	0.35	0.34	0.78	0.23	0.33	0.21	0.55	0.84
d, Delay for Lane Group [s/veh]	43.06	17.11	0.00	47.59	14.89	15.49	46.93	27.35	28.24	65.27	34.91	42.06
Lane Group LOS	D	B	A	D	B	B	D	C	C	E	C	D
Critical Lane Group	No	Yes	No	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.14	4.35	0.00	3.16	2.98	2.94	2.15	1.86	2.27	0.05	3.83	5.59
50th-Percentile Queue Length [ft/ln]	53.48	108.84	0.00	78.89	74.46	73.38	53.64	46.54	56.82	1.23	95.74	139.76
95th-Percentile Queue Length [veh/ln]	3.85	7.78	0.00	5.68	5.36	5.28	3.86	3.35	4.09	0.09	6.89	9.47
95th-Percentile Queue Length [ft/ln]	96.27	194.38	0.00	142.00	134.03	132.09	96.55	83.76	102.28	2.21	172.33	236.70

Movement, Approach, & Intersection Results

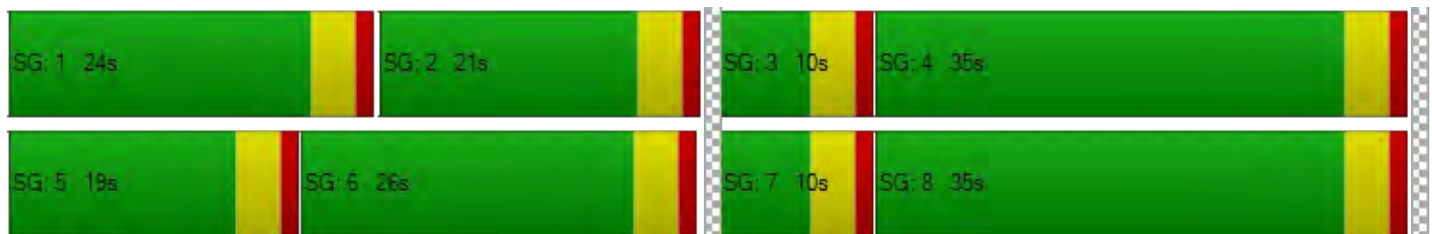
d_M, Delay for Movement [s/veh]	43.06	17.11	0.00	47.59	14.89	15.49	46.93	27.35	28.24	65.27	34.91	42.06
Movement LOS	D	B	A	D	B	B	D	C	C	E	C	D
d_A, Approach Delay [s/veh]	22.75			19.78			36.15			39.00		
Approach LOS	C			B			D			D		
d_I, Intersection Delay [s/veh]	26.27											
Intersection LOS	C											
Intersection V/C	0.507											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			0.0			0.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			0.00			0.00			0.00		
I_p,int, Pedestrian LOS Score for Intersection	0.000			0.000			0.000			0.000		
Crosswalk LOS	F			F			F			F		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	488			377			688			688		
d_b, Bicycle Delay [s]	25.73			29.65			19.38			19.38		
I_b,int, Bicycle LOS Score for Intersection	2.341			2.364			2.249			2.276		
Bicycle LOS	B			B			B			B		

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report
Intersection 2: SR 347 & Access A**

Control Type:	Signalized	Delay (sec / veh):	8.6
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.380

Intersection Setup

Name	SR 347		SR 347		Access A	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	⇐		⇐		⇐⇐	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	65.00		65.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	No		No		No	

Volumes

Name	SR 347		SR 347		Access A	
Base Volume Input [veh/h]	0	133	177	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	9.80	9.80	2.00	2.00	2.00
Growth Factor	1.0000	1.1951	1.1951	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	223	202	345	134	80	133
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	313	184	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	223	674	741	134	80	133
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	62	187	206	37	22	37
Total Analysis Volume [veh/h]	248	749	823	149	89	148
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing in	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPerm	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	1	6	2	0	3	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	5	10	10	0	5	0
Maximum Green [s]	30	30	30	0	30	0
Amber [s]	3.0	3.0	3.0	0.0	3.0	0.0
All red [s]	1.0	1.0	1.0	0.0	1.0	0.0
Split [s]	9	23	14	0	67	0
Vehicle Extension [s]	3.0	3.0	3.0	0.0	3.0	0.0
Walk [s]	0	5	5	0	5	0
Pedestrian Clearance [s]	0	10	10	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No	No		No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
Minimum Recall	No	No	No		No	
Maximum Recall	No	No	No		No	
Pedestrian Recall	No	No	No		No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R	L	R
C, Cycle Length [s]	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	71	71	62	62	11	11
g / C, Green / Cycle	0.79	0.79	0.69	0.69	0.12	0.12
(v / s)_i Volume / Saturation Flow Rate	0.32	0.22	0.25	0.09	0.05	0.09
s, saturation flow rate [veh/h]	775	3338	3338	1589	1781	1589
c, Capacity [veh/h]	658	2640	2307	1098	214	191
d1, Uniform Delay [s]	3.17	2.53	5.70	4.74	36.68	38.42
k, delay calibration	0.42	0.50	0.50	0.50	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.39	0.27	0.43	0.26	1.29	6.62
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.38	0.28	0.36	0.14	0.42	0.78
d, Delay for Lane Group [s/veh]	4.56	2.80	6.13	5.00	37.97	45.04
Lane Group LOS	A	A	A	A	D	D
Critical Lane Group	Yes	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.46	0.45	1.90	0.61	1.87	3.47
50th-Percentile Queue Length [ft/ln]	11.61	11.31	47.59	15.25	46.72	86.81
95th-Percentile Queue Length [veh/ln]	0.84	0.81	3.43	1.10	3.36	6.25
95th-Percentile Queue Length [ft/ln]	20.91	20.36	85.67	27.44	84.09	156.26

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	4.56	2.80	6.13	5.00	37.97	45.04
Movement LOS	A	A	A	A	D	D
d_A, Approach Delay [s/veh]	3.24		5.96		42.39	
Approach LOS	A		A		D	
d_I, Intersection Delay [s/veh]	8.64					
Intersection LOS	A					
Intersection V/C	0.380					

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft ² /ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00
I_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	0.000
Crosswalk LOS	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	422	222	1400
d_b, Bicycle Delay [s]	28.01	35.56	4.05
I_b,int, Bicycle LOS Score for Intersection	2.382	2.362	1.560
Bicycle LOS	B	B	A

Sequence

Ring 1	1	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report
Intersection 3: SR 347 & Access B**

Control Type:	Signalized	Delay (sec / veh):	8.3
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.368

Intersection Setup

Name	SR 347		SR 347		Access B	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	⇐		⇐		⇐⇐	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	1	0	0	0	0
Exit Pocket Length [ft]	0.00	49.21	0.00	0.00	0.00	0.00
Speed [mph]	65.00		65.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	No		No		No	

Volumes

Name	SR 347		SR 347		Access B	
Base Volume Input [veh/h]	0	133	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	9.80	9.80	2.00	2.00	2.00
Growth Factor	1.0000	1.1951	1.1951	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	229	349	347	131	77	135
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	313	184	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	229	821	531	131	77	135
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	64	228	148	36	21	38
Total Analysis Volume [veh/h]	254	912	590	146	86	150
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing in	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPerm	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	1	6	2	0	3	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	5	10	10	0	5	0
Maximum Green [s]	30	30	30	0	30	0
Amber [s]	3.0	3.0	3.0	0.0	3.0	0.0
All red [s]	1.0	1.0	1.0	0.0	1.0	0.0
Split [s]	9	23	14	0	67	0
Vehicle Extension [s]	3.0	3.0	3.0	0.0	3.0	0.0
Walk [s]	0	5	5	0	5	0
Pedestrian Clearance [s]	0	10	10	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No	No		No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
Minimum Recall	No	No	No		No	
Maximum Recall	No	No	No		No	
Pedestrian Recall	No	No	No		No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R	L	R
C, Cycle Length [s]	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	71	71	62	62	11	11
g / C, Green / Cycle	0.79	0.79	0.69	0.69	0.12	0.12
(v / s)_i Volume / Saturation Flow Rate	0.28	0.27	0.18	0.09	0.05	0.09
s, saturation flow rate [veh/h]	920	3338	3338	1589	1781	1589
c, Capacity [veh/h]	784	2636	2303	1097	216	193
d1, Uniform Delay [s]	2.69	2.73	5.26	4.76	36.52	38.37
k, delay calibration	0.32	0.50	0.50	0.50	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.71	0.36	0.27	0.25	1.19	6.66
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.32	0.35	0.26	0.13	0.40	0.78
d, Delay for Lane Group [s/veh]	3.41	3.09	5.53	5.02	37.70	45.03
Lane Group LOS	A	A	A	A	D	D
Critical Lane Group	No	Yes	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.38	0.61	1.25	0.60	1.80	3.52
50th-Percentile Queue Length [ft/ln]	9.53	15.25	31.37	15.03	44.93	87.99
95th-Percentile Queue Length [veh/ln]	0.69	1.10	2.26	1.08	3.23	6.34
95th-Percentile Queue Length [ft/ln]	17.15	27.45	56.47	27.05	80.87	158.38

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	3.41	3.09	5.53	5.02	37.70	45.03
Movement LOS	A	A	A	A	D	D
d_A, Approach Delay [s/veh]	3.16		5.42		42.36	
Approach LOS	A		A		D	
d_I, Intersection Delay [s/veh]	8.27					
Intersection LOS	A					
Intersection V/C	0.368					

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft ² /ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00
I_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	0.000
Crosswalk LOS	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	422	222	1400
d_b, Bicycle Delay [s]	28.01	35.56	4.05
I_b,int, Bicycle LOS Score for Intersection	2.522	2.167	1.560
Bicycle LOS	B	B	A

Sequence

Ring 1	1	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report
Intersection 4: Green Road & Access C**

Control Type:	Two-way stop	Delay (sec / veh):	9.1
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.105

Intersection Setup

Name	Green Road		Green Road		Access C	
Approach	Northbound		Southbound		Westbound	
Lane Configuration	↑↔		↔↓		↔↔	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	1	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Green Road		Green Road		Access C	
Base Volume Input [veh/h]	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	153	0	0	92	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	153	0	0	92	0
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	43	0	0	26	0
Total Analysis Volume [veh/h]	0	170	0	0	102	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			Yes
Number of Storage Spaces in Median	0	0	2

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.11	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	7.56	0.00	9.14	8.32
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.35	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	8.77	0.00
d_A, Approach Delay [s/veh]	0.00		3.78		9.14	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	3.43					
Intersection LOS	A					

**Intersection Level Of Service Report
Intersection 5: Green Road & Access D**

Control Type:	Two-way stop	Delay (sec / veh):	10.3
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.130

Intersection Setup

Name	Green Road		Green Road		Access D	
Approach	Northbound		Southbound		Westbound	
Lane Configuration	↑↔		↔↓		↔↔	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	1	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Green Road		Green Road		Access D	
Base Volume Input [veh/h]	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	153	153	0	92	92	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	153	153	0	92	92	0
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	43	43	0	26	26	0
Total Analysis Volume [veh/h]	170	170	0	102	102	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			Yes
Number of Storage Spaces in Median	0	0	2

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.13	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	7.95	0.00	10.26	9.12
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.45	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	11.13	0.00
d_A, Approach Delay [s/veh]	0.00		0.00		10.26	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	1.92					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 6: Green Road & Miller Road

Control Type:	Two-way stop	Delay (sec / veh):	12.9
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.260

Intersection Setup

Name	Green Road		Miller Road		Miller Road	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration	↵↵		↵		↵	
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	1	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Green Road		Miller Road		Miller Road	
Base Volume Input [veh/h]	0	0	0	13	19	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.1951	1.1951	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	144	40	62	89	56	245
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	144	40	62	105	79	245
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	40	11	17	29	22	68
Total Analysis Volume [veh/h]	160	44	69	117	88	272
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.26	0.05	0.06	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	12.89	8.89	8.19	0.00	0.00	0.00
Movement LOS	B	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	1.03	0.14	0.18	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	25.86	3.56	4.58	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	12.02		3.04		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	4.02					
Intersection LOS	B					

**Intersection Level Of Service Report
Intersection 7: Access E & Miller Road**

Control Type:	Two-way stop	Delay (sec / veh):	12.7
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.204

Intersection Setup

Name	Access E		Miller Road		Miller Road	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration	↵↵		↵		↵	
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	1	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Access E		Miller Road		Miller Road	
Base Volume Input [veh/h]	0	0	0	13	19	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.1951	1.1951	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	108	20	31	202	281	184
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	108	20	31	218	304	184
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	30	6	9	61	84	51
Total Analysis Volume [veh/h]	120	22	34	242	338	204
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	Yes		
Number of Storage Spaces in Median	2	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.20	0.03	0.03	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	12.67	10.28	8.63	0.00	0.00	0.00
Movement LOS	B	B	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.76	0.10	0.10	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	18.94	2.42	2.57	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	12.30		1.06		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	2.12					
Intersection LOS	B					

**Intersection Level Of Service Report
Intersection 8: Access F & Miller Road**

Control Type:	Two-way stop	Delay (sec / veh):	13.9
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.168

Intersection Setup

Name	Access F		Miller Road		Miller Road	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration	↵↵		↵		↵	
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	1	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Access F		Miller Road		Miller Road	
Base Volume Input [veh/h]	0	0	0	13	19	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.1951	1.1951	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	74	16	24	286	448	124
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	74	16	24	302	471	124
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	21	4	7	84	131	34
Total Analysis Volume [veh/h]	82	18	27	336	523	138
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	Yes		
Number of Storage Spaces in Median	2	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.17	0.03	0.03	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	13.85	11.72	9.00	0.00	0.00	0.00
Movement LOS	B	B	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.60	0.10	0.09	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	14.95	2.52	2.25	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	13.47		0.67		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	1.41					
Intersection LOS	B					

**Intersection Level Of Service Report
Intersection 9: SR 347 & Papago Road**

Control Type:	Signalized	Delay (sec / veh):	91.1
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.149

Intersection Setup

Name	SR 347		SR 347		Papago Road	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	⇐		⇐		⇐⇐	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	65.00		65.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	No		No		No	

Volumes

Name	SR 347		SR 347		Papago Road	
Base Volume Input [veh/h]	21	152	143	155	79	21
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	9.80	9.80	2.00	2.00	2.00
Growth Factor	1.1951	1.1951	1.1951	1.1951	1.1951	1.1951
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	282	479	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	313	0	0	1030	606	184
Right Turn on Red Volume [veh/h]	0	0	0	304	0	105
Total Hourly Volume [veh/h]	338	464	650	911	700	104
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	94	129	181	253	194	29
Total Analysis Volume [veh/h]	376	516	722	1012	778	116
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing in	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPerm	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	1	6	2	0	3	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	5	10	10	0	5	0
Maximum Green [s]	30	30	30	0	30	0
Amber [s]	3.0	3.0	3.0	0.0	3.0	0.0
All red [s]	1.0	1.0	1.0	0.0	1.0	0.0
Split [s]	9	73	64	0	47	0
Vehicle Extension [s]	3.0	3.0	3.0	0.0	3.0	0.0
Walk [s]	0	5	5	0	5	0
Pedestrian Clearance [s]	0	10	10	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No	No		No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
Minimum Recall	No	No	No		No	
Maximum Recall	No	No	No		No	
Pedestrian Recall	No	No	No		No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R	L	R
C, Cycle Length [s]	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	69	69	60	60	43	43
g / C, Green / Cycle	0.58	0.58	0.50	0.50	0.36	0.36
(v / s)_i Volume / Saturation Flow Rate	0.45	0.15	0.22	0.64	0.44	0.07
s, saturation flow rate [veh/h]	837	3338	3338	1589	1781	1589
c, Capacity [veh/h]	472	1919	1669	795	638	570
d1, Uniform Delay [s]	25.00	12.82	19.14	30.00	38.50	26.65
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	13.07	0.34	0.82	132.79	112.37	0.17
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.80	0.27	0.43	1.27	1.22	0.20
d, Delay for Lane Group [s/veh]	38.07	13.16	19.96	162.79	150.87	26.82
Lane Group LOS	D	B	B	F	F	C
Critical Lane Group	Yes	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	6.33	3.05	5.81	48.69	38.32	2.34
50th-Percentile Queue Length [ft/ln]	158.30	76.22	145.13	1217.24	958.10	58.58
95th-Percentile Queue Length [veh/ln]	10.46	5.49	9.76	71.16	55.02	4.22
95th-Percentile Queue Length [ft/ln]	261.47	137.20	243.91	1778.88	1375.61	105.44

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	38.07	13.16	19.96	162.79	150.87	26.82
Movement LOS	D	B	B	F	F	C
d_A, Approach Delay [s/veh]	23.66		103.32		134.78	
Approach LOS	C		F		F	
d_I, Intersection Delay [s/veh]	91.12					
Intersection LOS	F					
Intersection V/C	1.149					

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft ² /ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00
I_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	0.000
Crosswalk LOS	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1150	1000	717
d_b, Bicycle Delay [s]	10.84	15.00	24.70
I_b,int, Bicycle LOS Score for Intersection	2.296	3.241	1.560
Bicycle LOS	B	C	A

Sequence





Ring 1	1	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 10: Amarillo Valley Road & Papago Road

Control Type:	Signalized	Delay (sec / veh):	13.2
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.217

Intersection Setup

Name	Amarillo Valley Road			Amarillo Valley Road			Papago Road			Papago Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Speed [mph]	45.00			45.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name	Amarillo Valley Road			Amarillo Valley Road			Papago Road			Papago Road		
Base Volume Input [veh/h]	9	0	8	0	0	0	0	90	13	13	165	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.1951	1.1951	1.1951	1.1951	1.1951	1.1951	1.1951	1.1951	1.1951	1.1951	1.1951	1.1951
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	96	0	0	0	0	0	0	0	151	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	73	125	0	13	23	200	0	125	263	210
Right Turn on Red Volume [veh/h]	0	0	42	0	0	7	0	0	84	0	0	105
Total Hourly Volume [veh/h]	107	0	41	125	0	6	23	308	83	141	460	105
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	30	0	11	35	0	2	6	86	23	39	128	29
Total Analysis Volume [veh/h]	119	0	46	139	0	7	26	342	92	157	511	117
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0			0			0	
v_di, Inbound Pedestrian Volume crossing in		0			0			0			0	
v_co, Outbound Pedestrian Volume crossing		0			0			0			0	
v_ci, Inbound Pedestrian Volume crossing mi		0			0			0			0	
v_ab, Corner Pedestrian Volume [ped/h]		0			0			0			0	
Bicycle Volume [bicycles/h]		0			0			0			0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	Protecte	Permiss	Permiss	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss
Signal Group	3	8	0	7	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	10	0	5	10	0	5	10	0	5	10	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	9	14	0	53	58	0	9	14	0	9	14	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	2.00	2.00	2.00	0.00	2.00	2.00	0.00	2.00	2.00
g_i, Effective Green Time [s]	17	7	7	6	8	8	65	56	56	65	59	59
g / C, Green / Cycle	0.18	0.08	0.08	0.06	0.08	0.08	0.73	0.63	0.63	0.73	0.66	0.66
(v / s)_i Volume / Saturation Flow Rate	0.09	0.00	0.03	0.04	0.00	0.00	0.03	0.10	0.06	0.15	0.14	0.07
s, saturation flow rate [veh/h]	1305	3560	1589	3459	1870	1589	865	3560	1589	1047	3560	1589
c, Capacity [veh/h]	232	271	121	225	160	136	692	2231	996	832	2330	1040
d1, Uniform Delay [s]	35.99	0.00	39.56	40.99	0.00	37.80	3.66	6.94	6.66	3.84	6.27	5.80
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.50	0.11	0.50	0.50
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.75	0.00	1.96	2.77	0.00	0.16	0.10	0.15	0.18	0.11	0.22	0.22
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.51	0.00	0.38	0.62	0.00	0.05	0.04	0.15	0.09	0.19	0.22	0.11
d, Delay for Lane Group [s/veh]	37.73	0.00	41.52	43.76	0.00	37.96	3.76	7.08	6.84	3.95	6.49	6.02
Lane Group LOS	D	A	D	D	A	D	A	A	A	A	A	A
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	2.26	0.00	0.99	1.52	0.00	0.14	0.11	1.13	0.61	0.59	1.58	0.70
50th-Percentile Queue Length [ft/ln]	56.43	0.00	24.78	38.05	0.00	3.54	2.65	28.31	15.30	14.72	39.43	17.53
95th-Percentile Queue Length [veh/ln]	4.06	0.00	1.78	2.74	0.00	0.26	0.19	2.04	1.10	1.06	2.84	1.26
95th-Percentile Queue Length [ft/ln]	101.58	0.00	44.61	68.50	0.00	6.38	4.76	50.96	27.54	26.50	70.97	31.56

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	37.73	0.00	41.52	43.76	0.00	37.96	3.76	7.08	6.84	3.95	6.49	6.02
Movement LOS	D	A	D	D	A	D	A	A	A	A	A	A
d_A, Approach Delay [s/veh]	38.79			43.48			6.85			5.91		
Approach LOS	D			D			A			A		
d_I, Intersection Delay [s/veh]	13.20											
Intersection LOS	B											
Intersection V/C	0.217											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			0.0			0.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			0.00			0.00			0.00		
I_p,int, Pedestrian LOS Score for Intersection	0.000			0.000			0.000			0.000		
Crosswalk LOS	F			F			F			F		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	222			1200			222			222		
d_b, Bicycle Delay [s]	35.56			7.20			35.56			35.56		
I_b,int, Bicycle LOS Score for Intersection	1.730			1.812			2.008			2.294		
Bicycle LOS	A			A			B			B		

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 11: Amarillo Valley Road & Val Vista Road

Control Type:	Two-way stop	Delay (sec / veh):	12.5
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.012

Intersection Setup

Name	Amarillo Valley Road		Amarillo Valley Road		Val Vista Road	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	↶		↷		↷	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Amarillo Valley Road		Amarillo Valley Road		Val Vista Road	
Base Volume Input [veh/h]	2	8	12	5	4	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.1951	1.1951	1.1951	1.1951	1.1951	1.1951
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	96	151	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	91	136	0	0	0
Total Hourly Volume [veh/h]	2	197	301	6	5	0
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	55	84	2	1	0
Total Analysis Volume [veh/h]	2	219	334	7	6	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	7.96	0.00	0.00	0.00	12.47	10.20
Movement LOS	A	A	A	A	B	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.04	0.04
95th-Percentile Queue Length [ft/ln]	0.12	0.12	0.00	0.00	0.93	0.93
d_A, Approach Delay [s/veh]	0.07		0.00		12.47	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.16					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 12: Amarillo Valley Road & Miller Road

Control Type:	Two-way stop	Delay (sec / veh):	14.9
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.030

Intersection Setup

Name	Amarillo Valley Road		Amarillo Valley Road		Miller Road	
Approach	Northbound		Southbound		Westbound	
Lane Configuration	↬		↵		↶	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Amarillo Valley Road		Amarillo Valley Road		Miller Road	
Base Volume Input [veh/h]	0	6	7	5	9	10
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.1951	1.1951	1.1951	1.1951	1.1951	1.1951
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	151	0	0	96
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	91	0	0	136	0	0
Total Hourly Volume [veh/h]	91	7	159	142	11	108
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	25	2	44	39	3	30
Total Analysis Volume [veh/h]	101	8	177	158	12	120
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.12	0.00	0.03	0.13
d_M, Delay for Movement [s/veh]	0.00	0.00	7.76	0.00	14.93	9.59
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.41	0.41	0.55	0.55
95th-Percentile Queue Length [ft/ln]	0.00	0.00	10.15	10.15	13.86	13.86
d_A, Approach Delay [s/veh]	0.00		4.10		10.07	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	4.69					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 1: SR 347 & Miller Road/Louis Johnson Drive

Control Type:	Signalized	Delay (sec / veh):	25.7
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.456

Intersection Setup

Name	SR 347			SR 347			Miller Road			Louis Johnson Drive		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	⇐ ⇐ ⇐			⇐ ⇐			⇐ ⇐ ⇐			⇐ ⇐		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	150.00	100.00	150.00	150.00	100.00	150.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00	0.00	0.00	0.00
Speed [mph]	65.00			65.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name	SR 347			SR 347			Miller Road			Louis Johnson Drive		
Base Volume Input [veh/h]	1	139	4	12	70	0	0	7	0	1	7	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	9.80	2.00	2.00	9.80	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.2190	1.2190	1.2190	1.2190	1.2190	1.2190	1.2190	1.2190	1.2190	1.2190	1.2190	1.2190
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	87	106	0	218	257	134	262	174	211	0	67	91
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	162	0	0	485	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	88	437	5	233	827	134	262	183	211	1	76	97
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	24	121	1	65	230	37	73	51	59	0	21	27
Total Analysis Volume [veh/h]	98	486	6	259	919	149	291	203	234	1	84	108
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing in	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	10	0	5	10	0	5	10	0	5	10	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	10	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	29	14	0	38	23	0	24	28	0	10	14	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		Yes	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	5	39	39	15	49	49	10	20	20	0	10	10
g / C, Green / Cycle	0.05	0.43	0.43	0.17	0.55	0.55	0.11	0.22	0.22	0.00	0.11	0.11
(v / s)_i Volume / Saturation Flow Rate	0.03	0.15	0.00	0.15	0.28	0.09	0.08	0.11	0.15	0.00	0.04	0.07
s, saturation flow rate [veh/h]	3459	3338	1589	1781	3338	1589	3459	1870	1589	1781	1870	1589
c, Capacity [veh/h]	180	1434	683	303	1829	871	387	413	351	3	207	176
d1, Uniform Delay [s]	41.71	17.17	14.72	36.31	12.70	10.16	38.84	30.72	32.11	44.95	37.34	38.26
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.57	0.64	0.02	6.77	0.99	0.43	2.98	0.91	2.19	46.80	1.28	3.45
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.55	0.34	0.01	0.85	0.50	0.17	0.75	0.49	0.67	0.31	0.41	0.61
d, Delay for Lane Group [s/veh]	44.28	17.81	14.75	43.08	13.69	10.58	41.82	31.63	34.30	91.75	38.61	41.70
Lane Group LOS	D	B	B	D	B	B	D	C	C	F	D	D
Critical Lane Group	Yes	No	No	No	Yes	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.04	2.91	0.06	5.51	4.56	1.22	3.24	3.89	4.78	0.06	1.78	2.41
50th-Percentile Queue Length [ft/ln]	25.89	72.63	1.58	137.76	114.08	30.53	80.88	97.29	119.43	1.60	44.44	60.34
95th-Percentile Queue Length [veh/ln]	1.86	5.23	0.11	9.36	8.07	2.20	5.82	7.01	8.36	0.12	3.20	4.34
95th-Percentile Queue Length [ft/ln]	46.60	130.73	2.85	234.00	201.67	54.95	145.58	175.13	209.04	2.89	79.99	108.61

Movement, Approach, & Intersection Results

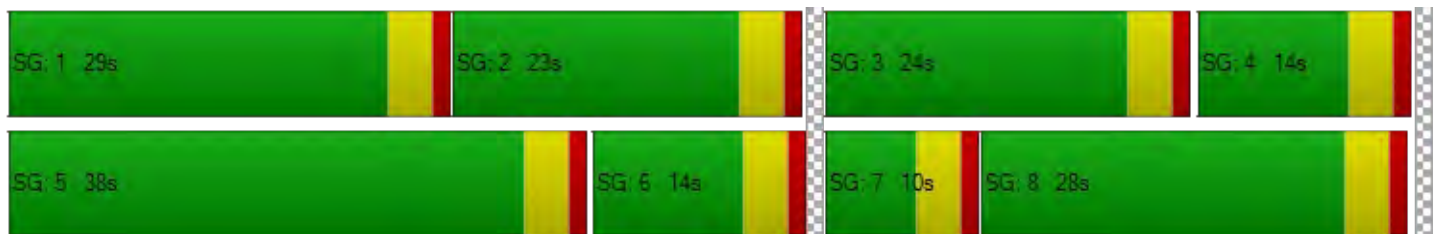
d_M, Delay for Movement [s/veh]	44.28	17.81	14.75	43.08	13.69	10.58	41.82	31.63	34.30	91.75	38.61	41.70
Movement LOS	D	B	B	D	B	B	D	C	C	F	D	D
d_A, Approach Delay [s/veh]	22.17			19.08			36.56			40.62		
Approach LOS	C			B			D			D		
d_I, Intersection Delay [s/veh]	25.67											
Intersection LOS	C											
Intersection V/C	0.456											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			0.0			0.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			0.00			0.00			0.00		
I_p,int, Pedestrian LOS Score for Intersection	0.000			0.000			0.000			0.000		
Crosswalk LOS	F			F			F			F		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	222			422			533			222		
d_b, Bicycle Delay [s]	35.60			28.05			24.24			35.60		
I_b,int, Bicycle LOS Score for Intersection	2.046			2.654			2.761			1.878		
Bicycle LOS	B			B			C			A		

Sequence




Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report
Intersection 2: SR 347 & Access A**

Control Type:	Signalized	Delay (sec / veh):	11.9
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.417

Intersection Setup

Name	SR 347		SR 347		Access A	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	65.00		65.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	No		No		No	

Volumes

Name	SR 347		SR 347		Access A	
Base Volume Input [veh/h]	0	144	86	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	9.80	9.80	2.00	2.00	2.00
Growth Factor	1.0000	1.2190	1.2190	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	82	417	173	50	125	209
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	162	485	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	82	755	763	50	125	209
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	23	210	212	14	35	58
Total Analysis Volume [veh/h]	91	839	848	56	139	232
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing in	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPerm	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	1	6	2	0	3	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	5	10	10	0	5	0
Maximum Green [s]	30	30	30	0	30	0
Amber [s]	3.0	3.0	3.0	0.0	3.0	0.0
All red [s]	1.0	1.0	1.0	0.0	1.0	0.0
Split [s]	9	41	32	0	49	0
Vehicle Extension [s]	3.0	3.0	3.0	0.0	3.0	0.0
Walk [s]	0	5	5	0	5	0
Pedestrian Clearance [s]	0	10	10	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No	No		No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
Minimum Recall	No	No	No		No	
Maximum Recall	No	No	No		No	
Pedestrian Recall	No	No	No		No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R	L	R
C, Cycle Length [s]	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	66	66	58	58	16	16
g / C, Green / Cycle	0.74	0.74	0.64	0.64	0.17	0.17
(v / s)_i Volume / Saturation Flow Rate	0.12	0.25	0.25	0.04	0.08	0.15
s, saturation flow rate [veh/h]	761	3338	3338	1589	1781	1589
c, Capacity [veh/h]	587	2455	2140	1019	313	279
d1, Uniform Delay [s]	4.38	4.21	7.77	6.01	33.17	35.81
k, delay calibration	0.11	0.50	0.50	0.50	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.12	0.38	0.55	0.10	0.99	6.32
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.16	0.34	0.40	0.05	0.44	0.83
d, Delay for Lane Group [s/veh]	4.50	4.59	8.32	6.11	34.16	42.13
Lane Group LOS	A	A	A	A	C	D
Critical Lane Group	Yes	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.22	1.31	2.70	0.29	2.76	5.31
50th-Percentile Queue Length [ft/ln]	5.56	32.83	67.62	7.21	69.05	132.79
95th-Percentile Queue Length [veh/ln]	0.40	2.36	4.87	0.52	4.97	9.09
95th-Percentile Queue Length [ft/ln]	10.01	59.09	121.71	12.98	124.29	227.29

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	4.50	4.59	8.32	6.11	34.16	42.13
Movement LOS	A	A	A	A	C	D
d_A, Approach Delay [s/veh]	4.58		8.19		39.14	
Approach LOS	A		A		D	
d_I, Intersection Delay [s/veh]	11.87					
Intersection LOS	B					
Intersection V/C	0.417					

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft ² /ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00
I_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	0.000
Crosswalk LOS	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	822	622	1000
d_b, Bicycle Delay [s]	15.61	21.36	11.25
I_b,int, Bicycle LOS Score for Intersection	2.327	2.305	1.560
Bicycle LOS	B	B	A

Sequence

Ring 1	1	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report
Intersection 3: SR 347 & Access B**

Control Type:	Signalized	Delay (sec / veh):	15.7
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.551

Intersection Setup

Name	SR 347		SR 347		Access B	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	⇐		⇐		⇐⇐	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	1	0	0	0	0
Exit Pocket Length [ft]	0.00	49.21	0.00	0.00	0.00	0.00
Speed [mph]	65.00		65.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	No		No		No	

Volumes

Name	SR 347		SR 347		Access B	
Base Volume Input [veh/h]	0	144	86	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	9.80	9.80	2.00	2.00	2.00
Growth Factor	1.0000	1.2190	1.2190	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	134	324	313	70	174	310
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	162	485	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	134	662	903	70	174	310
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	37	184	251	19	48	86
Total Analysis Volume [veh/h]	149	736	1003	78	193	344
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing in	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPerm	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	1	6	2	0	3	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	5	10	10	0	5	0
Maximum Green [s]	30	30	30	0	30	0
Amber [s]	3.0	3.0	3.0	0.0	3.0	0.0
All red [s]	1.0	1.0	1.0	0.0	1.0	0.0
Split [s]	9	23	14	0	67	0
Vehicle Extension [s]	3.0	3.0	3.0	0.0	3.0	0.0
Walk [s]	0	5	5	0	5	0
Pedestrian Clearance [s]	0	10	10	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No	No		No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
Minimum Recall	No	No	No		No	
Maximum Recall	No	No	No		No	
Pedestrian Recall	No	No	No		No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R	L	R
C, Cycle Length [s]	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	60	60	51	51	22	22
g / C, Green / Cycle	0.66	0.66	0.57	0.57	0.25	0.25
(v / s)_i Volume / Saturation Flow Rate	0.21	0.22	0.30	0.05	0.11	0.22
s, saturation flow rate [veh/h]	702	3338	3338	1589	1781	1589
c, Capacity [veh/h]	470	2214	1885	898	441	394
d1, Uniform Delay [s]	8.15	6.54	12.19	8.97	28.57	32.51
k, delay calibration	0.18	0.50	0.50	0.50	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.65	0.40	1.08	0.19	0.68	6.18
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.32	0.33	0.53	0.09	0.44	0.87
d, Delay for Lane Group [s/veh]	8.80	6.94	13.27	9.16	29.26	38.70
Lane Group LOS	A	A	B	A	C	D
Critical Lane Group	Yes	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.72	1.97	4.86	0.57	3.53	7.67
50th-Percentile Queue Length [ft/ln]	18.06	49.36	121.56	14.29	88.37	191.87
95th-Percentile Queue Length [veh/ln]	1.30	3.55	8.48	1.03	6.36	12.22
95th-Percentile Queue Length [ft/ln]	32.50	88.84	211.96	25.72	159.06	305.46

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	8.80	6.94	13.27	9.16	29.26	38.70
Movement LOS	A	A	B	A	C	D
d_A, Approach Delay [s/veh]	7.25		12.98		35.30	
Approach LOS	A		B		D	
d_I, Intersection Delay [s/veh]	15.74					
Intersection LOS	B					
Intersection V/C	0.551					

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft ² /ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00
I_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	0.000
Crosswalk LOS	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	422	222	1400
d_b, Bicycle Delay [s]	28.01	35.56	4.05
I_b,int, Bicycle LOS Score for Intersection	2.290	2.451	1.560
Bicycle LOS	B	B	A

Sequence

Ring 1	1	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report
Intersection 4: Green Road & Access C**

Control Type:	Two-way stop	Delay (sec / veh):	9.5
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.168

Intersection Setup

Name	Green Road		Green Road		Access C	
Approach	Northbound		Southbound		Westbound	
Lane Configuration	↑↔		↔↓		↔↔	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	1	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Green Road		Green Road		Access C	
Base Volume Input [veh/h]	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	61	0	0	147	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	61	0	0	147	0
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	17	0	0	41	0
Total Analysis Volume [veh/h]	0	68	0	0	163	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			Yes
Number of Storage Spaces in Median	0	0	2

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.17	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	7.35	0.00	9.45	8.32
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.60	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	15.04	0.00
d_A, Approach Delay [s/veh]	0.00		3.67		9.45	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	6.67					
Intersection LOS	A					

**Intersection Level Of Service Report
Intersection 5: Green Road & Access D**

Control Type:	Two-way stop	Delay (sec / veh):	10.6
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.202

Intersection Setup

Name	Green Road		Green Road		Access D	
Approach	Northbound		Southbound		Westbound	
Lane Configuration	↑ ↓		↑ ↓		↑ ↓	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	1	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Green Road		Green Road		Access D	
Base Volume Input [veh/h]	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	61	61	0	147	147	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	61	61	0	147	147	0
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	17	17	0	41	41	0
Total Analysis Volume [veh/h]	68	68	0	163	163	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			Yes
Number of Storage Spaces in Median	0	0	2

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.20	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	7.49	0.00	10.60	8.62
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.75	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	18.86	0.00
d_A, Approach Delay [s/veh]	0.00		0.00		10.60	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	3.74					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 6: Green Road & Miller Road

Control Type:	Two-way stop	Delay (sec / veh):	14.6
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.394

Intersection Setup

Name	Green Road		Miller Road		Miller Road	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration	↵↵		↵		↵	
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	1	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Green Road		Miller Road		Miller Road	
Base Volume Input [veh/h]	0	0	0	7	8	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.2190	1.2190	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	218	76	49	75	132	73
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	218	76	49	84	142	73
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	61	21	14	23	39	20
Total Analysis Volume [veh/h]	242	84	54	93	158	81
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.39	0.09	0.04	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	14.64	9.48	7.83	0.00	0.00	0.00
Movement LOS	B	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	1.88	0.31	0.13	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	46.94	7.82	3.18	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	13.31		2.87		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	6.69					
Intersection LOS	B					

**Intersection Level Of Service Report
Intersection 7: Access E & Miller Road**

Control Type:	Two-way stop	Delay (sec / veh):	13.2
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.292

Intersection Setup

Name	Access E		Miller Road		Miller Road	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration	↵↵		↵		↵	
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	1	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Access E		Miller Road		Miller Road	
Base Volume Input [veh/h]	0	0	0	7	8	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.2190	1.2190	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	163	38	24	268	166	54
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	163	38	24	277	176	54
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	45	11	7	77	49	15
Total Analysis Volume [veh/h]	181	42	27	308	196	60
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	Yes		
Number of Storage Spaces in Median	2	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.29	0.05	0.02	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	13.19	9.48	7.81	0.00	0.00	0.00
Movement LOS	B	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	1.21	0.16	0.06	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	30.30	3.92	1.58	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	12.50		0.63		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	3.68					
Intersection LOS	B					

**Intersection Level Of Service Report
Intersection 8: Access F & Miller Road**

Control Type:	Two-way stop	Delay (sec / veh):	18.9
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.518

Intersection Setup

Name	Access F		Miller Road		Miller Road	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration	↵↵		↵		↵	
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	1	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Access F		Miller Road		Miller Road	
Base Volume Input [veh/h]	0	0	0	7	8	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.2190	1.2190	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	246	47	31	400	174	115
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	246	47	31	409	184	115
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	68	13	9	114	51	32
Total Analysis Volume [veh/h]	273	52	34	454	204	128
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	Yes		
Number of Storage Spaces in Median	2	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.52	0.06	0.03	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	18.94	9.59	8.02	0.00	0.00	0.00
Movement LOS	C	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	2.95	0.20	0.09	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	73.75	4.96	2.14	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	17.44		0.56		0.00	
Approach LOS	C		A		A	
d_I, Intersection Delay [s/veh]	5.19					
Intersection LOS	C					

**Intersection Level Of Service Report
Intersection 9: SR 347 & Papago Road**

Control Type:	Signalized	Delay (sec / veh):	39.5
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.863

Intersection Setup

Name	SR 347		SR 347		Papago Road	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	↵		↵		↵↵↵	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	1	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	65.00		65.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	No		No		No	

Volumes

Name	SR 347		SR 347		Papago Road	
Base Volume Input [veh/h]	10	141	89	48	127	23
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	9.80	9.80	2.00	2.00	2.00
Growth Factor	1.2190	1.2190	1.2190	1.2190	1.2190	1.2190
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	542	223	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	162	0	0	546	1641	485
Right Turn on Red Volume [veh/h]	0	0	0	303	0	257
Total Hourly Volume [veh/h]	174	714	331	302	1796	256
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	48	198	92	84	499	71
Total Analysis Volume [veh/h]	193	793	368	336	1996	284
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing in	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPerm	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	1	6	2	0	3	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	5	10	10	0	5	0
Maximum Green [s]	30	30	30	0	30	0
Amber [s]	3.0	3.0	3.0	0.0	3.0	0.0
All red [s]	1.0	1.0	1.0	0.0	1.0	0.0
Split [s]	9	49	40	0	71	0
Vehicle Extension [s]	3.0	3.0	3.0	0.0	3.0	0.0
Walk [s]	0	5	5	0	5	0
Pedestrian Clearance [s]	0	10	10	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No	No		No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
Minimum Recall	No	No	No		No	
Maximum Recall	No	No	No		No	
Pedestrian Recall	No	No	No		No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R	L	R
C, Cycle Length [s]	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	45	45	36	36	67	67
g / C, Green / Cycle	0.38	0.38	0.30	0.30	0.56	0.56
(v / s)_i Volume / Saturation Flow Rate	0.17	0.24	0.11	0.21	0.58	0.18
s, saturation flow rate [veh/h]	1133	3338	3338	1589	3459	1589
c, Capacity [veh/h]	428	1252	1001	477	1931	887
d1, Uniform Delay [s]	28.81	30.74	33.04	37.28	26.50	14.25
k, delay calibration	0.22	0.50	0.50	0.50	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.49	2.45	1.04	8.47	19.91	0.21
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.45	0.63	0.37	0.70	1.03	0.32
d, Delay for Lane Group [s/veh]	30.30	33.19	34.08	45.75	46.41	14.46
Lane Group LOS	C	C	C	D	F	B
Critical Lane Group	Yes	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	3.72	8.93	4.04	9.16	31.22	4.14
50th-Percentile Queue Length [ft/ln]	92.93	223.30	101.10	228.88	780.45	103.60
95th-Percentile Queue Length [veh/ln]	6.69	13.83	7.28	14.12	41.51	7.46
95th-Percentile Queue Length [ft/ln]	167.28	345.84	181.99	352.94	1037.84	186.49

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	30.30	33.19	34.08	45.75	46.41	14.46
Movement LOS	C	C	C	D	F	B
d_A, Approach Delay [s/veh]	32.63		39.65		42.43	
Approach LOS	C		D		D	
d_I, Intersection Delay [s/veh]	39.50					
Intersection LOS	D					
Intersection V/C	0.863					

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft ² /ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00
I_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	0.000
Crosswalk LOS	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	750	600	1117
d_b, Bicycle Delay [s]	23.44	29.40	11.70
I_b,int, Bicycle LOS Score for Intersection	2.373	2.390	1.560
Bicycle LOS	B	B	A

Sequence





Ring 1	1	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 10: Amarillo Valley Road & Papago Road

Control Type:	Signalized	Delay (sec / veh):	23.7
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.433

Intersection Setup

Name	Amarillo Valley Road			Amarillo Valley Road			Papago Road			Papago Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Speed [mph]	45.00			45.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name	Amarillo Valley Road			Amarillo Valley Road			Papago Road			Papago Road		
Base Volume Input [veh/h]	4	0	9	0	0	0	0	135	6	4	57	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.2190	1.2190	1.2190	1.2190	1.2190	1.2190	1.2190	1.2190	1.2190	1.2190	1.2190	1.2190
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	208	0	0	0	0	0	0	0	123	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	22	19	127	619	17	150	119	366	19	56	270	210
Right Turn on Red Volume [veh/h]	0	0	69	0	0	75	0	0	75	0	0	105
Total Hourly Volume [veh/h]	235	19	69	619	17	75	119	531	74	61	339	105
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	65	5	19	172	5	21	33	148	21	17	94	29
Total Analysis Volume [veh/h]	261	21	77	688	19	83	132	590	82	68	377	117
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0			0			0	
v_di, Inbound Pedestrian Volume crossing in		0			0			0			0	
v_co, Outbound Pedestrian Volume crossing		0			0			0			0	
v_ci, Inbound Pedestrian Volume crossing mi		0			0			0			0	
v_ab, Corner Pedestrian Volume [ped/h]		0			0			0			0	
Bicycle Volume [bicycles/h]		0			0			0			0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	Protecte	Permiss	Permiss	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss
Signal Group	3	8	0	7	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	10	0	5	10	0	5	10	0	5	10	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	20	37	0	28	45	0	10	16	0	9	15	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	2.00	2.00	2.00	0.00	2.00	2.00	0.00	2.00	2.00
g_i, Effective Green Time [s]	34	9	9	20	18	18	48	40	40	48	39	39
g / C, Green / Cycle	0.37	0.10	0.10	0.23	0.20	0.20	0.54	0.45	0.45	0.54	0.44	0.44
(v / s)_i Volume / Saturation Flow Rate	0.17	0.01	0.05	0.20	0.01	0.05	0.12	0.17	0.05	0.07	0.11	0.07
s, saturation flow rate [veh/h]	1553	3560	1589	3459	1870	1589	1121	3560	1589	946	3560	1589
c, Capacity [veh/h]	693	365	163	782	369	314	649	1595	712	533	1551	693
d1, Uniform Delay [s]	20.72	36.46	38.09	33.64	29.28	30.58	10.66	16.43	14.45	10.65	16.02	15.47
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.50	0.11	0.50	0.50
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.34	0.06	2.12	3.42	0.06	0.44	0.71	0.66	0.33	0.11	0.37	0.53
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.38	0.06	0.47	0.88	0.05	0.26	0.20	0.37	0.12	0.13	0.24	0.17
d, Delay for Lane Group [s/veh]	21.06	36.52	40.20	37.06	29.34	31.03	11.36	17.09	14.78	10.75	16.40	15.99
Lane Group LOS	C	D	D	D	C	C	B	B	B	B	B	B
Critical Lane Group	No	No	Yes	Yes	No	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	3.77	0.20	1.62	7.15	0.32	1.49	1.26	3.76	0.95	0.58	2.30	1.43
50th-Percentile Queue Length [ft/ln]	94.29	5.07	40.60	178.70	8.08	37.15	31.60	94.00	23.71	14.49	57.46	35.76
95th-Percentile Queue Length [veh/ln]	6.79	0.36	2.92	11.53	0.58	2.67	2.28	6.77	1.71	1.04	4.14	2.57
95th-Percentile Queue Length [ft/ln]	169.72	9.12	73.08	288.32	14.54	66.87	56.89	169.20	42.69	26.08	103.42	64.36

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	21.06	36.52	40.20	37.06	29.34	31.03	11.36	17.09	14.78	10.75	16.40	15.99
Movement LOS	C	D	D	D	C	C	B	B	B	B	B	B
d_A, Approach Delay [s/veh]	26.07			36.24			15.92			15.63		
Approach LOS	C			D			B			B		
d_I, Intersection Delay [s/veh]	23.68											
Intersection LOS	C											
Intersection V/C	0.433											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			0.0			0.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			0.00			0.00			0.00		
I_p,int, Pedestrian LOS Score for Intersection	0.000			0.000			0.000			0.000		
Crosswalk LOS	F			F			F			F		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	733			911			267			244		
d_b, Bicycle Delay [s]	18.05			13.34			33.80			34.67		
I_b,int, Bicycle LOS Score for Intersection	1.913			2.987			2.285			2.110		
Bicycle LOS	A			C			B			B		

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 11: Amarillo Valley Road & Val Vista Road

Control Type:	Two-way stop	Delay (sec / veh):	14.0
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.024

Intersection Setup

Name	Amarillo Valley Road		Amarillo Valley Road		Val Vista Road	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	↰		↱		↔	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Amarillo Valley Road		Amarillo Valley Road		Val Vista Road	
Base Volume Input [veh/h]	1	4	6	2	7	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.2190	1.2190	1.2190	1.2190	1.2190	1.2190
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	208	123	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	173	103	0	0	0
Total Hourly Volume [veh/h]	1	386	233	2	9	1
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	107	65	1	3	0
Total Analysis Volume [veh/h]	1	429	259	2	10	1
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.02	0.00
d_M, Delay for Movement [s/veh]	7.76	0.00	0.00	0.00	14.00	9.84
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.08	0.08
95th-Percentile Queue Length [ft/ln]	0.06	0.06	0.00	0.00	1.97	1.97
d_A, Approach Delay [s/veh]	0.02		0.00		13.62	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.22					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 12: Amarillo Valley Road & Miller Road

Control Type:	Two-way stop	Delay (sec / veh):	15.5
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.015

Intersection Setup

Name	Amarillo Valley Road		Amarillo Valley Road		Miller Road	
Approach	Northbound		Southbound		Westbound	
Lane Configuration	↬		↵		↶	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Amarillo Valley Road		Amarillo Valley Road		Miller Road	
Base Volume Input [veh/h]	1	3	4	3	4	4
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.2190	1.2190	1.2190	1.2190	1.2190	1.2190
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	123	0	0	208
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	173	0	0	103	0	0
Total Hourly Volume [veh/h]	174	4	128	107	5	213
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	48	1	36	30	1	59
Total Analysis Volume [veh/h]	193	4	142	119	6	237
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.10	0.00	0.01	0.28
d_M, Delay for Movement [s/veh]	0.00	0.00	7.92	0.00	15.51	11.06
Movement LOS	A	A	A	A	C	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.34	0.34	1.23	1.23
95th-Percentile Queue Length [ft/ln]	0.00	0.00	8.61	8.61	30.79	30.79
d_A, Approach Delay [s/veh]	0.00		4.31		11.17	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	5.48					
Intersection LOS	C					

**Intersection Level Of Service Report
Intersection 13: SR 347 & Access G**

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 14.0
 Level Of Service: B
 Volume to Capacity (v/c): 0.005

Intersection Setup

Name	SR 347		SR 347		Access G	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	↑↑		↑↑↔		↔	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	65.00		65.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	SR 347		SR 347		Access G	
Base Volume Input [veh/h]	0	144	86	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.2190	1.2190	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	458	607	16	0	2
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	162	485	0	0	0
Total Hourly Volume [veh/h]	0	796	1197	16	0	2
Peak Hour Factor	1.0000	0.9000	0.9000	0.9000	1.0000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	221	333	4	0	1
Total Analysis Volume [veh/h]	0	884	1330	18	0	2
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.01	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	0.00	13.99
Movement LOS		A	A	A		B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.01
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.37
d_A, Approach Delay [s/veh]	0.00		0.00		13.99	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]				0.01		
Intersection LOS				B		

Intersection Level Of Service Report
Intersection 1: SR 347 & Miller Road/Louis Johnson Drive

Control Type:	Signalized	Delay (sec / veh):	33.3
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.721

Intersection Setup

Name	SR 347			SR 347			Miller Road			Louis Johnson Drive		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	[Diagram]			[Diagram]			[Diagram]			[Diagram]		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	150.00	100.00	150.00	150.00	100.00	150.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	2	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	74.61	0.00	0.00	0.00
Speed [mph]	65.00			65.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name	SR 347			SR 347			Miller Road			Louis Johnson Drive		
Base Volume Input [veh/h]	1	106	0	11	161	5	3	5	5	1	13	24
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	9.80	2.00	2.00	9.80	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.2190	1.2190	1.2190	1.2190	1.2190	1.2190	1.2190	1.2190	1.2190	1.2190	1.2190	1.2190
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	260	302	0	175	208	325	250	138	165	0	217	254
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	545	0	0	320	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	261	976	0	188	724	331	254	144	171	1	233	283
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	73	271	0	52	201	92	71	40	48	0	65	79
Total Analysis Volume [veh/h]	290	1084	0	209	804	368	282	160	190	1	259	314
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing in	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	10	0	5	10	0	5	10	0	5	10	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	10	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	13	34	0	15	36	0	12	15	0	26	29	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		Yes	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	9	35	35	11	37	37	8	28	28	0	20	20
g / C, Green / Cycle	0.10	0.39	0.39	0.12	0.41	0.41	0.09	0.31	0.31	0.00	0.22	0.22
(v / s)_i Volume / Saturation Flow Rate	0.08	0.32	0.00	0.12	0.24	0.23	0.08	0.09	0.12	0.00	0.14	0.20
s, saturation flow rate [veh/h]	3459	3338	1589	1781	3338	1589	3459	1870	1589	1781	1870	1589
c, Capacity [veh/h]	351	1289	614	220	1363	649	313	581	494	4	417	354
d1, Uniform Delay [s]	39.82	25.20	0.00	39.34	20.84	20.58	40.70	23.46	24.36	45.00	31.68	34.01
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.15
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.97	6.73	0.00	18.65	1.88	3.57	9.40	0.25	0.49	29.60	1.52	10.18
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.83	0.84	0.00	0.95	0.59	0.57	0.90	0.28	0.38	0.25	0.62	0.89
d, Delay for Lane Group [s/veh]	44.79	31.93	0.00	57.98	22.72	24.15	50.09	23.71	24.85	74.60	33.20	44.19
Lane Group LOS	D	C	A	E	C	C	D	C	C	E	C	D
Critical Lane Group	No	Yes	No	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	3.10	9.94	0.00	5.28	5.83	5.59	3.47	2.56	3.17	0.06	5.16	7.49
50th-Percentile Queue Length [ft/ln]	77.48	248.54	0.00	132.03	145.65	139.73	86.66	63.89	79.22	1.38	128.96	187.15
95th-Percentile Queue Length [veh/ln]	5.58	15.11	0.00	9.05	9.78	9.47	6.24	4.60	5.70	0.10	8.88	11.97
95th-Percentile Queue Length [ft/ln]	139.46	377.81	0.00	226.25	244.62	236.67	155.98	115.00	142.59	2.48	222.08	299.33

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	44.79	31.93	0.00	57.98	22.72	24.15	50.09	23.71	24.85	74.60	33.20	44.19
Movement LOS	D	C	A	E	C	C	D	C	C	E	C	D
d_A, Approach Delay [s/veh]	34.65			28.44			35.83			39.29		
Approach LOS	C			C			D			D		
d_I, Intersection Delay [s/veh]	33.34											
Intersection LOS	C											
Intersection V/C	0.721											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			0.0			0.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			0.00			0.00			0.00		
I_p,int, Pedestrian LOS Score for Intersection	0.000			0.000			0.000			0.000		
Crosswalk LOS	F			F			F			F		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	665			710			244			554		
d_b, Bicycle Delay [s]	20.08			18.77			34.76			23.56		
I_b,int, Bicycle LOS Score for Intersection	2.693			2.699			2.602			2.507		
Bicycle LOS	B			B			B			B		

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report
Intersection 2: SR 347 & Access A**

Control Type:	Signalized	Delay (sec / veh):	8.7
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.485

Intersection Setup

Name	SR 347		SR 347		Access A	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	⇐		⇐		⇐⇐	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	65.00		65.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	No		No		No	

Volumes

Name	SR 347		SR 347		Access A	
Base Volume Input [veh/h]	0	133	177	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	9.80	9.80	2.00	2.00	2.00
Growth Factor	1.0000	1.2190	1.2190	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	223	352	521	134	80	133
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	545	320	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	223	1059	1057	134	80	133
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	62	294	294	37	22	37
Total Analysis Volume [veh/h]	248	1177	1174	149	89	148
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing in	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPerm	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	1	6	2	0	3	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	5	10	10	0	5	0
Maximum Green [s]	30	30	30	0	30	0
Amber [s]	3.0	3.0	3.0	0.0	3.0	0.0
All red [s]	1.0	1.0	1.0	0.0	1.0	0.0
Split [s]	9	26	17	0	64	0
Vehicle Extension [s]	3.0	3.0	3.0	0.0	3.0	0.0
Walk [s]	0	5	5	0	5	0
Pedestrian Clearance [s]	0	10	10	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No	No		No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
Minimum Recall	No	No	No		No	
Maximum Recall	No	No	No		No	
Pedestrian Recall	No	No	No		No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R	L	R
C, Cycle Length [s]	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	71	71	62	62	11	11
g / C, Green / Cycle	0.79	0.79	0.69	0.69	0.12	0.12
(v / s)_i Volume / Saturation Flow Rate	0.41	0.35	0.35	0.09	0.05	0.09
s, saturation flow rate [veh/h]	606	3338	3338	1589	1781	1589
c, Capacity [veh/h]	508	2637	2303	1097	216	192
d1, Uniform Delay [s]	5.64	3.06	6.67	4.77	36.59	38.33
k, delay calibration	0.50	0.50	0.50	0.50	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.33	0.55	0.81	0.26	1.26	6.34
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.49	0.45	0.51	0.14	0.41	0.77
d, Delay for Lane Group [s/veh]	8.97	3.61	7.48	5.03	37.85	44.68
Lane Group LOS	A	A	A	A	D	D
Critical Lane Group	Yes	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.68	0.88	3.20	0.61	1.87	3.46
50th-Percentile Queue Length [ft/ln]	17.10	21.93	79.91	15.30	46.66	86.47
95th-Percentile Queue Length [veh/ln]	1.23	1.58	5.75	1.10	3.36	6.23
95th-Percentile Queue Length [ft/ln]	30.79	39.47	143.83	27.53	83.99	155.65

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	8.97	3.61	7.48	5.03	37.85	44.68
Movement LOS	A	A	A	A	D	D
d_A, Approach Delay [s/veh]	4.55		7.20		42.12	
Approach LOS	A		A		D	
d_I, Intersection Delay [s/veh]	8.71					
Intersection LOS	A					
Intersection V/C	0.485					

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft ² /ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00
I_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	0.000
Crosswalk LOS	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	489	289	1333
d_b, Bicycle Delay [s]	25.69	32.94	5.00
I_b,int, Bicycle LOS Score for Intersection	2.735	2.651	1.560
Bicycle LOS	B	B	A

Sequence

Ring 1	1	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report
Intersection 3: SR 347 & Access B**

Control Type:	Signalized	Delay (sec / veh):	18.1
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.643

Intersection Setup

Name	SR 347		SR 347		Access B	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	⇐		⇐		⇐⇐	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	1	0	0	0	0
Exit Pocket Length [ft]	0.00	49.21	0.00	0.00	0.00	0.00
Speed [mph]	65.00		65.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	No		No		No	

Volumes

Name	SR 347		SR 347		Access B	
Base Volume Input [veh/h]	0	133	177	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	9.80	9.80	2.00	2.00	2.00
Growth Factor	1.0000	1.2190	1.2190	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	393	414	445	210	162	286
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	545	320	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	393	1121	981	210	162	286
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	109	311	273	58	45	79
Total Analysis Volume [veh/h]	437	1246	1090	233	180	318
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing in	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPerm	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	1	6	2	0	3	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	5	10	10	0	5	0
Maximum Green [s]	30	30	30	0	30	0
Amber [s]	3.0	3.0	3.0	0.0	3.0	0.0
All red [s]	1.0	1.0	1.0	0.0	1.0	0.0
Split [s]	17	41	24	0	49	0
Vehicle Extension [s]	3.0	3.0	3.0	0.0	3.0	0.0
Walk [s]	0	5	5	0	5	0
Pedestrian Clearance [s]	0	10	10	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No	No		No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
Minimum Recall	No	No	No		No	
Maximum Recall	No	No	No		No	
Pedestrian Recall	No	No	No		No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R	L	R
C, Cycle Length [s]	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	61	61	45	45	21	21
g / C, Green / Cycle	0.68	0.68	0.51	0.51	0.23	0.23
(v / s)_i Volume / Saturation Flow Rate	0.54	0.37	0.33	0.15	0.10	0.20
s, saturation flow rate [veh/h]	804	3338	3338	1589	1781	1589
c, Capacity [veh/h]	542	2275	1684	802	409	365
d1, Uniform Delay [s]	14.59	7.28	16.40	12.94	29.72	33.39
k, delay calibration	0.50	0.50	0.50	0.50	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	12.17	0.95	1.94	0.92	0.75	6.51
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.81	0.55	0.65	0.29	0.44	0.87
d, Delay for Lane Group [s/veh]	26.76	8.23	18.34	13.86	30.46	39.90
Lane Group LOS	C	A	B	B	C	D
Critical Lane Group	Yes	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	3.85	3.76	6.83	2.36	3.36	7.17
50th-Percentile Queue Length [ft/ln]	96.20	94.10	170.87	58.93	84.10	179.25
95th-Percentile Queue Length [veh/ln]	6.93	6.78	11.12	4.24	6.06	11.56
95th-Percentile Queue Length [ft/ln]	173.16	169.38	278.06	106.07	151.39	289.03

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	26.76	8.23	18.34	13.86	30.46	39.90
Movement LOS	C	A	B	B	C	D
d_A, Approach Delay [s/veh]	13.05		17.55		36.49	
Approach LOS	B		B		D	
d_I, Intersection Delay [s/veh]	18.08					
Intersection LOS	B					
Intersection V/C	0.643					

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft ² /ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00
I_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	0.000
Crosswalk LOS	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	822	444	1000
d_b, Bicycle Delay [s]	15.61	27.22	11.25
I_b,int, Bicycle LOS Score for Intersection	2.948	2.651	1.560
Bicycle LOS	C	B	A

Sequence

Ring 1	1	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report
Intersection 4: Green Road & Access C**

Control Type:	Two-way stop	Delay (sec / veh):	9.1
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.105

Intersection Setup

Name	Green Road		Green Road		Access C	
Approach	Northbound		Southbound		Westbound	
Lane Configuration	↑↑		↑↑		↑↑	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	1	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Green Road		Green Road		Access C	
Base Volume Input [veh/h]	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	153	0	0	92	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	153	0	0	92	0
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	43	0	0	26	0
Total Analysis Volume [veh/h]	0	170	0	0	102	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			Yes
Number of Storage Spaces in Median	0	0	2

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.11	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	7.56	0.00	9.14	8.32
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.35	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	8.77	0.00
d_A, Approach Delay [s/veh]	0.00		3.78		9.14	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	3.43					
Intersection LOS	A					

**Intersection Level Of Service Report
Intersection 5: Green Road & Access D**

Control Type:	Two-way stop	Delay (sec / veh):	10.3
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.130

Intersection Setup

Name	Green Road		Green Road		Access D	
Approach	Northbound		Southbound		Westbound	
Lane Configuration	↑↔		↔↓		↔↔	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	1	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Green Road		Green Road		Access D	
Base Volume Input [veh/h]	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	153	153	0	92	92	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	153	153	0	92	92	0
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	43	43	0	26	26	0
Total Analysis Volume [veh/h]	170	170	0	102	102	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			Yes
Number of Storage Spaces in Median	0	0	2

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.13	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	7.95	0.00	10.26	9.12
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.45	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	11.13	0.00
d_A, Approach Delay [s/veh]	0.00		0.00		10.26	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]				1.92		
Intersection LOS				B		

Intersection Level Of Service Report
Intersection 6: Green Road & Miller Road

Control Type:	Two-way stop	Delay (sec / veh):	14.6
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.299

Intersection Setup

Name	Green Road		Miller Road		Miller Road	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration	↵↵		↵		↵	
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	1	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Green Road		Miller Road		Miller Road	
Base Volume Input [veh/h]	0	0	0	13	19	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.2190	1.2190	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	144	40	62	140	99	245
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	144	40	62	156	122	245
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	40	11	17	43	34	68
Total Analysis Volume [veh/h]	160	44	69	173	136	272
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.30	0.05	0.06	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	14.57	9.14	8.33	0.00	0.00	0.00
Movement LOS	B	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	1.25	0.15	0.19	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	31.17	3.79	4.78	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	13.40		2.37		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	3.87					
Intersection LOS	B					

**Intersection Level Of Service Report
Intersection 7: Access E & Miller Road**

Control Type:	Two-way stop	Delay (sec / veh):	13.4
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.220

Intersection Setup

Name	Access E		Miller Road		Miller Road	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration	↵↵		↵		↵	
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	1	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Access E		Miller Road		Miller Road	
Base Volume Input [veh/h]	0	0	0	13	19	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.2190	1.2190	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	108	20	31	253	324	184
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	108	20	31	269	347	184
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	30	6	9	75	96	51
Total Analysis Volume [veh/h]	120	22	34	299	386	204
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	Yes		
Number of Storage Spaces in Median	2	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.22	0.03	0.03	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	13.43	10.63	8.78	0.00	0.00	0.00
Movement LOS	B	B	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.83	0.10	0.11	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	20.77	2.58	2.68	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	12.99		0.90		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	2.01					
Intersection LOS	B					

**Intersection Level Of Service Report
Intersection 8: Access F & Miller Road**

Control Type:	Two-way stop	Delay (sec / veh):	25.0
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.607

Intersection Setup

Name	Access F		Miller Road		Miller Road	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration	↵↵		↵		↵	
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	1	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	1	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	100.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Access F		Miller Road		Miller Road	
Base Volume Input [veh/h]	0	0	0	13	19	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.2190	1.2190	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	241	33	50	311	474	327
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	241	33	50	327	497	327
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	67	9	14	91	138	91
Total Analysis Volume [veh/h]	268	37	56	363	552	363
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	Yes		
Number of Storage Spaces in Median	2	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.61	0.07	0.08	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	24.96	12.25	10.22	0.00	0.00	0.00
Movement LOS	C	B	B	A	A	A
95th-Percentile Queue Length [veh/ln]	3.92	0.22	0.24	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	98.10	5.57	6.08	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	23.42		1.37		0.00	
Approach LOS	C		A		A	
d_I, Intersection Delay [s/veh]	4.71					
Intersection LOS	C					

**Intersection Level Of Service Report
Intersection 9: SR 347 & Papago Road**

Control Type:	Signalized	Delay (sec / veh):	210.6
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.518

Intersection Setup

Name	SR 347		SR 347		Papago Road	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	⇐		⇐		⇐⇐⇐	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	1	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	65.00		65.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	No		No		No	

Volumes

Name	SR 347		SR 347		Papago Road	
Base Volume Input [veh/h]	21	152	143	155	79	21
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	9.80	9.80	2.00	2.00	2.00
Growth Factor	1.2190	1.2190	1.2190	1.2190	1.2190	1.2190
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	432	655	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	545	0	0	1842	1083	320
Right Turn on Red Volume [veh/h]	0	0	0	508	0	173
Total Hourly Volume [veh/h]	571	617	829	1523	1179	173
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	159	171	230	423	328	48
Total Analysis Volume [veh/h]	634	686	921	1692	1310	192
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing in	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPerm	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	1	6	2	0	3	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	5	10	10	0	5	0
Maximum Green [s]	30	30	30	0	30	0
Amber [s]	3.0	3.0	3.0	0.0	3.0	0.0
All red [s]	1.0	1.0	1.0	0.0	1.0	0.0
Split [s]	9	88	79	0	32	0
Vehicle Extension [s]	3.0	3.0	3.0	0.0	3.0	0.0
Walk [s]	0	5	5	0	5	0
Pedestrian Clearance [s]	0	10	10	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No	No		No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
Minimum Recall	No	No	No		No	
Maximum Recall	No	No	No		No	
Pedestrian Recall	No	No	No		No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R	L	R
C, Cycle Length [s]	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	84	84	75	75	28	28
g / C, Green / Cycle	0.70	0.70	0.63	0.63	0.23	0.23
(v / s)_i Volume / Saturation Flow Rate	0.90	0.21	0.28	1.06	0.38	0.12
s, saturation flow rate [veh/h]	705	3338	3338	1589	3459	1589
c, Capacity [veh/h]	498	2336	2086	993	807	371
d1, Uniform Delay [s]	31.97	6.80	11.65	22.50	46.00	40.11
k, delay calibration	0.50	0.50	0.50	0.50	0.27	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	138.23	0.32	0.68	320.77	283.62	1.12
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	1.27	0.29	0.44	1.70	1.62	0.52
d, Delay for Lane Group [s/veh]	170.20	7.12	12.33	343.27	329.62	41.23
Lane Group LOS	F	A	B	F	F	D
Critical Lane Group	Yes	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	22.93	2.49	5.30	109.77	43.72	5.07
50th-Percentile Queue Length [ft/ln]	573.13	62.20	132.49	2744.23	1093.02	126.66
95th-Percentile Queue Length [veh/ln]	36.58	4.48	9.07	174.90	67.59	8.76
95th-Percentile Queue Length [ft/ln]	914.61	111.97	226.87	4372.48	1689.63	218.94

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	170.20	7.12	12.33	343.27	329.62	41.23
Movement LOS	F	A	B	F	F	D
d_A, Approach Delay [s/veh]	85.45		226.62		292.75	
Approach LOS	F		F		F	
d_I, Intersection Delay [s/veh]	210.61					
Intersection LOS	F					
Intersection V/C	1.518					

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft ² /ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00
I_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	0.000
Crosswalk LOS	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1400	1250	467
d_b, Bicycle Delay [s]	5.40	8.44	35.27
I_b,int, Bicycle LOS Score for Intersection	2.649	4.134	1.560
Bicycle LOS	B	D	A

Sequence





Ring 1	1	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 10: Amarillo Valley Road & Papago Road

Control Type:	Signalized	Delay (sec / veh):	18.9
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.429

Intersection Setup

Name	Amarillo Valley Road			Amarillo Valley Road			Papago Road			Papago Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Speed [mph]	45.00			45.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name	Amarillo Valley Road			Amarillo Valley Road			Papago Road			Papago Road		
Base Volume Input [veh/h]	9	0	8	0	0	0	0	90	13	13	165	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.2190	1.2190	1.2190	1.2190	1.2190	1.2190	1.2190	1.2190	1.2190	1.2190	1.2190	1.2190
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	139	0	0	0	0	0	0	0	202	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	6	5	76	406	5	72	102	295	6	128	353	689
Right Turn on Red Volume [veh/h]	0	0	43	0	0	36	0	0	112	0	0	345
Total Hourly Volume [veh/h]	156	5	43	406	5	36	102	405	112	144	554	344
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	43	1	12	113	1	10	28	113	31	40	154	96
Total Analysis Volume [veh/h]	173	6	48	451	6	40	113	450	124	160	616	382
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0			0			0	
v_di, Inbound Pedestrian Volume crossing in		0			0			0			0	
v_co, Outbound Pedestrian Volume crossing		0			0			0			0	
v_ci, Inbound Pedestrian Volume crossing mi		0			0			0			0	
v_ab, Corner Pedestrian Volume [ped/h]		0			0			0			0	
Bicycle Volume [bicycles/h]		0			0			0			0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	Protecte	Permiss	Permiss	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss
Signal Group	3	8	0	7	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	10	0	5	10	0	5	10	0	5	10	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	9	46	0	21	58	0	9	14	0	9	14	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	2.00	2.00	2.00	0.00	2.00	2.00	0.00	2.00	2.00
g_i, Effective Green Time [s]	25	7	7	14	16	16	57	48	48	57	48	48
g / C, Green / Cycle	0.28	0.08	0.08	0.15	0.18	0.18	0.63	0.53	0.53	0.63	0.53	0.53
(v / s)_i Volume / Saturation Flow Rate	0.11	0.00	0.03	0.13	0.00	0.03	0.12	0.13	0.08	0.15	0.17	0.24
s, saturation flow rate [veh/h]	1512	3560	1589	3459	1870	1589	922	3560	1589	1044	3560	1589
c, Capacity [veh/h]	547	298	133	535	342	291	613	1880	839	704	1892	845
d1, Uniform Delay [s]	25.62	37.84	38.95	36.97	30.13	30.81	7.24	11.47	10.87	7.15	11.95	13.01
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.50	0.11	0.50	0.50
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.33	0.03	1.64	3.70	0.02	0.21	0.66	0.30	0.37	0.16	0.46	1.75
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.32	0.02	0.36	0.84	0.02	0.14	0.18	0.24	0.15	0.23	0.33	0.45
d, Delay for Lane Group [s/veh]	25.95	37.86	40.58	40.67	30.15	31.03	7.91	11.77	11.24	7.32	12.41	14.76
Lane Group LOS	C	D	D	D	C	C	A	B	B	A	B	B
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.81	0.06	1.02	4.83	0.10	0.71	0.80	2.19	1.19	1.04	3.15	4.50
50th-Percentile Queue Length [ft/ln]	70.13	1.48	25.47	120.76	2.59	17.75	20.05	54.85	29.78	25.90	78.72	112.47
95th-Percentile Queue Length [veh/ln]	5.05	0.11	1.83	8.43	0.19	1.28	1.44	3.95	2.14	1.86	5.67	7.98
95th-Percentile Queue Length [ft/ln]	126.23	2.67	45.84	210.86	4.66	31.94	36.10	98.72	53.60	46.62	141.70	199.43

Movement, Approach, & Intersection Results

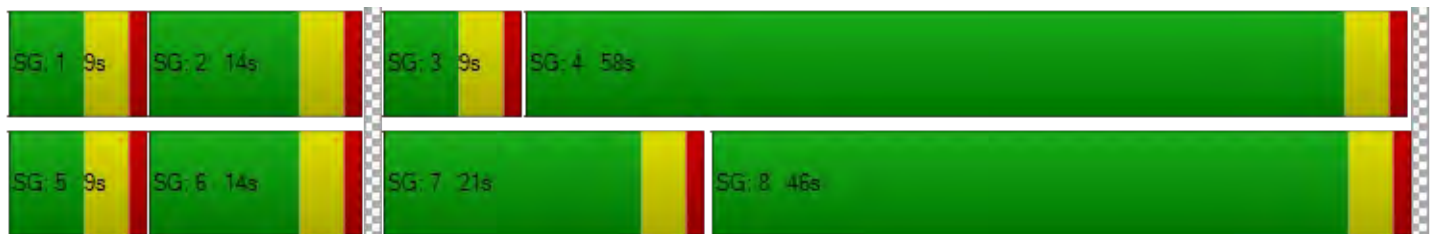
d_M, Delay for Movement [s/veh]	25.95	37.86	40.58	40.67	30.15	31.03	7.91	11.77	11.24	7.32	12.41	14.76
Movement LOS	C	D	D	D	C	C	A	B	B	A	B	B
d_A, Approach Delay [s/veh]	29.36			39.77			11.04			12.48		
Approach LOS	C			D			B			B		
d_I, Intersection Delay [s/veh]	18.87											
Intersection LOS	B											
Intersection V/C	0.429											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			0.0			0.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			0.00			0.00			0.00		
I_p,int, Pedestrian LOS Score for Intersection	0.000			0.000			0.000			0.000		
Crosswalk LOS	F			F			F			F		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	933			1200			222			222		
d_b, Bicycle Delay [s]	12.80			7.20			35.56			35.56		
I_b,int, Bicycle LOS Score for Intersection	1.782			2.439			2.219			2.800		
Bicycle LOS	A			B			B			C		

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 11: Amarillo Valley Road & Val Vista Road

Control Type:	Two-way stop	Delay (sec / veh):	14.0
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.015

Intersection Setup

Name	Amarillo Valley Road		Amarillo Valley Road		Val Vista Road	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	↶		↷		↷	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Amarillo Valley Road		Amarillo Valley Road		Val Vista Road	
Base Volume Input [veh/h]	2	8	12	5	4	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.2190	1.2190	1.2190	1.2190	1.2190	1.2190
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	139	202	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	105	150	0	0	0
Total Hourly Volume [veh/h]	2	254	367	6	5	0
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	71	102	2	1	0
Total Analysis Volume [veh/h]	2	282	408	7	6	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	8.15	0.00	0.00	0.00	14.00	10.76
Movement LOS	A	A	A	A	B	B
95th-Percentile Queue Length [veh/ln]	0.01	0.01	0.00	0.00	0.04	0.04
95th-Percentile Queue Length [ft/ln]	0.13	0.13	0.00	0.00	1.12	1.12
d_A, Approach Delay [s/veh]	0.06		0.00		14.00	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.14					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 12: Amarillo Valley Road & Miller Road

Control Type:	Two-way stop	Delay (sec / veh):	18.0
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.039

Intersection Setup

Name	Amarillo Valley Road		Amarillo Valley Road		Miller Road	
Approach	Northbound		Southbound		Westbound	
Lane Configuration	↬		↵		↶	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Amarillo Valley Road		Amarillo Valley Road		Miller Road	
Base Volume Input [veh/h]	0	6	7	5	9	10
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.2190	1.2190	1.2190	1.2190	1.2190	1.2190
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	202	0	0	139
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	105	0	0	150	0	0
Total Hourly Volume [veh/h]	105	7	211	156	11	151
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	29	2	59	43	3	42
Total Analysis Volume [veh/h]	117	8	234	173	12	168
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.16	0.00	0.04	0.18
d_M, Delay for Movement [s/veh]	0.00	0.00	7.93	0.00	17.97	10.10
Movement LOS	A	A	A	A	C	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.57	0.57	0.84	0.84
95th-Percentile Queue Length [ft/ln]	0.00	0.00	14.24	14.24	20.90	20.90
d_A, Approach Delay [s/veh]	0.00		4.56		10.63	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	5.29					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 13: SR 347 & Access G

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 14.5
 Level Of Service: B
 Volume to Capacity (v/c): 0.028

Intersection Setup

Name	SR 347		SR 347		Access G	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	↑↑		↑↑↔		↗	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	65.00		65.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	SR 347		SR 347		Access G	
Base Volume Input [veh/h]	0	133	177	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.2190	1.2190	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	806	698	33	0	10
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	545	320	0	0	0
Total Hourly Volume [veh/h]	0	1513	1234	33	0	10
Peak Hour Factor	1.0000	0.9000	0.9000	0.9000	1.0000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	420	343	9	0	3
Total Analysis Volume [veh/h]	0	1681	1371	37	0	11
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.02	0.01	0.00	0.00	0.03
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	0.00	14.49
Movement LOS		A	A	A		B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.09
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	2.17
d_A, Approach Delay [s/veh]	0.00		0.00		14.49	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.05					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 1: SR 347 & Miller Road/Louis Johnson Drive

Control Type:	Signalized	Delay (sec / veh):	25.7
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.566

Intersection Setup

Name	SR 347			SR 347			Miller Road			Louis Johnson Drive		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	⇐⇐⇐			⇐⇐⇐			⇐⇐⇐			⇐⇐⇐		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	150.00	100.00	150.00	150.00	100.00	150.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00	0.00	0.00	0.00
Speed [mph]	65.00			65.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name	SR 347			SR 347			Miller Road			Louis Johnson Drive		
Base Volume Input [veh/h]	1	139	4	12	70	0	0	7	0	1	7	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	9.80	2.00	2.00	9.80	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.3459	1.3459	1.3459	1.3459	1.3459	1.3459	1.3459	1.3459	1.3459	1.3459	1.3459	1.3459
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	85	103	0	222	255	133	260	177	209	0	73	97
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	265	0	0	797	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	86	555	5	238	1146	133	260	186	209	1	82	104
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	24	154	1	66	318	37	72	52	58	0	23	29
Total Analysis Volume [veh/h]	96	617	6	264	1273	148	289	207	232	1	91	116
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing in	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	10	0	5	10	0	5	10	0	5	10	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	10	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	10	37	0	24	51	0	13	19	0	10	16	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		Yes	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	5	40	40	15	51	51	9	19	19	0	10	10
g / C, Green / Cycle	0.05	0.44	0.44	0.17	0.56	0.56	0.10	0.21	0.21	0.00	0.11	0.11
(v / s)_i Volume / Saturation Flow Rate	0.03	0.18	0.00	0.15	0.38	0.09	0.08	0.11	0.15	0.00	0.05	0.07
s, saturation flow rate [veh/h]	3459	3338	1589	1781	3338	1589	3459	1870	1589	1781	1870	1589
c, Capacity [veh/h]	179	1473	701	304	1870	891	348	390	332	3	205	175
d1, Uniform Delay [s]	41.71	17.27	14.13	36.40	14.09	9.61	39.79	31.74	33.05	44.95	37.56	38.54
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.50	0.88	0.02	7.46	2.02	0.40	5.10	1.12	2.67	46.80	1.50	4.29
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.54	0.42	0.01	0.87	0.68	0.17	0.83	0.53	0.70	0.31	0.44	0.66
d, Delay for Lane Group [s/veh]	44.20	18.15	14.15	43.86	16.11	10.01	44.89	32.86	35.73	91.75	39.05	42.83
Lane Group LOS	D	B	B	D	B	B	D	C	D	F	D	D
Critical Lane Group	Yes	No	No	No	Yes	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.01	3.77	0.06	5.68	7.23	1.16	3.34	4.06	4.84	0.06	1.94	2.63
50th-Percentile Queue Length [ft/ln]	25.33	94.32	1.54	141.98	180.71	29.07	83.55	101.45	121.01	1.60	48.49	65.84
95th-Percentile Queue Length [veh/ln]	1.82	6.79	0.11	9.59	11.64	2.09	6.02	7.30	8.45	0.12	3.49	4.74
95th-Percentile Queue Length [ft/ln]	45.60	169.78	2.77	239.69	290.95	52.32	150.38	182.61	211.22	2.89	87.28	118.51

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	44.20	18.15	14.15	43.86	16.11	10.01	44.89	32.86	35.73	91.75	39.05	42.83
Movement LOS	D	B	B	D	B	B	D	C	D	F	D	D
d_A, Approach Delay [s/veh]	21.60			19.93			38.55			41.41		
Approach LOS	C			B			D			D		
d_I, Intersection Delay [s/veh]	25.68											
Intersection LOS	C											
Intersection V/C	0.566											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			0.0			0.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			0.00			0.00			0.00		
I_p,int, Pedestrian LOS Score for Intersection	0.000			0.000			0.000			0.000		
Crosswalk LOS	F			F			F			F		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	733			1043			333			266		
d_b, Bicycle Delay [s]	18.09			10.30			31.29			33.84		
I_b,int, Bicycle LOS Score for Intersection	2.153			2.950			2.761			1.903		
Bicycle LOS	B			C			C			A		

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report
Intersection 2: SR 347 & Access A**

Control Type:	Signalized	Delay (sec / veh):	12.0
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.523

Intersection Setup

Name	SR 347		SR 347		Access A	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	⇐		⇐		⇐⇐	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	65.00		65.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	No		No		No	

Volumes

Name	SR 347		SR 347		Access A	
Base Volume Input [veh/h]	0	144	86	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	9.80	9.80	2.00	2.00	2.00
Growth Factor	1.0000	1.3459	1.3459	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	82	414	167	50	125	209
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	265	797	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	82	873	1080	50	125	209
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	23	243	300	14	35	58
Total Analysis Volume [veh/h]	91	970	1200	56	139	232
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing in	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPerm	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	1	6	2	0	3	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	5	10	10	0	5	0
Maximum Green [s]	30	30	30	0	30	0
Amber [s]	3.0	3.0	3.0	0.0	3.0	0.0
All red [s]	1.0	1.0	1.0	0.0	1.0	0.0
Split [s]	9	39	30	0	51	0
Vehicle Extension [s]	3.0	3.0	3.0	0.0	3.0	0.0
Walk [s]	0	5	5	0	5	0
Pedestrian Clearance [s]	0	10	10	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No	No		No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
Minimum Recall	No	No	No		No	
Maximum Recall	No	No	No		No	
Pedestrian Recall	No	No	No		No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R	L	R
C, Cycle Length [s]	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	66	66	58	58	16	16
g / C, Green / Cycle	0.74	0.74	0.64	0.64	0.17	0.17
(v / s)_i Volume / Saturation Flow Rate	0.15	0.29	0.36	0.04	0.08	0.15
s, saturation flow rate [veh/h]	595	3338	3338	1589	1781	1589
c, Capacity [veh/h]	452	2454	2139	1019	313	279
d1, Uniform Delay [s]	6.17	4.44	9.06	6.01	33.16	35.79
k, delay calibration	0.11	0.50	0.50	0.50	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.22	0.48	1.07	0.10	0.99	6.29
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.20	0.40	0.56	0.05	0.44	0.83
d, Delay for Lane Group [s/veh]	6.39	4.92	10.13	6.12	34.14	42.08
Lane Group LOS	A	A	B	A	C	D
Critical Lane Group	Yes	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.23	1.61	4.51	0.29	2.76	5.31
50th-Percentile Queue Length [ft/ln]	5.75	40.21	112.69	7.22	69.04	132.73
95th-Percentile Queue Length [veh/ln]	0.41	2.90	7.99	0.52	4.97	9.09
95th-Percentile Queue Length [ft/ln]	10.35	72.38	199.73	12.99	124.27	227.20

Movement, Approach, & Intersection Results

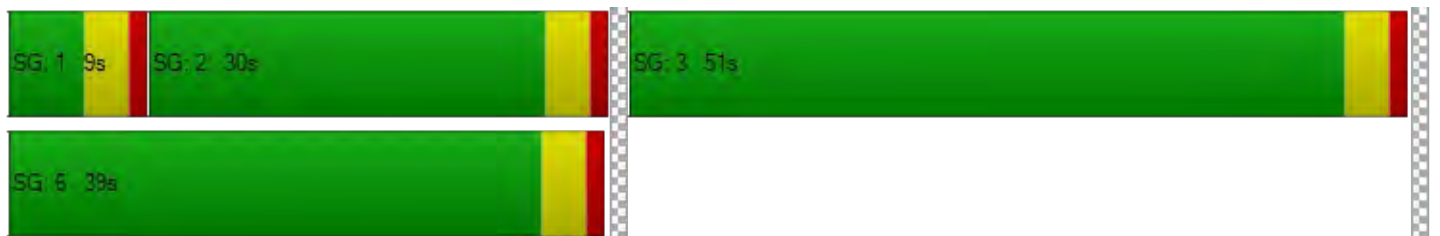
d_M, Delay for Movement [s/veh]	6.39	4.92	10.13	6.12	34.14	42.08
Movement LOS	A	A	B	A	C	D
d_A, Approach Delay [s/veh]	5.05		9.95		39.11	
Approach LOS	A		A		D	
d_I, Intersection Delay [s/veh]	12.04					
Intersection LOS	B					
Intersection V/C	0.523					

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft ² /ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00
I_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	0.000
Crosswalk LOS	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	778	578	1044
d_b, Bicycle Delay [s]	16.81	22.76	10.27
I_b,int, Bicycle LOS Score for Intersection	2.435	2.596	1.560
Bicycle LOS	B	B	A

Sequence

Ring 1	1	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report
Intersection 3: SR 347 & Access B**

Control Type:	Signalized	Delay (sec / veh):	17.2
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.661

Intersection Setup

Name	SR 347		SR 347		Access B	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	⇐		⇐		⇐⇐	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	1	0	0	0	0
Exit Pocket Length [ft]	0.00	49.21	0.00	0.00	0.00	0.00
Speed [mph]	65.00		65.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	No		No		No	

Volumes

Name	SR 347		SR 347		Access B	
Base Volume Input [veh/h]	0	144	86	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	9.80	9.80	2.00	2.00	2.00
Growth Factor	1.0000	1.3459	1.3459	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	137	323	309	67	172	312
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	265	797	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	137	782	1222	67	172	312
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	38	217	339	19	48	87
Total Analysis Volume [veh/h]	152	869	1358	74	191	347
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing in	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPerm	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	1	6	2	0	3	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	5	10	10	0	5	0
Maximum Green [s]	30	30	30	0	30	0
Amber [s]	3.0	3.0	3.0	0.0	3.0	0.0
All red [s]	1.0	1.0	1.0	0.0	1.0	0.0
Split [s]	9	23	14	0	67	0
Vehicle Extension [s]	3.0	3.0	3.0	0.0	3.0	0.0
Walk [s]	0	5	5	0	5	0
Pedestrian Clearance [s]	0	10	10	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No	No		No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
Minimum Recall	No	No	No		No	
Maximum Recall	No	No	No		No	
Pedestrian Recall	No	No	No		No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R	L	R
C, Cycle Length [s]	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	60	60	51	51	22	22
g / C, Green / Cycle	0.66	0.66	0.56	0.56	0.25	0.25
(v / s)_i Volume / Saturation Flow Rate	0.27	0.26	0.41	0.05	0.11	0.22
s, saturation flow rate [veh/h]	561	3338	3338	1589	1781	1589
c, Capacity [veh/h]	363	2208	1878	894	444	396
d1, Uniform Delay [s]	12.96	6.96	14.51	9.02	28.40	32.43
k, delay calibration	0.31	0.50	0.50	0.50	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.22	0.53	2.45	0.18	0.66	6.20
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.42	0.39	0.72	0.08	0.43	0.88
d, Delay for Lane Group [s/veh]	15.17	7.49	16.96	9.20	29.06	38.63
Lane Group LOS	B	A	B	A	C	D
Critical Lane Group	Yes	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.88	2.49	8.01	0.54	3.48	7.74
50th-Percentile Queue Length [ft/ln]	22.06	62.27	200.19	13.61	87.05	193.47
95th-Percentile Queue Length [veh/ln]	1.59	4.48	12.65	0.98	6.27	12.30
95th-Percentile Queue Length [ft/ln]	39.72	112.09	316.21	24.51	156.70	307.53

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	15.17	7.49	16.96	9.20	29.06	38.63
Movement LOS	B	A	B	A	C	D
d_A, Approach Delay [s/veh]	8.64		16.56		35.23	
Approach LOS	A		B		D	
d_I, Intersection Delay [s/veh]	17.21					
Intersection LOS	B					
Intersection V/C	0.661					

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft ² /ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00
I_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	0.000
Crosswalk LOS	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	422	222	1400
d_b, Bicycle Delay [s]	28.01	35.56	4.05
I_b,int, Bicycle LOS Score for Intersection	2.402	2.741	1.560
Bicycle LOS	B	B	A

Sequence

Ring 1	1	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report
Intersection 4: Green Road & Access C**

Control Type:	Two-way stop	Delay (sec / veh):	9.5
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.168

Intersection Setup

Name	Green Road		Green Road		Access C	
Approach	Northbound		Southbound		Westbound	
Lane Configuration	↑ ↓		← ↑		← →	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	1	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Green Road		Green Road		Access C	
Base Volume Input [veh/h]	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	61	0	0	147	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	61	0	0	147	0
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	17	0	0	41	0
Total Analysis Volume [veh/h]	0	68	0	0	163	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			Yes
Number of Storage Spaces in Median	0	0	2

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.17	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	7.35	0.00	9.45	8.32
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.60	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	15.04	0.00
d_A, Approach Delay [s/veh]	0.00		3.67		9.45	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	6.67					
Intersection LOS	A					

**Intersection Level Of Service Report
Intersection 5: Green Road & Access D**

Control Type:	Two-way stop	Delay (sec / veh):	10.6
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.202

Intersection Setup

Name	Green Road		Green Road		Access D	
Approach	Northbound		Southbound		Westbound	
Lane Configuration	↑ ↓		↑ ↓		← →	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	1	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Green Road		Green Road		Access D	
Base Volume Input [veh/h]	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	61	61	0	147	147	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	61	61	0	147	147	0
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	17	17	0	41	41	0
Total Analysis Volume [veh/h]	68	68	0	163	163	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			Yes
Number of Storage Spaces in Median	0	0	2

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.20	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	7.49	0.00	10.60	8.62
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.75	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	18.86	0.00
d_A, Approach Delay [s/veh]	0.00		0.00		10.60	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	3.74					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 6: Green Road & Miller Road

Control Type:	Two-way stop	Delay (sec / veh):	14.7
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.395

Intersection Setup

Name	Green Road		Miller Road		Miller Road	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration	↵↵		↵		↵	
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	1	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Green Road		Miller Road		Miller Road	
Base Volume Input [veh/h]	0	0	0	7	8	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.3459	1.3459	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	218	76	49	75	132	73
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	218	76	49	84	143	73
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	61	21	14	23	40	20
Total Analysis Volume [veh/h]	242	84	54	93	159	81
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.39	0.09	0.04	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	14.66	9.49	7.83	0.00	0.00	0.00
Movement LOS	B	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	1.88	0.31	0.13	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	47.04	7.83	3.18	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	13.32		2.88		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	6.69					
Intersection LOS	B					

**Intersection Level Of Service Report
Intersection 7: Access E & Miller Road**

Control Type:	Two-way stop	Delay (sec / veh):	13.2
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.292

Intersection Setup

Name	Access E		Miller Road		Miller Road	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration	↵↵		↵		↵	
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	1	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Access E		Miller Road		Miller Road	
Base Volume Input [veh/h]	0	0	0	7	8	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.3459	1.3459	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	163	38	24	268	166	54
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	163	38	24	277	177	54
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	45	11	7	77	49	15
Total Analysis Volume [veh/h]	181	42	27	308	197	60
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	Yes		
Number of Storage Spaces in Median	2	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.29	0.05	0.02	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	13.20	9.49	7.81	0.00	0.00	0.00
Movement LOS	B	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	1.21	0.16	0.06	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	30.32	3.92	1.58	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	12.50		0.63		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	3.68					
Intersection LOS	B					

**Intersection Level Of Service Report
Intersection 8: Access F & Miller Road**

Control Type:	Two-way stop	Delay (sec / veh):	19.0
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.518

Intersection Setup

Name	Access F		Miller Road		Miller Road	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration	↵↵		↵		↵	
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	1	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Access F		Miller Road		Miller Road	
Base Volume Input [veh/h]	0	0	0	7	8	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.3459	1.3459	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	246	47	31	400	174	117
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	246	47	31	409	185	117
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	68	13	9	114	51	33
Total Analysis Volume [veh/h]	273	52	34	454	206	130
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	Yes		
Number of Storage Spaces in Median	2	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.52	0.06	0.03	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	18.96	9.60	8.03	0.00	0.00	0.00
Movement LOS	C	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	2.95	0.20	0.09	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	73.85	4.97	2.14	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	17.46		0.56		0.00	
Approach LOS	C		A		A	
d_I, Intersection Delay [s/veh]	5.18					
Intersection LOS	C					

**Intersection Level Of Service Report
Intersection 9: SR 347 & Papago Road**

Control Type:	Signalized	Delay (sec / veh):	32.2
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.717

Intersection Setup

Name	SR 347		SR 347		Papago Road	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	⇐		⇐		⇐⇐⇐	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	1	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	100.00
Speed [mph]	65.00		65.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	No		No		No	

Volumes

Name	SR 347		SR 347		Papago Road	
Base Volume Input [veh/h]	10	141	89	48	127	23
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	9.80	9.80	2.00	2.00	2.00
Growth Factor	1.3459	1.3459	1.3459	1.3459	1.3459	1.3459
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	539	217	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	265	0	0	418	1258	797
Right Turn on Red Volume [veh/h]	0	0	0	242	0	414
Total Hourly Volume [veh/h]	278	729	337	241	1429	414
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	77	203	94	67	397	115
Total Analysis Volume [veh/h]	309	810	374	268	1588	460
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing in	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protected	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	1	6	2	0	3	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	5	10	10	0	5	0
Maximum Green [s]	30	30	30	0	30	0
Amber [s]	3.0	3.0	3.0	0.0	3.0	0.0
All red [s]	1.0	1.0	1.0	0.0	1.0	0.0
Split [s]	38	52	14	0	68	0
Vehicle Extension [s]	3.0	3.0	3.0	0.0	3.0	0.0
Walk [s]	0	5	5	0	5	0
Pedestrian Clearance [s]	0	10	10	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No	No		No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
Minimum Recall	No	No	No		No	
Maximum Recall	No	No	No		No	
Pedestrian Recall	No	No	No		No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R	L	R
C, Cycle Length [s]	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	13	53	35	35	59	59
g / C, Green / Cycle	0.11	0.44	0.30	0.30	0.49	0.49
(v / s)_i Volume / Saturation Flow Rate	0.09	0.24	0.11	0.17	0.46	0.29
s, saturation flow rate [veh/h]	3459	3338	3338	1589	3459	1589
c, Capacity [veh/h]	387	1467	982	468	1707	785
d1, Uniform Delay [s]	51.95	24.88	33.65	35.94	28.44	21.65
k, delay calibration	0.11	0.50	0.50	0.50	0.11	0.13
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.80	1.50	1.12	5.03	2.78	0.83
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.80	0.55	0.38	0.57	0.93	0.59
d, Delay for Lane Group [s/veh]	55.75	26.38	34.77	40.97	31.22	22.48
Lane Group LOS	E	C	C	D	C	C
Critical Lane Group	Yes	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	4.47	7.90	4.16	6.78	21.20	9.24
50th-Percentile Queue Length [ft/ln]	111.78	197.50	103.96	169.60	530.07	230.99
95th-Percentile Queue Length [veh/ln]	7.94	12.51	7.49	11.06	28.75	14.22
95th-Percentile Queue Length [ft/ln]	198.48	312.74	187.13	276.39	718.86	355.62

Movement, Approach, & Intersection Results

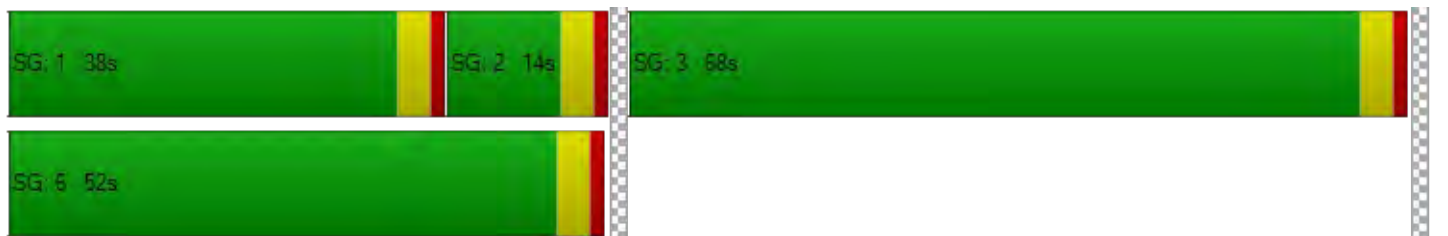
d_M, Delay for Movement [s/veh]	55.75	26.38	34.77	40.97	31.22	22.48
Movement LOS	E	C	C	D	C	C
d_A, Approach Delay [s/veh]	34.49		37.36		29.26	
Approach LOS	C		D		C	
d_I, Intersection Delay [s/veh]	32.16					
Intersection LOS	C					
Intersection V/C	0.717					

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft ² /ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00
I_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	0.000
Crosswalk LOS	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	800	167	1067
d_b, Bicycle Delay [s]	21.60	50.42	13.07
I_b,int, Bicycle LOS Score for Intersection	2.483	2.289	1.560
Bicycle LOS	B	B	A

Sequence





Ring 1	1	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 10: Amarillo Valley Road & Papago Road

Control Type:	Signalized	Delay (sec / veh):	25.5
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.592

Intersection Setup

Name	Amarillo Valley Road			Amarillo Valley Road			Papago Road			Papago Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Speed [mph]	45.00			45.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name	Amarillo Valley Road			Amarillo Valley Road			Papago Road			Papago Road		
Base Volume Input [veh/h]	4	0	9	0	0	0	0	135	6	4	57	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.3459	1.3459	1.3459	1.3459	1.3459	1.3459	1.3459	1.3459	1.3459	1.3459	1.3459	1.3459
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	208	0	0	0	0	0	0	0	123	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	57	100	181	603	256	231	132	609	134	187	463	203
Right Turn on Red Volume [veh/h]	0	0	97	0	0	116	0	0	133	0	0	102
Total Hourly Volume [veh/h]	270	100	96	603	256	115	132	791	132	192	540	101
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	75	28	27	168	71	32	37	220	37	53	150	28
Total Analysis Volume [veh/h]	300	111	107	670	284	128	147	879	147	213	600	112
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0			0			0	
v_di, Inbound Pedestrian Volume crossing in		0			0			0			0	
v_co, Outbound Pedestrian Volume crossing		0			0			0			0	
v_ci, Inbound Pedestrian Volume crossing mi		0			0			0			0	
v_ab, Corner Pedestrian Volume [ped/h]		0			0			0			0	
Bicycle Volume [bicycles/h]		0			0			0			0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	Protecte	Permiss	Permiss	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss
Signal Group	3	8	0	7	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	10	0	5	10	0	5	10	0	5	10	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	14	44	0	23	53	0	9	14	0	9	14	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	2.00	2.00	2.00	0.00	2.00	2.00	0.00	2.00	2.00
g_i, Effective Green Time [s]	33	10	10	19	19	19	49	40	40	49	40	40
g / C, Green / Cycle	0.37	0.11	0.11	0.21	0.21	0.21	0.54	0.44	0.44	0.54	0.44	0.44
(v / s)_i Volume / Saturation Flow Rate	0.22	0.03	0.07	0.19	0.15	0.08	0.15	0.25	0.09	0.27	0.17	0.07
s, saturation flow rate [veh/h]	1344	3560	1589	3459	1870	1589	956	3560	1589	796	3560	1589
c, Capacity [veh/h]	467	399	178	730	397	337	541	1579	705	432	1579	705
d1, Uniform Delay [s]	22.76	36.63	38.05	34.73	32.94	30.39	11.00	18.50	15.35	13.09	16.75	14.99
k, delay calibration	0.21	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.50	0.31	0.50	0.50
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.83	0.38	3.24	5.20	2.43	0.70	1.23	1.42	0.67	2.45	0.70	0.48
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.64	0.28	0.60	0.92	0.72	0.38	0.27	0.56	0.21	0.49	0.38	0.16
d, Delay for Lane Group [s/veh]	25.59	37.01	41.29	39.94	35.37	31.09	12.24	19.92	16.02	15.54	17.45	15.47
Lane Group LOS	C	D	D	D	D	C	B	B	B	B	B	B
Critical Lane Group	Yes	No	No	No	Yes	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	4.79	1.09	2.30	7.24	5.68	2.31	1.44	6.34	1.80	2.19	3.88	1.34
50th-Percentile Queue Length [ft/ln]	119.80	27.23	57.50	181.02	141.90	57.86	36.00	158.47	45.11	54.71	96.98	33.47
95th-Percentile Queue Length [veh/ln]	8.38	1.96	4.14	11.65	9.58	4.17	2.59	10.47	3.25	3.94	6.98	2.41
95th-Percentile Queue Length [ft/ln]	209.56	49.02	103.50	291.35	239.58	104.15	64.79	261.69	81.20	98.47	174.56	60.24

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	25.59	37.01	41.29	39.94	35.37	31.09	12.24	19.92	16.02	15.54	17.45	15.47
Movement LOS	C	D	D	D	D	C	B	B	B	B	B	B
d_A, Approach Delay [s/veh]	31.28			37.69			18.47			16.77		
Approach LOS	C			D			B			B		
d_I, Intersection Delay [s/veh]	25.46											
Intersection LOS	C											
Intersection V/C	0.592											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			0.0			0.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			0.00			0.00			0.00		
I_p,int, Pedestrian LOS Score for Intersection	0.000			0.000			0.000			0.000		
Crosswalk LOS	F			F			F			F		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	889			1089			222			222		
d_b, Bicycle Delay [s]	13.89			9.34			35.56			35.56		
I_b,int, Bicycle LOS Score for Intersection	2.067			3.536			2.637			2.407		
Bicycle LOS	B			D			B			B		

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 11: Amarillo Valley Road & Val Vista Road

Control Type:	Two-way stop	Delay (sec / veh):	15.5
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.028

Intersection Setup

Name	Amarillo Valley Road		Amarillo Valley Road		Val Vista Road	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Amarillo Valley Road		Amarillo Valley Road		Val Vista Road	
Base Volume Input [veh/h]	1	4	6	2	7	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.3459	1.3459	1.3459	1.3459	1.3459	1.3459
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	208	123	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	323	593	0	0	0
Total Hourly Volume [veh/h]	1	536	724	3	9	1
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	149	201	1	3	0
Total Analysis Volume [veh/h]	1	596	804	3	10	1
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			Yes
Number of Storage Spaces in Median	0	0	2

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.01	0.00	0.03	0.00
d_M, Delay for Movement [s/veh]	9.41	0.00	0.00	0.00	15.49	14.74
Movement LOS	A	A	A	A	C	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.10	0.10
95th-Percentile Queue Length [ft/ln]	0.09	0.00	0.00	0.00	2.38	2.38
d_A, Approach Delay [s/veh]	0.02		0.00		15.42	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	0.13					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 12: Amarillo Valley Road & Miller Road

Control Type:	Two-way stop	Delay (sec / veh):	20.0
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.020

Intersection Setup

Name	Amarillo Valley Road		Amarillo Valley Road		Miller Road	
Approach	Northbound		Southbound		Westbound	
Lane Configuration	↬		↶↵		↵	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Amarillo Valley Road		Amarillo Valley Road		Miller Road	
Base Volume Input [veh/h]	1	3	4	3	4	4
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.3459	1.3459	1.3459	1.3459	1.3459	1.3459
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	123	0	0	208
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	323	0	0	593	0	0
Total Hourly Volume [veh/h]	324	4	128	597	5	213
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	90	1	36	166	1	59
Total Analysis Volume [veh/h]	360	4	142	663	6	237
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			Yes
Number of Storage Spaces in Median	0	0	2

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.12	0.01	0.02	0.35
d_M, Delay for Movement [s/veh]	0.00	0.00	8.42	0.00	20.00	13.39
Movement LOS	A	A	A	A	C	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.40	0.00	1.68	1.68
95th-Percentile Queue Length [ft/ln]	0.00	0.00	10.09	0.00	42.12	42.12
d_A, Approach Delay [s/veh]	0.00		1.49		13.55	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	3.18					
Intersection LOS	C					

**Intersection Level Of Service Report
Intersection 13: SR 347 & Access G**

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 16.8
 Level Of Service: C
 Volume to Capacity (v/c): 0.007

Intersection Setup

Name	SR 347		SR 347		Access G	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration			r		r	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	65.00		65.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	SR 347		SR 347		Access G	
Base Volume Input [veh/h]	0	144	86	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.3459	1.3459	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	460	607	14	0	2
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	265	797	0	0	0
Total Hourly Volume [veh/h]	0	919	1520	14	0	2
Peak Hour Factor	1.0000	0.9000	0.9000	0.9000	1.0000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	255	422	4	0	1
Total Analysis Volume [veh/h]	0	1021	1689	16	0	2
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.02	0.00	0.00	0.01
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	0.00	16.83
Movement LOS		A	A	A		C
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.02
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.49
d_A, Approach Delay [s/veh]	0.00		0.00		16.83	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	0.01					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 1: SR 347 & Miller Road/Louis Johnson Drive

Control Type:	Signalized	Delay (sec / veh):	47.1
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.846

Intersection Setup

Name	SR 347			SR 347			Miller Road			Louis Johnson Drive		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	[Diagram]			[Diagram]			[Diagram]			[Diagram]		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	150.00	100.00	150.00	150.00	100.00	150.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00	0.00	0.00	0.00
Speed [mph]	65.00			65.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name	SR 347			SR 347			Miller Road			Louis Johnson Drive		
Base Volume Input [veh/h]	1	106	0	11	161	5	3	5	5	1	13	24
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	9.80	2.00	2.00	9.80	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.3459	1.3459	1.3459	1.3459	1.3459	1.3459	1.3459	1.3459	1.3459	1.3459	1.3459	1.3459
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	260	302	0	175	208	325	250	138	165	0	217	254
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	895	0	0	527	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	261	1340	0	190	952	332	254	145	172	1	234	286
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	73	372	0	53	264	92	71	40	48	0	65	79
Total Analysis Volume [veh/h]	290	1489	0	211	1058	369	282	161	191	1	260	318
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing in	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	10	0	5	10	0	5	10	0	5	10	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	10	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	13	42	0	15	44	0	11	24	0	9	22	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		Yes	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	9	38	38	11	40	40	7	25	25	0	18	18
g / C, Green / Cycle	0.10	0.42	0.42	0.12	0.45	0.45	0.08	0.28	0.28	0.00	0.20	0.20
(v / s)_i Volume / Saturation Flow Rate	0.08	0.45	0.00	0.12	0.32	0.23	0.08	0.09	0.12	0.00	0.14	0.20
s, saturation flow rate [veh/h]	3459	3338	1589	1781	3338	1589	3459	1870	1589	1781	1870	1589
c, Capacity [veh/h]	346	1414	673	218	1488	709	269	514	437	3	371	315
d1, Uniform Delay [s]	39.79	25.94	0.00	39.34	20.24	18.00	41.51	25.90	26.90	44.91	33.59	36.08
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.16
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	5.40	39.26	0.00	21.75	2.91	2.72	38.69	0.34	0.69	77.21	2.41	30.43
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.84	1.05	0.00	0.97	0.71	0.52	1.05	0.31	0.44	0.39	0.70	1.01
d, Delay for Lane Group [s/veh]	45.19	65.20	0.00	61.08	23.15	20.73	80.20	26.24	27.59	122.12	36.00	66.51
Lane Group LOS	D	F	A	E	C	C	F	C	C	F	D	F
Critical Lane Group	No	Yes	No	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	3.11	19.91	0.00	5.50	7.88	5.05	4.39	2.73	3.39	0.08	5.42	9.41
50th-Percentile Queue Length [ft/ln]	77.81	497.85	0.00	137.43	196.94	126.27	109.85	68.30	84.74	1.92	135.61	235.28
95th-Percentile Queue Length [veh/ln]	5.60	28.25	0.00	9.34	12.48	8.74	7.91	4.92	6.10	0.14	9.24	14.50
95th-Percentile Queue Length [ft/ln]	140.06	706.33	0.00	233.55	312.01	218.41	197.72	122.94	152.53	3.45	231.10	362.56

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	45.19	65.20	0.00	61.08	23.15	20.73	80.20	26.24	27.59	122.12	36.00	66.51
Movement LOS	D	F	A	E	C	C	F	C	C	F	D	F
d_A, Approach Delay [s/veh]	61.94			27.49			50.64			52.91		
Approach LOS	E			C			D			D		
d_I, Intersection Delay [s/veh]	47.08											
Intersection LOS	D											
Intersection V/C	0.846											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			0.0			0.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			0.00			0.00			0.00		
I_p,int, Pedestrian LOS Score for Intersection	0.000			0.000			0.000			0.000		
Crosswalk LOS	F			F			F			F		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	844			889			444			400		
d_b, Bicycle Delay [s]	15.03			13.89			27.23			28.81		
I_b,int, Bicycle LOS Score for Intersection	3.027			2.911			2.606			2.515		
Bicycle LOS	C			C			B			B		

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report
Intersection 2: SR 347 & Access A**

Control Type:	Signalized	Delay (sec / veh):	9.6
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.568

Intersection Setup

Name	SR 347		SR 347		Access A	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	⇐		⇐		⇐⇐	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	65.00		65.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	No		No		No	

Volumes

Name	SR 347		SR 347		Access A	
Base Volume Input [veh/h]	0	133	177	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	9.80	9.80	2.00	2.00	2.00
Growth Factor	1.0000	1.3459	1.3459	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	223	352	521	134	80	133
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	895	527	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	223	1426	1286	134	80	133
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	62	396	357	37	22	37
Total Analysis Volume [veh/h]	248	1584	1429	149	89	148
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing in	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPerm	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	1	6	2	0	3	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	5	10	10	0	5	0
Maximum Green [s]	30	30	30	0	30	0
Amber [s]	3.0	3.0	3.0	0.0	3.0	0.0
All red [s]	1.0	1.0	1.0	0.0	1.0	0.0
Split [s]	9	26	17	0	64	0
Vehicle Extension [s]	3.0	3.0	3.0	0.0	3.0	0.0
Walk [s]	0	5	5	0	5	0
Pedestrian Clearance [s]	0	10	10	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No	No		No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
Minimum Recall	No	No	No		No	
Maximum Recall	No	No	No		No	
Pedestrian Recall	No	No	No		No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R	L	R
C, Cycle Length [s]	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	71	71	62	62	11	11
g / C, Green / Cycle	0.79	0.79	0.69	0.69	0.12	0.12
(v / s)_i Volume / Saturation Flow Rate	0.48	0.47	0.43	0.09	0.05	0.09
s, saturation flow rate [veh/h]	513	3338	3338	1589	1781	1589
c, Capacity [veh/h]	429	2637	2303	1097	216	192
d1, Uniform Delay [s]	10.92	3.78	7.56	4.77	36.59	38.33
k, delay calibration	0.50	0.50	0.50	0.50	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	5.57	1.02	1.27	0.26	1.26	6.34
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.58	0.60	0.62	0.14	0.41	0.77
d, Delay for Lane Group [s/veh]	16.49	4.80	8.83	5.03	37.85	44.68
Lane Group LOS	B	A	A	A	D	D
Critical Lane Group	No	Yes	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.88	1.50	4.46	0.61	1.87	3.46
50th-Percentile Queue Length [ft/ln]	21.96	37.38	111.47	15.30	46.66	86.47
95th-Percentile Queue Length [veh/ln]	1.58	2.69	7.92	1.10	3.36	6.23
95th-Percentile Queue Length [ft/ln]	39.53	67.28	198.04	27.53	83.99	155.65

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	16.49	4.80	8.83	5.03	37.85	44.68
Movement LOS	B	A	A	A	D	D
d_A, Approach Delay [s/veh]	6.38		8.47		42.12	
Approach LOS	A		A		D	
d_I, Intersection Delay [s/veh]	9.61					
Intersection LOS	A					
Intersection V/C	0.568					

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft ² /ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00
I_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	0.000
Crosswalk LOS	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	489	289	1333
d_b, Bicycle Delay [s]	25.69	32.94	5.00
I_b,int, Bicycle LOS Score for Intersection	3.071	2.861	1.560
Bicycle LOS	C	C	A

Sequence

Ring 1	1	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report
Intersection 3: SR 347 & Access B**

Control Type:	Signalized	Delay (sec / veh):	22.9
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.727

Intersection Setup

Name	SR 347		SR 347		Access B	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	⇐		⇐		⇐⇐	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	1	0	0	0	0
Exit Pocket Length [ft]	0.00	49.21	0.00	0.00	0.00	0.00
Speed [mph]	65.00		65.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	No		No		No	

Volumes

Name	SR 347		SR 347		Access B	
Base Volume Input [veh/h]	0	133	177	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	9.80	9.80	2.00	2.00	2.00
Growth Factor	1.0000	1.3459	1.3459	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	393	414	445	210	162	286
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	895	527	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	393	1488	1210	210	162	286
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	109	413	336	58	45	79
Total Analysis Volume [veh/h]	437	1653	1344	233	180	318
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing in	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPerm	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	1	6	2	0	3	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	5	10	10	0	5	0
Maximum Green [s]	30	30	30	0	30	0
Amber [s]	3.0	3.0	3.0	0.0	3.0	0.0
All red [s]	1.0	1.0	1.0	0.0	1.0	0.0
Split [s]	19	54	35	0	36	0
Vehicle Extension [s]	3.0	3.0	3.0	0.0	3.0	0.0
Walk [s]	0	5	5	0	5	0
Pedestrian Clearance [s]	0	10	10	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No	No		No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
Minimum Recall	No	No	No		No	
Maximum Recall	No	No	No		No	
Pedestrian Recall	No	No	No		No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R	L	R
C, Cycle Length [s]	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	61	61	42	42	21	21
g / C, Green / Cycle	0.68	0.68	0.47	0.47	0.23	0.23
(v / s)_i Volume / Saturation Flow Rate	0.56	0.50	0.40	0.15	0.10	0.20
s, saturation flow rate [veh/h]	787	3338	3338	1589	1781	1589
c, Capacity [veh/h]	506	2277	1572	749	408	364
d1, Uniform Delay [s]	24.27	9.00	21.08	14.75	29.76	33.45
k, delay calibration	0.50	0.50	0.50	0.50	0.11	0.13
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	17.44	2.06	6.16	1.08	0.75	7.91
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.86	0.73	0.85	0.31	0.44	0.87
d, Delay for Lane Group [s/veh]	41.71	11.06	27.23	15.83	30.52	41.35
Lane Group LOS	D	B	C	B	C	D
Critical Lane Group	Yes	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	4.45	6.30	11.17	2.61	3.37	7.32
50th-Percentile Queue Length [ft/ln]	111.32	157.60	279.16	65.21	84.27	183.05
95th-Percentile Queue Length [veh/ln]	7.91	10.42	16.65	4.70	6.07	11.76
95th-Percentile Queue Length [ft/ln]	197.84	260.55	416.17	117.38	151.69	293.99

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	41.71	11.06	27.23	15.83	30.52	41.35
Movement LOS	D	B	C	B	C	D
d_A, Approach Delay [s/veh]	17.47		25.55		37.44	
Approach LOS	B		C		D	
d_I, Intersection Delay [s/veh]	22.92					
Intersection LOS	C					
Intersection V/C	0.727					

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft ² /ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00
I_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	0.000
Crosswalk LOS	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1111	689	711
d_b, Bicycle Delay [s]	8.89	19.34	18.69
I_b,int, Bicycle LOS Score for Intersection	3.284	2.861	1.560
Bicycle LOS	C	C	A

Sequence

Ring 1	1	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report
Intersection 4: Green Road & Access C**

Control Type:	Two-way stop	Delay (sec / veh):	9.1
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.105

Intersection Setup

Name	Green Road		Green Road		Access C	
Approach	Northbound		Southbound		Westbound	
Lane Configuration	↑↔		↔↑		↔↔	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	1	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Green Road		Green Road		Access C	
Base Volume Input [veh/h]	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	153	0	0	92	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	153	0	0	92	0
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	43	0	0	26	0
Total Analysis Volume [veh/h]	0	170	0	0	102	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			Yes
Number of Storage Spaces in Median	0	0	2

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.11	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	7.56	0.00	9.14	8.32
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.35	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	8.77	0.00
d_A, Approach Delay [s/veh]	0.00		3.78		9.14	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	3.43					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 5: Green Road & Access D

Control Type:	Two-way stop	Delay (sec / veh):	10.3
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.130

Intersection Setup

Name	Green Road		Green Road		Access D	
Approach	Northbound		Southbound		Westbound	
Lane Configuration	↑↔		↔↓		↔↔	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	1	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Green Road		Green Road		Access D	
Base Volume Input [veh/h]	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	153	153	0	92	92	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	153	153	0	92	92	0
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	43	43	0	26	26	0
Total Analysis Volume [veh/h]	170	170	0	102	102	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			Yes
Number of Storage Spaces in Median	0	0	2

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.13	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	7.95	0.00	10.26	9.12
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.45	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	11.13	0.00
d_A, Approach Delay [s/veh]	0.00		0.00		10.26	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]				1.92		
Intersection LOS				B		

**Intersection Level Of Service Report
Intersection 6: Green Road & Miller Road**

Control Type:	Two-way stop	Delay (sec / veh):	14.6
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.301

Intersection Setup

Name	Green Road		Miller Road		Miller Road	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration	↵↵		↵		↵	
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	1	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Green Road		Miller Road		Miller Road	
Base Volume Input [veh/h]	0	0	0	13	19	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.3459	1.3459	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	144	40	62	140	99	245
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	144	40	62	157	125	245
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	40	11	17	44	35	68
Total Analysis Volume [veh/h]	160	44	69	174	139	272
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.30	0.05	0.06	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	14.65	9.16	8.34	0.00	0.00	0.00
Movement LOS	B	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	1.26	0.15	0.19	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	31.40	3.81	4.79	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	13.47		2.37		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	3.87					
Intersection LOS	B					

**Intersection Level Of Service Report
Intersection 7: Access E & Miller Road**

Control Type:	Two-way stop	Delay (sec / veh):	13.5
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.220

Intersection Setup

Name	Access E		Miller Road		Miller Road	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration	↵↵		↵		↵	
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	1	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Access E		Miller Road		Miller Road	
Base Volume Input [veh/h]	0	0	0	13	19	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.3459	1.3459	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	108	20	31	253	324	184
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	108	20	31	270	350	184
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	30	6	9	75	97	51
Total Analysis Volume [veh/h]	120	22	34	300	389	204
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	Yes		
Number of Storage Spaces in Median	2	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.22	0.03	0.03	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	13.46	10.65	8.79	0.00	0.00	0.00
Movement LOS	B	B	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.83	0.10	0.11	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	20.85	2.59	2.68	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	13.02		0.90		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	2.01					
Intersection LOS	B					

**Intersection Level Of Service Report
Intersection 8: Access F & Miller Road**

Control Type:	Two-way stop	Delay (sec / veh):	25.1
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.609

Intersection Setup

Name	Access F		Miller Road		Miller Road	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration	↵↵		↵		↵	
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	1	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Access F		Miller Road		Miller Road	
Base Volume Input [veh/h]	0	0	0	13	19	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.3459	1.3459	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	241	33	50	311	474	327
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	241	33	50	328	500	327
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	67	9	14	91	139	91
Total Analysis Volume [veh/h]	268	37	56	364	556	363
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	Yes		
Number of Storage Spaces in Median	2	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.61	0.07	0.08	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	25.13	12.29	10.24	0.00	0.00	0.00
Movement LOS	D	B	B	A	A	A
95th-Percentile Queue Length [veh/ln]	3.95	0.22	0.24	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	98.76	5.60	6.10	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	23.57		1.37		0.00	
Approach LOS	C		A		A	
d_I, Intersection Delay [s/veh]	4.72					
Intersection LOS	D					

**Intersection Level Of Service Report
Intersection 9: SR 347 & Papago Road**

Control Type:	Signalized	Delay (sec / veh):	207.6
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.448

Intersection Setup

Name	SR 347		SR 347		Papago Road	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	⇐		⇐		⇐⇐⇐	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	1	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	100.00
Speed [mph]	65.00		65.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	No		No		No	

Volumes

Name	SR 347		SR 347		Papago Road	
Base Volume Input [veh/h]	21	152	143	155	79	21
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	9.80	9.80	2.00	2.00	2.00
Growth Factor	1.3459	1.3459	1.3459	1.3459	1.3459	1.3459
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	432	655	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	895	0	0	1412	832	527
Right Turn on Red Volume [veh/h]	0	0	0	405	0	278
Total Hourly Volume [veh/h]	923	637	847	1216	938	277
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	256	177	235	338	261	77
Total Analysis Volume [veh/h]	1026	708	941	1351	1042	308
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing in	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protected	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	1	6	2	0	3	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	5	10	10	0	5	0
Maximum Green [s]	30	30	30	0	30	0
Amber [s]	3.0	3.0	3.0	0.0	3.0	0.0
All red [s]	1.0	1.0	1.0	0.0	1.0	0.0
Split [s]	27	93	66	0	27	0
Vehicle Extension [s]	3.0	3.0	3.0	0.0	3.0	0.0
Walk [s]	0	5	5	0	5	0
Pedestrian Clearance [s]	0	10	10	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No	No		No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
Minimum Recall	No	No	No		No	
Maximum Recall	No	No	No		No	
Pedestrian Recall	No	No	No		No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R	L	R
C, Cycle Length [s]	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	23	89	62	62	23	23
g / C, Green / Cycle	0.19	0.74	0.52	0.52	0.19	0.19
(v / s)_i Volume / Saturation Flow Rate	0.30	0.21	0.28	0.85	0.30	0.19
s, saturation flow rate [veh/h]	3459	3338	3338	1589	3459	1589
c, Capacity [veh/h]	663	2475	1724	821	663	305
d1, Uniform Delay [s]	48.50	5.08	19.52	29.00	48.50	48.50
k, delay calibration	0.15	0.50	0.50	0.50	0.16	0.29
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	248.80	0.29	1.25	295.78	259.70	41.74
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	1.55	0.29	0.55	1.65	1.57	1.01
d, Delay for Lane Group [s/veh]	297.30	5.37	20.77	324.78	308.20	90.24
Lane Group LOS	F	A	C	F	F	F
Critical Lane Group	Yes	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	32.12	1.96	7.92	87.24	33.78	12.60
50th-Percentile Queue Length [ft/ln]	802.98	48.93	198.03	2180.98	844.40	315.01
95th-Percentile Queue Length [veh/ln]	49.79	3.52	12.54	136.91	52.32	18.53
95th-Percentile Queue Length [ft/ln]	1244.71	88.08	313.43	3422.80	1308.06	463.24

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	297.30	5.37	20.77	324.78	308.20	90.24
Movement LOS	F	A	C	F	F	F
d_A, Approach Delay [s/veh]	178.11		199.96		258.48	
Approach LOS	F		F		F	
d_I, Intersection Delay [s/veh]	207.61					
Intersection LOS	F					
Intersection V/C	1.448					

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft ² /ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00
I_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	0.000
Crosswalk LOS	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1483	1033	383
d_b, Bicycle Delay [s]	4.00	14.02	39.20
I_b,int, Bicycle LOS Score for Intersection	2.990	3.785	1.560
Bicycle LOS	C	D	A

Sequence





Ring 1	1	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 10: Amarillo Valley Road & Papago Road

Control Type:	Signalized	Delay (sec / veh):	24.9
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.538

Intersection Setup

Name	Amarillo Valley Road			Amarillo Valley Road			Papago Road			Papago Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Speed [mph]	45.00			45.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name	Amarillo Valley Road			Amarillo Valley Road			Papago Road			Papago Road		
Base Volume Input [veh/h]	9	0	8	0	0	0	0	90	13	13	165	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.3459	1.3459	1.3459	1.3459	1.3459	1.3459	1.3459	1.3459	1.3459	1.3459	1.3459	1.3459
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	139	0	0	0	0	0	0	0	202	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	138	271	210	395	163	125	192	482	81	209	567	670
Right Turn on Red Volume [veh/h]	0	0	111	0	0	63	0	0	150	0	0	335
Total Hourly Volume [veh/h]	289	271	110	395	163	62	192	603	150	226	789	335
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	80	75	31	110	45	17	53	168	42	63	219	93
Total Analysis Volume [veh/h]	321	301	122	439	181	69	213	670	167	251	877	372
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0			0			0	
v_di, Inbound Pedestrian Volume crossing in		0			0			0			0	
v_co, Outbound Pedestrian Volume crossing		0			0			0			0	
v_ci, Inbound Pedestrian Volume crossing mi		0			0			0			0	
v_ab, Corner Pedestrian Volume [ped/h]		0			0			0			0	
Bicycle Volume [bicycles/h]		0			0			0			0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	Protecte	Permiss	Permiss	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss
Signal Group	3	8	0	7	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	10	0	5	10	0	5	10	0	5	10	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	12	19	0	16	23	0	9	29	0	26	46	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	2.00	2.00	2.00	0.00	2.00	2.00	0.00	2.00	2.00
g_i, Effective Green Time [s]	31	15	15	12	19	19	51	38	38	51	42	42
g / C, Green / Cycle	0.34	0.17	0.17	0.13	0.21	0.21	0.57	0.42	0.42	0.57	0.47	0.47
(v / s)_i Volume / Saturation Flow Rate	0.23	0.08	0.08	0.13	0.10	0.04	0.27	0.19	0.11	0.25	0.25	0.23
s, saturation flow rate [veh/h]	1389	3560	1589	3459	1870	1589	790	3560	1589	985	3560	1589
c, Capacity [veh/h]	496	593	265	461	395	336	457	1505	672	570	1662	742
d1, Uniform Delay [s]	25.74	34.14	33.85	38.71	31.01	29.28	11.66	18.47	16.75	11.14	16.98	16.71
k, delay calibration	0.23	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.50	0.28	0.50	0.50
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.94	0.67	1.25	11.06	0.83	0.30	3.39	0.96	0.88	1.37	1.20	2.42
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.65	0.51	0.46	0.95	0.46	0.21	0.47	0.45	0.25	0.44	0.53	0.50
d, Delay for Lane Group [s/veh]	28.67	34.81	35.09	49.77	31.84	29.58	15.05	19.42	17.63	12.51	18.19	19.13
Lane Group LOS	C	C	D	D	C	C	B	B	B	B	B	B
Critical Lane Group	Yes	No	No	No	Yes	No	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	5.43	2.89	2.37	5.26	3.33	1.19	2.19	4.68	2.19	2.34	5.96	5.24
50th-Percentile Queue Length [ft/ln]	135.67	72.36	59.34	131.48	83.22	29.83	54.72	116.93	54.74	58.52	149.03	131.04
95th-Percentile Queue Length [veh/ln]	9.25	5.21	4.27	9.02	5.99	2.15	3.94	8.22	3.94	4.21	9.97	9.00
95th-Percentile Queue Length [ft/ln]	231.18	130.24	106.81	225.51	149.80	53.70	98.50	205.59	98.53	105.34	249.13	224.91

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	28.67	34.81	35.09	49.77	31.84	29.58	15.05	19.42	17.63	12.51	18.19	19.13
Movement LOS	C	C	D	D	C	C	B	B	B	B	B	B
d_A, Approach Delay [s/veh]	32.21			43.04			18.25			17.47		
Approach LOS	C			D			B			B		
d_I, Intersection Delay [s/veh]	24.85											
Intersection LOS	C											
Intersection V/C	0.538											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			0.0			0.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			0.00			0.00			0.00		
I_p,int, Pedestrian LOS Score for Intersection	0.000			0.000			0.000			0.000		
Crosswalk LOS	F			F			F			F		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	333			422			556			933		
d_b, Bicycle Delay [s]	31.25			28.01			23.47			12.80		
I_b,int, Bicycle LOS Score for Intersection	2.265			2.800			2.550			3.073		
Bicycle LOS	B			C			B			C		

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 11: Amarillo Valley Road & Val Vista Road

Control Type:	Two-way stop	Delay (sec / veh):	17.0
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.020

Intersection Setup

Name	Amarillo Valley Road		Amarillo Valley Road		Val Vista Road	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Amarillo Valley Road		Amarillo Valley Road		Val Vista Road	
Base Volume Input [veh/h]	2	8	12	5	4	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.3459	1.3459	1.3459	1.3459	1.3459	1.3459
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	139	202	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	637	464	0	0	0
Total Hourly Volume [veh/h]	3	787	682	7	5	0
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	219	189	2	1	0
Total Analysis Volume [veh/h]	3	874	758	8	6	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			Yes
Number of Storage Spaces in Median	0	0	2

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.01	0.00	0.02	0.00
d_M, Delay for Movement [s/veh]	9.26	0.00	0.00	0.00	16.99	14.13
Movement LOS	A	A	A	A	C	B
95th-Percentile Queue Length [veh/ln]	0.01	0.00	0.00	0.00	0.06	0.06
95th-Percentile Queue Length [ft/ln]	0.27	0.00	0.00	0.00	1.50	1.50
d_A, Approach Delay [s/veh]	0.03		0.00		16.99	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	0.08					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 12: Amarillo Valley Road & Miller Road

Control Type:	Two-way stop	Delay (sec / veh):	27.8
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.057

Intersection Setup

Name	Amarillo Valley Road		Amarillo Valley Road		Miller Road	
Approach	Northbound		Southbound		Westbound	
Lane Configuration	└─┬─┘		┌─┬─┐		└─┬─┘	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Amarillo Valley Road		Amarillo Valley Road		Miller Road	
Base Volume Input [veh/h]	0	6	7	5	9	10
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.3459	1.3459	1.3459	1.3459	1.3459	1.3459
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	202	0	0	139
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	637	0	0	464	0	0
Total Hourly Volume [veh/h]	637	8	211	471	12	152
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	177	2	59	131	3	42
Total Analysis Volume [veh/h]	708	9	234	523	13	169
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			Yes
Number of Storage Spaces in Median	0	0	2

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.26	0.01	0.06	0.39
d_M, Delay for Movement [s/veh]	0.00	0.00	10.53	0.00	27.81	20.33
Movement LOS	A	A	B	A	D	C
95th-Percentile Queue Length [veh/ln]	0.00	0.00	1.07	0.00	2.25	2.25
95th-Percentile Queue Length [ft/ln]	0.00	0.00	26.66	0.00	56.37	56.37
d_A, Approach Delay [s/veh]	0.00		3.26		20.87	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	3.78					
Intersection LOS	D					

**Intersection Level Of Service Report
Intersection 13: SR 347 & Access G**

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 16.6
 Level Of Service: C
 Volume to Capacity (v/c): 0.034

Intersection Setup

Name	SR 347		SR 347		Access G	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	↑↑		↑↑↔		↗	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	65.00		65.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	SR 347		SR 347		Access G	
Base Volume Input [veh/h]	0	133	177	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.3459	1.3459	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	806	698	33	0	10
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	895	527	0	0	0
Total Hourly Volume [veh/h]	0	1880	1463	33	0	10
Peak Hour Factor	1.0000	0.9000	0.9000	0.9000	1.0000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	522	406	9	0	3
Total Analysis Volume [veh/h]	0	2089	1626	37	0	11
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.02	0.02	0.00	0.00	0.03
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	0.00	16.59
Movement LOS		A	A	A		C
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.11
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	2.65
d_A, Approach Delay [s/veh]	0.00		0.00		16.59	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]				0.05		
Intersection LOS				C		

Intersection Level Of Service Report
Intersection 1: SR 347 & Miller Road/Louis Johnson Drive

Control Type:	Signalized	Delay (sec / veh):	25.7
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.569

Intersection Setup

Name	SR 347			SR 347			Miller Road			Louis Johnson Drive		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	[Diagram]			[Diagram]			[Diagram]			[Diagram]		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	150.00	100.00	150.00	150.00	100.00	150.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00	0.00	0.00	0.00
Speed [mph]	65.00			65.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name	SR 347			SR 347			Miller Road			Louis Johnson Drive		
Base Volume Input [veh/h]	1	139	4	12	70	0	0	7	0	1	7	5
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	9.80	2.00	2.00	9.80	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.4859	1.4859	1.4859	1.4859	1.4859	1.4859	1.4859	1.4859	1.4859	1.4859	1.4859	1.4859
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	85	103	0	222	255	133	260	177	209	0	73	97
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	265	0	0	797	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	86	575	6	240	1156	133	260	187	209	1	83	104
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	24	160	2	67	321	37	72	52	58	0	23	29
Total Analysis Volume [veh/h]	96	639	7	267	1284	148	289	208	232	1	92	116
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing in	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	10	0	5	10	0	5	10	0	5	10	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	10	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	22	14	0	33	25	0	13	20	0	23	30	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		Yes	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	5	39	39	16	50	50	9	19	19	0	10	10
g / C, Green / Cycle	0.05	0.44	0.44	0.17	0.56	0.56	0.10	0.21	0.21	0.00	0.11	0.11
(v / s)_i Volume / Saturation Flow Rate	0.03	0.19	0.00	0.15	0.38	0.09	0.08	0.11	0.15	0.00	0.05	0.07
s, saturation flow rate [veh/h]	3459	3338	1589	1781	3338	1589	3459	1870	1589	1781	1870	1589
c, Capacity [veh/h]	179	1456	694	311	1866	889	348	393	334	3	208	176
d1, Uniform Delay [s]	41.71	17.72	14.39	36.15	14.24	9.66	39.79	31.67	32.96	44.95	37.48	38.44
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.50	0.96	0.03	6.89	2.10	0.40	5.10	1.11	2.61	46.80	1.48	4.12
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.54	0.44	0.01	0.86	0.69	0.17	0.83	0.53	0.70	0.31	0.44	0.66
d, Delay for Lane Group [s/veh]	44.20	18.68	14.42	43.03	16.34	10.07	44.89	32.78	35.56	91.75	38.96	42.55
Lane Group LOS	D	B	B	D	B	B	D	C	D	F	D	D
Critical Lane Group	Yes	No	No	No	Yes	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.01	3.99	0.07	5.68	7.36	1.17	3.34	4.08	4.83	0.06	1.96	2.63
50th-Percentile Queue Length [ft/ln]	25.33	99.73	1.82	142.03	183.91	29.13	83.55	101.89	120.80	1.60	48.99	65.63
95th-Percentile Queue Length [veh/ln]	1.82	7.18	0.13	9.59	11.80	2.10	6.02	7.34	8.44	0.12	3.53	4.73
95th-Percentile Queue Length [ft/ln]	45.60	179.51	3.27	239.76	295.11	52.44	150.38	183.40	210.92	2.89	88.18	118.14

Movement, Approach, & Intersection Results

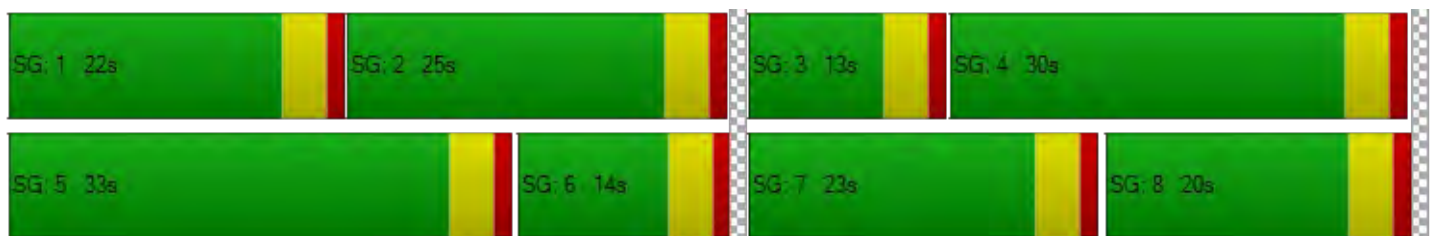
d_M, Delay for Movement [s/veh]	44.20	18.68	14.42	43.03	16.34	10.07	44.89	32.78	35.56	91.75	38.96	42.55
Movement LOS	D	B	B	D	B	B	D	C	D	F	D	D
d_A, Approach Delay [s/veh]	21.94			19.99			38.47			41.21		
Approach LOS	C			B			D			D		
d_I, Intersection Delay [s/veh]	25.72											
Intersection LOS	C											
Intersection V/C	0.569											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			0.0			0.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			0.00			0.00			0.00		
I_p,int, Pedestrian LOS Score for Intersection	0.000			0.000			0.000			0.000		
Crosswalk LOS	F			F			F			F		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	222			466			355			577		
d_b, Bicycle Delay [s]	35.60			26.49			30.47			22.80		
I_b,int, Bicycle LOS Score for Intersection	2.172			2.961			2.762			1.904		
Bicycle LOS	B			C			C			A		

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report
Intersection 2: SR 347 & Access A**

Control Type:	Signalized	Delay (sec / veh):	24.8
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.661

Intersection Setup

Name	SR 347		SR 347		Access A	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	⇐		⇐		⇐⇐	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	65.00		65.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	No		No		No	

Volumes

Name	SR 347		SR 347		Access A	
Base Volume Input [veh/h]	0	144	86	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	9.80	9.80	2.00	2.00	2.00
Growth Factor	1.0000	1.4859	1.4859	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	82	414	167	50	125	209
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	265	797	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	82	893	1092	50	125	209
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	23	248	303	14	35	58
Total Analysis Volume [veh/h]	91	992	1213	56	139	232
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing in	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPerm	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	1	6	3	0	2	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	Lag	-
Minimum Green [s]	5	10	5	0	10	0
Maximum Green [s]	30	30	30	0	30	0
Amber [s]	3.0	3.0	3.0	0.0	3.0	0.0
All red [s]	1.0	1.0	1.0	0.0	1.0	0.0
Split [s]	9	23	67	0	14	0
Vehicle Extension [s]	3.0	3.0	3.0	0.0	3.0	0.0
Walk [s]	0	5	5	0	5	0
Pedestrian Clearance [s]	0	10	10	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No	No		No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
Minimum Recall	No	No	No		No	
Maximum Recall	No	No	No		No	
Pedestrian Recall	No	No	No		No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R	L	R
C, Cycle Length [s]	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	2.00	0.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	45	45	37	37	36	36
g / C, Green / Cycle	0.50	0.50	0.41	0.41	0.41	0.41
(v / s)_i Volume / Saturation Flow Rate	0.06	0.30	0.36	0.04	0.24	0.15
s, saturation flow rate [veh/h]	1467	3338	3338	1589	567	1589
c, Capacity [veh/h]	817	1667	1374	654	164	643
d1, Uniform Delay [s]	11.88	16.05	24.47	16.14	40.98	18.69
k, delay calibration	0.11	0.50	0.11	0.11	0.50	0.50
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.06	1.57	2.05	0.06	39.00	1.57
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.11	0.60	0.88	0.09	0.85	0.36
d, Delay for Lane Group [s/veh]	11.94	17.62	26.52	16.20	79.98	20.26
Lane Group LOS	B	B	C	B	E	C
Critical Lane Group	No	Yes	Yes	No	No	No
50th-Percentile Queue Length [veh/ln]	0.78	6.03	10.15	0.60	4.85	3.54
50th-Percentile Queue Length [ft/ln]	19.58	150.70	253.77	15.12	121.25	88.41
95th-Percentile Queue Length [veh/ln]	1.41	10.05	15.38	1.09	8.46	6.37
95th-Percentile Queue Length [ft/ln]	35.24	251.36	384.40	27.21	211.54	159.13

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	11.94	17.62	26.52	16.20	79.98	20.26
Movement LOS	B	B	C	B	E	C
d_A, Approach Delay [s/veh]	17.14		26.06		42.64	
Approach LOS	B		C		D	
d_I, Intersection Delay [s/veh]	24.77					
Intersection LOS	C					
Intersection V/C	0.661					

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft ² /ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00
I_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	0.000
Crosswalk LOS	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	422	1400	222
d_b, Bicycle Delay [s]	28.01	4.05	35.56
I_b,int, Bicycle LOS Score for Intersection	2.453	2.607	1.560
Bicycle LOS	B	B	A

Sequence

Ring 1	1	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report
Intersection 3: SR 347 & Access B**

Control Type:	Signalized	Delay (sec / veh):	17.3
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.664

Intersection Setup

Name	SR 347		SR 347		Access B	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	⇐		⇐		⇐⇐	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	1	0	0	0	0
Exit Pocket Length [ft]	0.00	49.21	0.00	0.00	0.00	0.00
Speed [mph]	65.00		65.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	No		No		No	

Volumes

Name	SR 347		SR 347		Access B	
Base Volume Input [veh/h]	0	144	86	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	9.80	9.80	2.00	2.00	2.00
Growth Factor	1.0000	1.4859	1.4859	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	137	323	309	67	172	312
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	265	797	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	137	802	1234	67	172	312
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	38	223	343	19	48	87
Total Analysis Volume [veh/h]	152	891	1371	74	191	347
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing in	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPerm	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	1	6	2	0	3	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	5	10	10	0	5	0
Maximum Green [s]	30	30	30	0	30	0
Amber [s]	3.0	3.0	3.0	0.0	3.0	0.0
All red [s]	1.0	1.0	1.0	0.0	1.0	0.0
Split [s]	9	23	14	0	67	0
Vehicle Extension [s]	3.0	3.0	3.0	0.0	3.0	0.0
Walk [s]	0	5	5	0	5	0
Pedestrian Clearance [s]	0	10	10	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No	No		No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
Minimum Recall	No	No	No		No	
Maximum Recall	No	No	No		No	
Pedestrian Recall	No	No	No		No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R	L	R
C, Cycle Length [s]	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	60	60	51	51	22	22
g / C, Green / Cycle	0.66	0.66	0.56	0.56	0.25	0.25
(v / s)_i Volume / Saturation Flow Rate	0.27	0.27	0.41	0.05	0.11	0.22
s, saturation flow rate [veh/h]	556	3338	3338	1589	1781	1589
c, Capacity [veh/h]	360	2208	1878	894	444	396
d1, Uniform Delay [s]	13.23	7.03	14.60	9.02	28.40	32.43
k, delay calibration	0.32	0.50	0.50	0.50	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.30	0.55	2.54	0.18	0.66	6.20
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.42	0.40	0.73	0.08	0.43	0.88
d, Delay for Lane Group [s/veh]	15.53	7.58	17.14	9.20	29.06	38.63
Lane Group LOS	B	A	B	A	C	D
Critical Lane Group	Yes	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.89	2.58	8.15	0.54	3.48	7.74
50th-Percentile Queue Length [ft/ln]	22.23	64.46	203.73	13.61	87.05	193.47
95th-Percentile Queue Length [veh/ln]	1.60	4.64	12.83	0.98	6.27	12.30
95th-Percentile Queue Length [ft/ln]	40.02	116.02	320.77	24.51	156.70	307.53

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	15.53	7.58	17.14	9.20	29.06	38.63
Movement LOS	B	A	B	A	C	D
d_A, Approach Delay [s/veh]	8.74		16.73		35.23	
Approach LOS	A		B		D	
d_I, Intersection Delay [s/veh]	17.26					
Intersection LOS	B					
Intersection V/C	0.664					

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft ² /ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00
I_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	0.000
Crosswalk LOS	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	422	222	1400
d_b, Bicycle Delay [s]	28.01	35.56	4.05
I_b,int, Bicycle LOS Score for Intersection	2.420	2.752	1.560
Bicycle LOS	B	C	A

Sequence

Ring 1	1	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report
Intersection 4: Green Road & Access C**

Control Type:	Two-way stop	Delay (sec / veh):	9.5
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.168

Intersection Setup

Name	Green Road		Green Road		Access C	
Approach	Northbound		Southbound		Westbound	
Lane Configuration	↑ ↓		↑ ↓		← →	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	1	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Green Road		Green Road		Access C	
Base Volume Input [veh/h]	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	61	0	0	147	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	61	0	0	147	0
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	17	0	0	41	0
Total Analysis Volume [veh/h]	0	68	0	0	163	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			Yes
Number of Storage Spaces in Median	0	0	2

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.17	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	7.35	0.00	9.45	8.32
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.60	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	15.04	0.00
d_A, Approach Delay [s/veh]	0.00		3.67		9.45	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	6.67					
Intersection LOS	A					

**Intersection Level Of Service Report
Intersection 5: Green Road & Access D**

Control Type:	Two-way stop	Delay (sec / veh):	10.6
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.202

Intersection Setup

Name	Green Road		Green Road		Access D	
Approach	Northbound		Southbound		Westbound	
Lane Configuration	↑↔		↔↓		↔↔	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	1	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Green Road		Green Road		Access D	
Base Volume Input [veh/h]	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	61	61	0	147	147	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	61	61	0	147	147	0
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	17	17	0	41	41	0
Total Analysis Volume [veh/h]	68	68	0	163	163	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			Yes
Number of Storage Spaces in Median	0	0	2

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.20	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	7.49	0.00	10.60	8.62
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.75	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	18.86	0.00
d_A, Approach Delay [s/veh]	0.00		0.00		10.60	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	3.74					
Intersection LOS	B					

**Intersection Level Of Service Report
Intersection 6: Green Road & Miller Road**

Control Type:	Two-way stop	Delay (sec / veh):	14.7
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.396

Intersection Setup

Name	Green Road		Miller Road		Miller Road	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration	↔↔		↔		↔	
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	1	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Green Road		Miller Road		Miller Road	
Base Volume Input [veh/h]	0	0	0	7	8	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.4859	1.4859	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	218	76	49	75	132	73
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	218	76	49	85	144	73
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	61	21	14	24	40	20
Total Analysis Volume [veh/h]	242	84	54	94	160	81
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.40	0.09	0.04	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	14.70	9.49	7.83	0.00	0.00	0.00
Movement LOS	B	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	1.89	0.31	0.13	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	47.24	7.84	3.18	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	13.36		2.86		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	6.68					
Intersection LOS	B					

**Intersection Level Of Service Report
Intersection 7: Access E & Miller Road**

Control Type:	Two-way stop	Delay (sec / veh):	13.2
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.293

Intersection Setup

Name	Access E		Miller Road		Miller Road	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration	↵↵		↵		↵	
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	1	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Access E		Miller Road		Miller Road	
Base Volume Input [veh/h]	0	0	0	7	8	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.4859	1.4859	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	163	38	24	268	166	54
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	163	38	24	278	178	54
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	45	11	7	77	49	15
Total Analysis Volume [veh/h]	181	42	27	309	198	60
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	Yes		
Number of Storage Spaces in Median	2	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.29	0.05	0.02	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	13.22	9.49	7.81	0.00	0.00	0.00
Movement LOS	B	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	1.21	0.16	0.06	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	30.37	3.93	1.58	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	12.51		0.63		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	3.67					
Intersection LOS	B					

**Intersection Level Of Service Report
Intersection 8: Access F & Miller Road**

Control Type:	Two-way stop	Delay (sec / veh):	19.0
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.520

Intersection Setup

Name	Access F		Miller Road		Miller Road	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration	↵↵		↵		↵	
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	1	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Access F		Miller Road		Miller Road	
Base Volume Input [veh/h]	0	0	0	7	8	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.4859	1.4859	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	246	47	31	400	174	117
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	246	47	31	410	186	117
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	68	13	9	114	52	33
Total Analysis Volume [veh/h]	273	52	34	456	207	130
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	Yes		
Number of Storage Spaces in Median	2	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.52	0.06	0.03	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	19.02	9.61	8.03	0.00	0.00	0.00
Movement LOS	C	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	2.97	0.20	0.09	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	74.14	4.98	2.14	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	17.52		0.56		0.00	
Approach LOS	C		A		A	
d_I, Intersection Delay [s/veh]	5.18					
Intersection LOS	C					

**Intersection Level Of Service Report
Intersection 9: SR 347 & Papago Road**

Control Type:	Signalized	Delay (sec / veh):	35.8
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.725

Intersection Setup

Name	SR 347		SR 347		Papago Road	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	⇐		⇐		⇐⇐⇐	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	1	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	100.00
Speed [mph]	65.00		65.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	No		No		No	

Volumes

Name	SR 347		SR 347		Papago Road	
Base Volume Input [veh/h]	10	141	89	48	127	23
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	9.80	9.80	2.00	2.00	2.00
Growth Factor	1.4859	1.4859	1.4859	1.4859	1.4859	1.4859
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	539	217	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	265	0	0	418	1258	797
Right Turn on Red Volume [veh/h]	0	0	0	245	0	416
Total Hourly Volume [veh/h]	280	749	349	244	1447	415
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	78	208	97	68	402	115
Total Analysis Volume [veh/h]	311	832	388	271	1608	461
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing in	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protected	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	1	6	2	0	3	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	5	10	10	0	5	0
Maximum Green [s]	30	30	30	0	30	0
Amber [s]	3.0	3.0	3.0	0.0	3.0	0.0
All red [s]	1.0	1.0	1.0	0.0	1.0	0.0
Split [s]	39	60	21	0	60	0
Vehicle Extension [s]	3.0	3.0	3.0	0.0	3.0	0.0
Walk [s]	0	5	5	0	5	0
Pedestrian Clearance [s]	0	10	10	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No	No		No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
Minimum Recall	No	No	No		No	
Maximum Recall	No	No	No		No	
Pedestrian Recall	No	No	No		No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R	L	R
C, Cycle Length [s]	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	13	56	39	39	56	56
g / C, Green / Cycle	0.11	0.47	0.32	0.32	0.47	0.47
(v / s)_i Volume / Saturation Flow Rate	0.09	0.25	0.12	0.17	0.46	0.29
s, saturation flow rate [veh/h]	3459	3338	3338	1589	3459	1589
c, Capacity [veh/h]	390	1558	1070	510	1614	742
d1, Uniform Delay [s]	51.90	22.73	31.34	33.39	31.90	24.04
k, delay calibration	0.11	0.50	0.50	0.50	0.11	0.19
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.78	1.32	0.95	3.94	9.59	1.47
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.80	0.53	0.36	0.53	1.00	0.62
d, Delay for Lane Group [s/veh]	55.68	24.05	32.29	37.32	41.49	25.51
Lane Group LOS	E	C	C	D	D	C
Critical Lane Group	Yes	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	4.50	7.66	4.12	6.48	24.53	9.97
50th-Percentile Queue Length [ft/ln]	112.45	191.38	103.10	162.10	613.23	249.36
95th-Percentile Queue Length [veh/ln]	7.98	12.19	7.42	10.66	32.65	15.15
95th-Percentile Queue Length [ft/ln]	199.40	304.82	185.58	266.50	816.29	378.85

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	55.68	24.05	32.29	37.32	41.49	25.51
Movement LOS	E	C	C	D	D	C
d_A, Approach Delay [s/veh]	32.66		34.36		37.93	
Approach LOS	C		C		D	
d_I, Intersection Delay [s/veh]	35.76					
Intersection LOS	D					
Intersection V/C	0.725					

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft ² /ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00
I_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	0.000
Crosswalk LOS	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	933	283	933
d_b, Bicycle Delay [s]	17.07	44.20	17.07
I_b,int, Bicycle LOS Score for Intersection	2.503	2.305	1.560
Bicycle LOS	B	B	A

Sequence





Ring 1	1	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 10: Amarillo Valley Road & Papago Road

Control Type:	Signalized	Delay (sec / veh):	25.5
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.598

Intersection Setup

Name	Amarillo Valley Road			Amarillo Valley Road			Papago Road			Papago Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Speed [mph]	45.00			45.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name	Amarillo Valley Road			Amarillo Valley Road			Papago Road			Papago Road		
Base Volume Input [veh/h]	4	0	9	0	0	0	0	135	6	4	57	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.4859	1.4859	1.4859	1.4859	1.4859	1.4859	1.4859	1.4859	1.4859	1.4859	1.4859	1.4859
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	208	0	0	0	0	0	0	0	123	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	57	100	181	603	256	231	132	609	134	187	463	203
Right Turn on Red Volume [veh/h]	0	0	97	0	0	116	0	0	133	0	0	102
Total Hourly Volume [veh/h]	271	100	97	603	256	115	132	810	133	193	548	101
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	75	28	27	168	71	32	37	225	37	54	152	28
Total Analysis Volume [veh/h]	301	111	108	670	284	128	147	900	148	214	609	112
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0			0			0	
v_di, Inbound Pedestrian Volume crossing in		0			0			0			0	
v_co, Outbound Pedestrian Volume crossing		0			0			0			0	
v_ci, Inbound Pedestrian Volume crossing mi		0			0			0			0	
v_ab, Corner Pedestrian Volume [ped/h]		0			0			0			0	
Bicycle Volume [bicycles/h]		0			0			0			0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	Protecte	Permiss	Permiss	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss
Signal Group	3	8	0	7	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	10	0	5	10	0	5	10	0	5	10	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	14	44	0	23	53	0	9	14	0	9	14	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	2.00	2.00	2.00	0.00	2.00	2.00	0.00	2.00	2.00
g_i, Effective Green Time [s]	33	10	10	19	19	19	49	40	40	49	40	40
g / C, Green / Cycle	0.37	0.11	0.11	0.21	0.21	0.21	0.54	0.44	0.44	0.54	0.44	0.44
(v / s)_i Volume / Saturation Flow Rate	0.22	0.03	0.07	0.19	0.15	0.08	0.15	0.25	0.09	0.27	0.17	0.07
s, saturation flow rate [veh/h]	1344	3560	1589	3459	1870	1589	950	3560	1589	785	3560	1589
c, Capacity [veh/h]	467	399	178	730	397	337	537	1579	705	425	1579	705
d1, Uniform Delay [s]	22.77	36.63	38.08	34.73	32.94	30.39	11.03	18.64	15.36	13.28	16.81	14.99
k, delay calibration	0.21	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.50	0.32	0.50	0.50
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.88	0.38	3.31	5.20	2.43	0.70	1.26	1.50	0.68	2.69	0.71	0.48
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.64	0.28	0.61	0.92	0.72	0.38	0.27	0.57	0.21	0.50	0.39	0.16
d, Delay for Lane Group [s/veh]	25.65	37.01	41.39	39.94	35.37	31.09	12.29	20.14	16.04	15.97	17.52	15.47
Lane Group LOS	C	D	D	D	D	C	B	C	B	B	B	B
Critical Lane Group	Yes	No	No	No	Yes	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	4.82	1.09	2.33	7.24	5.68	2.31	1.44	6.55	1.82	2.22	3.95	1.34
50th-Percentile Queue Length [ft/ln]	120.40	27.23	58.13	181.02	141.90	57.86	36.05	163.72	45.45	55.53	98.76	33.47
95th-Percentile Queue Length [veh/ln]	8.41	1.96	4.19	11.65	9.58	4.17	2.60	10.75	3.27	4.00	7.11	2.41
95th-Percentile Queue Length [ft/ln]	210.37	49.02	104.63	291.35	239.58	104.15	64.88	268.64	81.82	99.96	177.77	60.24

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	25.65	37.01	41.39	39.94	35.37	31.09	12.29	20.14	16.04	15.97	17.52	15.47
Movement LOS	C	D	D	D	D	C	B	C	B	B	B	B
d_A, Approach Delay [s/veh]	31.34			37.69			18.67			16.92		
Approach LOS	C			D			B			B		
d_I, Intersection Delay [s/veh]	25.51											
Intersection LOS	C											
Intersection V/C	0.598											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			0.0			0.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			0.00			0.00			0.00		
I_p,int, Pedestrian LOS Score for Intersection	0.000			0.000			0.000			0.000		
Crosswalk LOS	F			F			F			F		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	889			1089			222			222		
d_b, Bicycle Delay [s]	13.89			9.34			35.56			35.56		
I_b,int, Bicycle LOS Score for Intersection	2.069			3.536			2.655			2.415		
Bicycle LOS	B			D			B			B		

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 11: Amarillo Valley Road & Val Vista Road

Control Type:	Two-way stop	Delay (sec / veh):	15.5
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.031

Intersection Setup

Name	Amarillo Valley Road		Amarillo Valley Road		Val Vista Road	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Amarillo Valley Road		Amarillo Valley Road		Val Vista Road	
Base Volume Input [veh/h]	1	4	6	2	7	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.4859	1.4859	1.4859	1.4859	1.4859	1.4859
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	208	123	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	323	593	0	0	0
Total Hourly Volume [veh/h]	1	537	725	3	10	1
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	149	201	1	3	0
Total Analysis Volume [veh/h]	1	597	806	3	11	1
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			Yes
Number of Storage Spaces in Median	0	0	2

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.01	0.00	0.03	0.00
d_M, Delay for Movement [s/veh]	9.41	0.00	0.00	0.00	15.55	14.80
Movement LOS	A	A	A	A	C	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.10	0.10
95th-Percentile Queue Length [ft/ln]	0.09	0.00	0.00	0.00	2.61	2.61
d_A, Approach Delay [s/veh]	0.02		0.00		15.48	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	0.14					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 12: Amarillo Valley Road & Miller Road

Control Type:	Two-way stop	Delay (sec / veh):	20.1
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.023

Intersection Setup

Name	Amarillo Valley Road		Amarillo Valley Road		Miller Road	
Approach	Northbound		Southbound		Westbound	
Lane Configuration	└─┬─┘		┌─┬─┐		┌─┬─┐	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Amarillo Valley Road		Amarillo Valley Road		Miller Road	
Base Volume Input [veh/h]	1	3	4	3	4	4
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.4859	1.4859	1.4859	1.4859	1.4859	1.4859
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	123	0	0	208
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	323	0	0	593	0	0
Total Hourly Volume [veh/h]	324	4	129	597	6	214
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	90	1	36	166	2	59
Total Analysis Volume [veh/h]	360	4	143	663	7	238
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			Yes
Number of Storage Spaces in Median	0	0	2

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.12	0.01	0.02	0.35
d_M, Delay for Movement [s/veh]	0.00	0.00	8.42	0.00	20.11	13.47
Movement LOS	A	A	A	A	C	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.41	0.00	1.72	1.72
95th-Percentile Queue Length [ft/ln]	0.00	0.00	10.17	0.00	42.96	42.96
d_A, Approach Delay [s/veh]	0.00		1.49		13.66	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	3.22					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 13: SR 347 & Access G

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 16.9
 Level Of Service: C
 Volume to Capacity (v/c): 0.007

Intersection Setup

Name	SR 347		SR 347		Access G	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	↑↑		↑↑↘		↘	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	65.00		65.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	SR 347		SR 347		Access G	
Base Volume Input [veh/h]	0	144	86	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.4859	1.4859	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	460	607	14	0	2
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	265	797	0	0	0
Total Hourly Volume [veh/h]	0	939	1532	14	0	2
Peak Hour Factor	1.0000	0.9000	0.9000	0.9000	1.0000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	261	426	4	0	1
Total Analysis Volume [veh/h]	0	1043	1702	16	0	2
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.02	0.00	0.00	0.01
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	0.00	16.94
Movement LOS		A	A	A		C
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.02
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.50
d_A, Approach Delay [s/veh]	0.00		0.00		16.94	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	0.01					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 1: SR 347 & Miller Road/Louis Johnson Drive

Control Type:	Signalized	Delay (sec / veh):	48.8
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.854

Intersection Setup

Name	SR 347			SR 347			Miller Road			Louis Johnson Drive		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	[Diagram]			[Diagram]			[Diagram]			[Diagram]		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	150.00	100.00	150.00	150.00	100.00	150.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	1	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00	0.00	0.00	0.00
Speed [mph]	65.00			65.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name	SR 347			SR 347			Miller Road			Louis Johnson Drive		
Base Volume Input [veh/h]	1	106	0	11	161	5	3	5	5	1	13	24
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	9.80	2.00	2.00	9.80	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.4859	1.4859	1.4859	1.4859	1.4859	1.4859	1.4859	1.4859	1.4859	1.4859	1.4859	1.4859
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	260	302	0	175	208	325	250	138	165	0	217	254
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	895	0	0	527	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	261	1355	0	191	974	332	254	145	172	1	236	290
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	73	376	0	53	271	92	71	40	48	0	66	81
Total Analysis Volume [veh/h]	290	1506	0	212	1082	369	282	161	191	1	262	322
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing in	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	1	6	0	5	2	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	10	0	5	10	0	5	10	0	5	10	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	10	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	13	42	0	15	44	0	11	24	0	9	22	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		Yes	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	9	38	38	11	40	40	7	25	25	0	18	18
g / C, Green / Cycle	0.10	0.42	0.42	0.12	0.45	0.45	0.08	0.28	0.28	0.00	0.20	0.20
(v / s)_i Volume / Saturation Flow Rate	0.08	0.45	0.00	0.12	0.32	0.23	0.08	0.09	0.12	0.00	0.14	0.20
s, saturation flow rate [veh/h]	3459	3338	1589	1781	3338	1589	3459	1870	1589	1781	1870	1589
c, Capacity [veh/h]	346	1414	673	218	1488	709	269	514	437	3	371	315
d1, Uniform Delay [s]	39.79	25.94	0.00	39.36	20.45	18.00	41.51	25.89	26.90	44.91	33.63	36.08
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.16
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	5.40	43.38	0.00	22.61	3.14	2.72	38.69	0.34	0.69	77.21	2.47	34.28
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.84	1.07	0.00	0.97	0.73	0.52	1.05	0.31	0.44	0.39	0.71	1.02
d, Delay for Lane Group [s/veh]	45.19	69.32	0.00	61.97	23.60	20.73	80.20	26.24	27.59	122.12	36.10	70.36
Lane Group LOS	D	F	A	E	C	C	F	C	C	F	D	F
Critical Lane Group	No	Yes	No	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	3.11	20.72	0.00	5.57	8.17	5.05	4.39	2.73	3.39	0.08	5.48	9.75
50th-Percentile Queue Length [ft/ln]	77.81	518.05	0.00	139.29	204.24	126.27	109.85	68.30	84.74	1.92	136.92	243.70
95th-Percentile Queue Length [veh/ln]	5.60	29.47	0.00	9.44	12.86	8.74	7.91	4.92	6.10	0.14	9.31	15.03
95th-Percentile Queue Length [ft/ln]	140.06	736.87	0.00	236.07	321.43	218.42	197.72	122.94	152.53	3.45	232.87	375.66

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	45.19	69.32	0.00	61.97	23.60	20.73	80.20	26.24	27.59	122.12	36.10	70.36
Movement LOS	D	F	A	E	C	C	F	C	C	F	D	F
d_A, Approach Delay [s/veh]	65.42			27.85			50.64			55.10		
Approach LOS	E			C			D			E		
d_I, Intersection Delay [s/veh]	48.77											
Intersection LOS	D											
Intersection V/C	0.854											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			0.0			0.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			0.00			0.00			0.00		
I_p,int, Pedestrian LOS Score for Intersection	0.000			0.000			0.000			0.000		
Crosswalk LOS	F			F			F			F		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	844			889			444			400		
d_b, Bicycle Delay [s]	15.03			13.89			27.23			28.81		
I_b,int, Bicycle LOS Score for Intersection	3.041			2.932			2.606			2.525		
Bicycle LOS	C			C			B			B		

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report
Intersection 2: SR 347 & Access A**

Control Type:	Signalized	Delay (sec / veh):	9.8
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.574

Intersection Setup

Name	SR 347		SR 347		Access A	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	⇐		⇐		⇐⇐	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	65.00		65.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	No		No		No	

Volumes

Name	SR 347		SR 347		Access A	
Base Volume Input [veh/h]	0	133	177	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	9.80	9.80	2.00	2.00	2.00
Growth Factor	1.0000	1.4859	1.4859	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	223	352	521	134	80	133
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	895	527	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	223	1445	1311	134	80	133
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	62	401	364	37	22	37
Total Analysis Volume [veh/h]	248	1606	1457	149	89	148
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing in	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPerm	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	1	6	2	0	3	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	5	10	10	0	5	0
Maximum Green [s]	30	30	30	0	30	0
Amber [s]	3.0	3.0	3.0	0.0	3.0	0.0
All red [s]	1.0	1.0	1.0	0.0	1.0	0.0
Split [s]	9	26	17	0	64	0
Vehicle Extension [s]	3.0	3.0	3.0	0.0	3.0	0.0
Walk [s]	0	5	5	0	5	0
Pedestrian Clearance [s]	0	10	10	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No	No		No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
Minimum Recall	No	No	No		No	
Maximum Recall	No	No	No		No	
Pedestrian Recall	No	No	No		No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R	L	R
C, Cycle Length [s]	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	71	71	62	62	11	11
g / C, Green / Cycle	0.79	0.79	0.69	0.69	0.12	0.12
(v / s)_i Volume / Saturation Flow Rate	0.49	0.48	0.44	0.09	0.05	0.09
s, saturation flow rate [veh/h]	504	3338	3338	1589	1781	1589
c, Capacity [veh/h]	422	2637	2303	1097	216	192
d1, Uniform Delay [s]	11.80	3.82	7.67	4.77	36.59	38.33
k, delay calibration	0.50	0.50	0.50	0.50	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	5.90	1.06	1.34	0.26	1.26	6.34
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.59	0.61	0.63	0.14	0.41	0.77
d, Delay for Lane Group [s/veh]	17.71	4.88	9.01	5.03	37.85	44.68
Lane Group LOS	B	A	A	A	D	D
Critical Lane Group	No	Yes	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.91	1.54	4.62	0.61	1.87	3.46
50th-Percentile Queue Length [ft/ln]	22.65	38.46	115.52	15.30	46.66	86.47
95th-Percentile Queue Length [veh/ln]	1.63	2.77	8.15	1.10	3.36	6.23
95th-Percentile Queue Length [ft/ln]	40.76	69.22	203.66	27.53	83.99	155.65

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	17.71	4.88	9.01	5.03	37.85	44.68
Movement LOS	B	A	A	A	D	D
d_A, Approach Delay [s/veh]	6.60		8.64		42.12	
Approach LOS	A		A		D	
d_I, Intersection Delay [s/veh]	9.76					
Intersection LOS	A					
Intersection V/C	0.574					

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft ² /ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00
I_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	0.000
Crosswalk LOS	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	489	289	1333
d_b, Bicycle Delay [s]	25.69	32.94	5.00
I_b,int, Bicycle LOS Score for Intersection	3.089	2.885	1.560
Bicycle LOS	C	C	A

Sequence

Ring 1	1	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 3: SR 347 & Access B

Control Type:	Signalized	Delay (sec / veh):	24.1
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.738

Intersection Setup

Name	SR 347		SR 347		Access B	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	⇐		⇐		⇐⇐	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	1	0	0	0	0
Exit Pocket Length [ft]	0.00	49.21	0.00	0.00	0.00	0.00
Speed [mph]	65.00		65.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	No		No		No	

Volumes

Name	SR 347		SR 347		Access B	
Base Volume Input [veh/h]	0	133	177	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	9.80	9.80	2.00	2.00	2.00
Growth Factor	1.0000	1.4859	1.4859	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	393	414	445	210	162	286
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	895	527	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	393	1507	1235	210	162	286
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	109	419	343	58	45	79
Total Analysis Volume [veh/h]	437	1674	1372	233	180	318
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing in	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPerm	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	1	6	2	0	3	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	5	10	10	0	5	0
Maximum Green [s]	30	30	30	0	30	0
Amber [s]	3.0	3.0	3.0	0.0	3.0	0.0
All red [s]	1.0	1.0	1.0	0.0	1.0	0.0
Split [s]	20	59	39	0	31	0
Vehicle Extension [s]	3.0	3.0	3.0	0.0	3.0	0.0
Walk [s]	0	5	5	0	5	0
Pedestrian Clearance [s]	0	10	10	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No	No		No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
Minimum Recall	No	No	No		No	
Maximum Recall	No	No	No		No	
Pedestrian Recall	No	No	No		No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R	L	R
C, Cycle Length [s]	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	62	62	42	42	20	20
g / C, Green / Cycle	0.68	0.68	0.46	0.46	0.23	0.23
(v / s)_i Volume / Saturation Flow Rate	0.55	0.50	0.41	0.15	0.10	0.20
s, saturation flow rate [veh/h]	801	3338	3338	1589	1781	1589
c, Capacity [veh/h]	513	2282	1540	733	405	362
d1, Uniform Delay [s]	24.96	9.03	22.16	15.29	29.88	33.58
k, delay calibration	0.50	0.50	0.50	0.50	0.11	0.16
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	16.26	2.13	8.18	1.14	0.77	9.70
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.85	0.73	0.89	0.32	0.44	0.88
d, Delay for Lane Group [s/veh]	41.22	11.17	30.34	16.43	30.64	43.28
Lane Group LOS	D	B	C	B	C	D
Critical Lane Group	Yes	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	4.29	6.40	12.19	2.68	3.38	7.52
50th-Percentile Queue Length [ft/ln]	107.21	159.91	304.70	66.97	84.52	187.89
95th-Percentile Queue Length [veh/ln]	7.68	10.54	17.91	4.82	6.09	12.01
95th-Percentile Queue Length [ft/ln]	192.12	263.60	447.84	120.54	152.14	300.29

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	41.22	11.17	30.34	16.43	30.64	43.28
Movement LOS	D	B	C	B	C	D
d_A, Approach Delay [s/veh]	17.39		28.32		38.71	
Approach LOS	B		C		D	
d_I, Intersection Delay [s/veh]	24.07					
Intersection LOS	C					
Intersection V/C	0.738					

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft ² /ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00
I_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	0.000
Crosswalk LOS	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1222	778	600
d_b, Bicycle Delay [s]	6.81	16.81	22.05
I_b,int, Bicycle LOS Score for Intersection	3.301	2.884	1.560
Bicycle LOS	C	C	A

Sequence

Ring 1	1	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Intersection Level Of Service Report
Intersection 4: Green Road & Access C**

Control Type:	Two-way stop	Delay (sec / veh):	9.1
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.105

Intersection Setup

Name	Green Road		Green Road		Access C	
Approach	Northbound		Southbound		Westbound	
Lane Configuration	↑↔		↔↓		↔↔	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	1	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Green Road		Green Road		Access C	
Base Volume Input [veh/h]	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	153	0	0	92	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	153	0	0	92	0
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	43	0	0	26	0
Total Analysis Volume [veh/h]	0	170	0	0	102	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			Yes
Number of Storage Spaces in Median	0	0	2

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.11	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	7.56	0.00	9.14	8.32
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.35	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	8.77	0.00
d_A, Approach Delay [s/veh]	0.00		3.78		9.14	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	3.43					
Intersection LOS	A					

**Intersection Level Of Service Report
Intersection 5: Green Road & Access D**

Control Type:	Two-way stop	Delay (sec / veh):	10.3
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.130

Intersection Setup

Name	Green Road		Green Road		Access D	
Approach	Northbound		Southbound		Westbound	
Lane Configuration	↑↔		↔↓		↔↔	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	1	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Green Road		Green Road		Access D	
Base Volume Input [veh/h]	0	0	0	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	153	153	0	92	92	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	153	153	0	92	92	0
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	43	43	0	26	26	0
Total Analysis Volume [veh/h]	170	170	0	102	102	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			Yes
Number of Storage Spaces in Median	0	0	2

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.13	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	7.95	0.00	10.26	9.12
Movement LOS	A	A	A	A	B	A
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.45	0.00
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	11.13	0.00
d_A, Approach Delay [s/veh]	0.00		0.00		10.26	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	1.92					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 6: Green Road & Miller Road

Control Type:	Two-way stop	Delay (sec / veh):	14.7
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.303

Intersection Setup

Name	Green Road		Miller Road		Miller Road	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration	↵↵		↵		↵	
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	1	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Green Road		Miller Road		Miller Road	
Base Volume Input [veh/h]	0	0	0	13	19	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.4859	1.4859	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	144	40	62	140	99	245
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	144	40	62	159	127	245
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	40	11	17	44	35	68
Total Analysis Volume [veh/h]	160	44	69	177	141	272
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	No		
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.30	0.05	0.06	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	14.74	9.17	8.34	0.00	0.00	0.00
Movement LOS	B	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	1.27	0.15	0.19	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	31.69	3.82	4.80	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	13.54		2.34		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	3.87					
Intersection LOS	B					

**Intersection Level Of Service Report
Intersection 7: Access E & Miller Road**

Control Type:	Two-way stop	Delay (sec / veh):	13.5
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.221

Intersection Setup

Name	Access E		Miller Road		Miller Road	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration	↵↵		↵		↵	
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	1	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Access E		Miller Road		Miller Road	
Base Volume Input [veh/h]	0	0	0	13	19	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.4859	1.4859	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	108	20	31	253	324	184
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	108	20	31	272	352	184
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	30	6	9	76	98	51
Total Analysis Volume [veh/h]	120	22	34	302	391	204
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	Yes		
Number of Storage Spaces in Median	2	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.22	0.03	0.03	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	13.49	10.66	8.80	0.00	0.00	0.00
Movement LOS	B	B	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.84	0.10	0.11	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	20.92	2.59	2.69	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	13.05		0.89		0.00	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	2.01					
Intersection LOS	B					

**Intersection Level Of Service Report
Intersection 8: Access F & Miller Road**

Control Type:	Two-way stop	Delay (sec / veh):	25.3
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.611

Intersection Setup

Name	Access F		Miller Road		Miller Road	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration	↵↵		↵		↵	
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	1	1	0	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Access F		Miller Road		Miller Road	
Base Volume Input [veh/h]	0	0	0	13	19	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.4859	1.4859	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	241	33	50	311	474	327
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	241	33	50	330	502	327
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	67	9	14	92	139	91
Total Analysis Volume [veh/h]	268	37	56	367	558	363
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Stop	Free	Free
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance	Yes		
Number of Storage Spaces in Median	2	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.61	0.07	0.08	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	25.29	12.31	10.25	0.00	0.00	0.00
Movement LOS	D	B	B	A	A	A
95th-Percentile Queue Length [veh/ln]	3.98	0.22	0.24	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	99.40	5.62	6.11	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	23.72		1.36		0.00	
Approach LOS	C		A		A	
d_I, Intersection Delay [s/veh]	4.73					
Intersection LOS	D					

**Intersection Level Of Service Report
Intersection 9: SR 347 & Papago Road**

Control Type:	Signalized	Delay (sec / veh):	213.9
Analysis Method:	HCM 6th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.463

Intersection Setup

Name	SR 347		SR 347		Papago Road	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	⇐		⇐		⇐⇐⇐	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	1	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	100.00
Speed [mph]	65.00		65.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	No		No		No	

Volumes

Name	SR 347		SR 347		Papago Road	
Base Volume Input [veh/h]	21	152	143	155	79	21
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	9.80	9.80	2.00	2.00	2.00
Growth Factor	1.4859	1.4859	1.4859	1.4859	1.4859	1.4859
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	432	655	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	895	0	0	1412	832	527
Right Turn on Red Volume [veh/h]	0	0	0	411	0	279
Total Hourly Volume [veh/h]	926	658	867	1231	949	279
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	257	183	241	342	264	78
Total Analysis Volume [veh/h]	1029	731	963	1368	1054	310
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing in	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protected	Permissive	Permissive	Permissive	Permissive	Permissive
Signal Group	1	6	2	0	3	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	Lead	-
Minimum Green [s]	5	10	10	0	5	0
Maximum Green [s]	30	30	30	0	30	0
Amber [s]	3.0	3.0	3.0	0.0	3.0	0.0
All red [s]	1.0	1.0	1.0	0.0	1.0	0.0
Split [s]	26	93	67	0	27	0
Vehicle Extension [s]	3.0	3.0	3.0	0.0	3.0	0.0
Walk [s]	0	5	5	0	5	0
Pedestrian Clearance [s]	0	10	10	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No	No		No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	0.0	2.0	0.0
Minimum Recall	No	No	No		No	
Maximum Recall	No	No	No		No	
Pedestrian Recall	No	No	No		No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R	L	R
C, Cycle Length [s]	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	22	89	63	63	23	23
g / C, Green / Cycle	0.18	0.74	0.53	0.53	0.19	0.19
(v / s)_i Volume / Saturation Flow Rate	0.30	0.22	0.29	0.86	0.30	0.20
s, saturation flow rate [veh/h]	3459	3338	3338	1589	3459	1589
c, Capacity [veh/h]	634	2475	1752	834	663	305
d1, Uniform Delay [s]	49.00	5.13	19.03	28.50	48.50	48.50
k, delay calibration	0.15	0.50	0.50	0.50	0.16	0.29
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	282.53	0.30	1.25	293.13	267.88	43.72
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	1.62	0.30	0.55	1.64	1.59	1.02
d, Delay for Lane Group [s/veh]	331.53	5.43	20.27	321.63	316.38	92.22
Lane Group LOS	F	A	C	F	F	F
Critical Lane Group	Yes	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	33.71	2.04	7.99	87.90	34.53	12.77
50th-Percentile Queue Length [ft/ln]	842.77	50.98	199.71	2197.46	863.22	319.20
95th-Percentile Queue Length [veh/ln]	52.50	3.67	12.62	137.92	53.53	18.80
95th-Percentile Queue Length [ft/ln]	1312.53	91.77	315.60	3447.99	1338.37	470.01

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	331.53	5.43	20.27	321.63	316.38	92.22
Movement LOS	F	A	C	F	F	F
d_A, Approach Delay [s/veh]	196.09		197.13		265.43	
Approach LOS	F		F		F	
d_I, Intersection Delay [s/veh]	213.87					
Intersection LOS	F					
Intersection V/C	1.463					

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft ² /ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00
I_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	0.000
Crosswalk LOS	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1483	1050	383
d_b, Bicycle Delay [s]	4.00	13.54	39.20
I_b,int, Bicycle LOS Score for Intersection	3.012	3.822	1.560
Bicycle LOS	C	D	A

Sequence

Ring 1	1	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 10: Amarillo Valley Road & Papago Road

Control Type:	Signalized	Delay (sec / veh):	23.3
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.559

Intersection Setup

Name	Amarillo Valley Road			Amarillo Valley Road			Papago Road			Papago Road		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	⇐⇐⇐			⇐⇐⇐			⇐⇐⇐			⇐⇐⇐		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	1	1	0	1	1	0	1	1	0	1
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00
Speed [mph]	45.00			45.00			45.00			45.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name	Amarillo Valley Road			Amarillo Valley Road			Papago Road			Papago Road		
Base Volume Input [veh/h]	9	0	8	0	0	0	0	90	13	13	165	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.4859	1.4859	1.4859	1.4859	1.4859	1.4859	1.4859	1.4859	1.4859	1.4859	1.4859	1.4859
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	139	0	0	0	0	0	0	0	202	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	138	271	210	395	163	125	192	482	81	209	567	670
Right Turn on Red Volume [veh/h]	0	0	111	0	0	63	0	0	151	0	0	335
Total Hourly Volume [veh/h]	290	271	111	395	163	62	192	616	151	228	812	335
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	81	75	31	110	45	17	53	171	42	63	226	93
Total Analysis Volume [veh/h]	322	301	123	439	181	69	213	684	168	253	902	372
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing		0			0			0			0	
v_di, Inbound Pedestrian Volume crossing in		0			0			0			0	
v_co, Outbound Pedestrian Volume crossing		0			0			0			0	
v_ci, Inbound Pedestrian Volume crossing mi		0			0			0			0	
v_ab, Corner Pedestrian Volume [ped/h]		0			0			0			0	
Bicycle Volume [bicycles/h]		0			0			0			0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Semi-actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	Protecte	Permiss	Permiss	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss
Signal Group	3	8	0	7	4	0	5	2	0	1	6	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	5	10	0	5	10	0	5	10	0	5	10	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	16	46	0	21	51	0	9	14	0	9	14	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	10	0	0	10	0	0	10	0	0	10	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	R	L	C	R	L	C	R
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	2.00	2.00	2.00	0.00	2.00	2.00	0.00	2.00	2.00
g_i, Effective Green Time [s]	29	11	11	14	13	13	53	44	44	53	44	44
g / C, Green / Cycle	0.32	0.12	0.12	0.15	0.14	0.14	0.59	0.49	0.49	0.59	0.49	0.49
(v / s)_i Volume / Saturation Flow Rate	0.22	0.08	0.08	0.13	0.10	0.04	0.28	0.19	0.11	0.28	0.25	0.23
s, saturation flow rate [veh/h]	1483	3560	1589	3459	1870	1589	771	3560	1589	892	3560	1589
c, Capacity [veh/h]	496	441	197	524	266	226	461	1749	781	546	1749	781
d1, Uniform Delay [s]	25.82	37.74	37.45	37.10	36.65	34.60	10.89	14.41	13.02	9.95	15.59	15.20
k, delay calibration	0.19	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.50	0.34	0.50	0.50
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.56	1.88	3.24	3.64	3.04	0.75	3.31	0.66	0.63	1.93	1.09	2.08
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.65	0.68	0.63	0.84	0.68	0.31	0.46	0.39	0.22	0.46	0.52	0.48
d, Delay for Lane Group [s/veh]	28.39	39.62	40.69	40.74	39.69	35.36	14.20	15.07	13.65	11.88	16.68	17.28
Lane Group LOS	C	D	D	D	D	D	B	B	B	B	B	B
Critical Lane Group	Yes	No	No	No	Yes	No	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	5.65	3.13	2.62	4.70	3.81	1.34	2.03	4.02	1.85	2.25	5.78	4.88
50th-Percentile Queue Length [ft/ln]	141.13	78.34	65.62	117.54	95.32	33.47	50.69	100.62	46.29	56.18	144.48	122.11
95th-Percentile Queue Length [veh/ln]	9.54	5.64	4.72	8.26	6.86	2.41	3.65	7.24	3.33	4.04	9.72	8.51
95th-Percentile Queue Length [ft/ln]	238.55	141.02	118.12	206.44	171.57	60.24	91.24	181.11	83.33	101.12	243.04	212.73

Movement, Approach, & Intersection Results

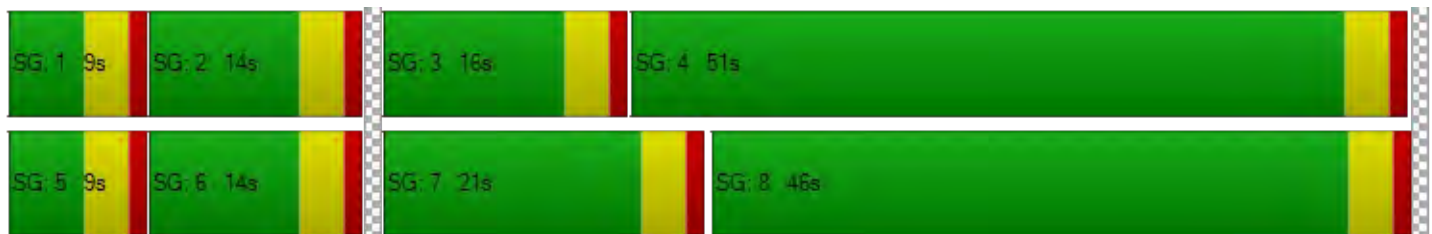
d_M, Delay for Movement [s/veh]	28.39	39.62	40.69	40.74	39.69	35.36	14.20	15.07	13.65	11.88	16.68	17.28
Movement LOS	C	D	D	D	D	D	B	B	B	B	B	B
d_A, Approach Delay [s/veh]	34.95			39.92			14.67			16.03		
Approach LOS	C			D			B			B		
d_I, Intersection Delay [s/veh]	23.26											
Intersection LOS	C											
Intersection V/C	0.559											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			0.0			0.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			0.00			0.00			0.00		
I_p,int, Pedestrian LOS Score for Intersection	0.000			0.000			0.000			0.000		
Crosswalk LOS	F			F			F			F		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	933			1044			222			222		
d_b, Bicycle Delay [s]	12.80			10.27			35.56			35.56		
I_b,int, Bicycle LOS Score for Intersection	2.267			2.800			2.563			3.096		
Bicycle LOS	B			C			B			C		

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 11: Amarillo Valley Road & Val Vista Road

Control Type:	Two-way stop	Delay (sec / veh):	17.1
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.023

Intersection Setup

Name	Amarillo Valley Road		Amarillo Valley Road		Val Vista Road	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Amarillo Valley Road		Amarillo Valley Road		Val Vista Road	
Base Volume Input [veh/h]	2	8	12	5	4	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.4859	1.4859	1.4859	1.4859	1.4859	1.4859
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	139	202	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	637	464	0	0	0
Total Hourly Volume [veh/h]	3	788	684	7	6	0
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	219	190	2	2	0
Total Analysis Volume [veh/h]	3	876	760	8	7	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			Yes
Number of Storage Spaces in Median	0	0	2

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.01	0.00	0.02	0.00
d_M, Delay for Movement [s/veh]	9.27	0.00	0.00	0.00	17.06	14.19
Movement LOS	A	A	A	A	C	B
95th-Percentile Queue Length [veh/ln]	0.01	0.00	0.00	0.00	0.07	0.07
95th-Percentile Queue Length [ft/ln]	0.27	0.00	0.00	0.00	1.76	1.76
d_A, Approach Delay [s/veh]	0.03		0.00		17.06	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	0.09					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 12: Amarillo Valley Road & Miller Road

Control Type:	Two-way stop	Delay (sec / veh):	28.2
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.062

Intersection Setup

Name	Amarillo Valley Road		Amarillo Valley Road		Miller Road	
Approach	Northbound		Southbound		Westbound	
Lane Configuration	↬		↶↵		↵	
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	45.00		45.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Amarillo Valley Road		Amarillo Valley Road		Miller Road	
Base Volume Input [veh/h]	0	6	7	5	9	10
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.4859	1.4859	1.4859	1.4859	1.4859	1.4859
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	202	0	0	139
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	637	0	0	464	0	0
Total Hourly Volume [veh/h]	637	9	212	471	13	154
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	177	3	59	131	4	43
Total Analysis Volume [veh/h]	708	10	236	523	14	171
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			Yes
Number of Storage Spaces in Median	0	0	2

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.27	0.01	0.06	0.40
d_M, Delay for Movement [s/veh]	0.00	0.00	10.56	0.00	28.22	20.64
Movement LOS	A	A	B	A	D	C
95th-Percentile Queue Length [veh/ln]	0.00	0.00	1.08	0.00	2.33	2.33
95th-Percentile Queue Length [ft/ln]	0.00	0.00	26.99	0.00	58.36	58.36
d_A, Approach Delay [s/veh]	0.00		3.28		21.21	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	3.86					
Intersection LOS	D					

**Intersection Level Of Service Report
Intersection 13: SR 347 & Access G**

Control Type: Two-way stop
 Analysis Method: HCM 6th Edition
 Analysis Period: 15 minutes

Delay (sec / veh): 16.8
 Level Of Service: C
 Volume to Capacity (v/c): 0.035

Intersection Setup

Name	SR 347		SR 347		Access G	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration	↑↑		↑↑↔		↗	
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	65.00		65.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	SR 347		SR 347		Access G	
Base Volume Input [veh/h]	0	133	177	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.4859	1.4859	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	806	698	33	0	10
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	895	527	0	0	0
Total Hourly Volume [veh/h]	0	1899	1488	33	0	10
Peak Hour Factor	1.0000	0.9000	0.9000	0.9000	1.0000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	528	413	9	0	3
Total Analysis Volume [veh/h]	0	2110	1653	37	0	11
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

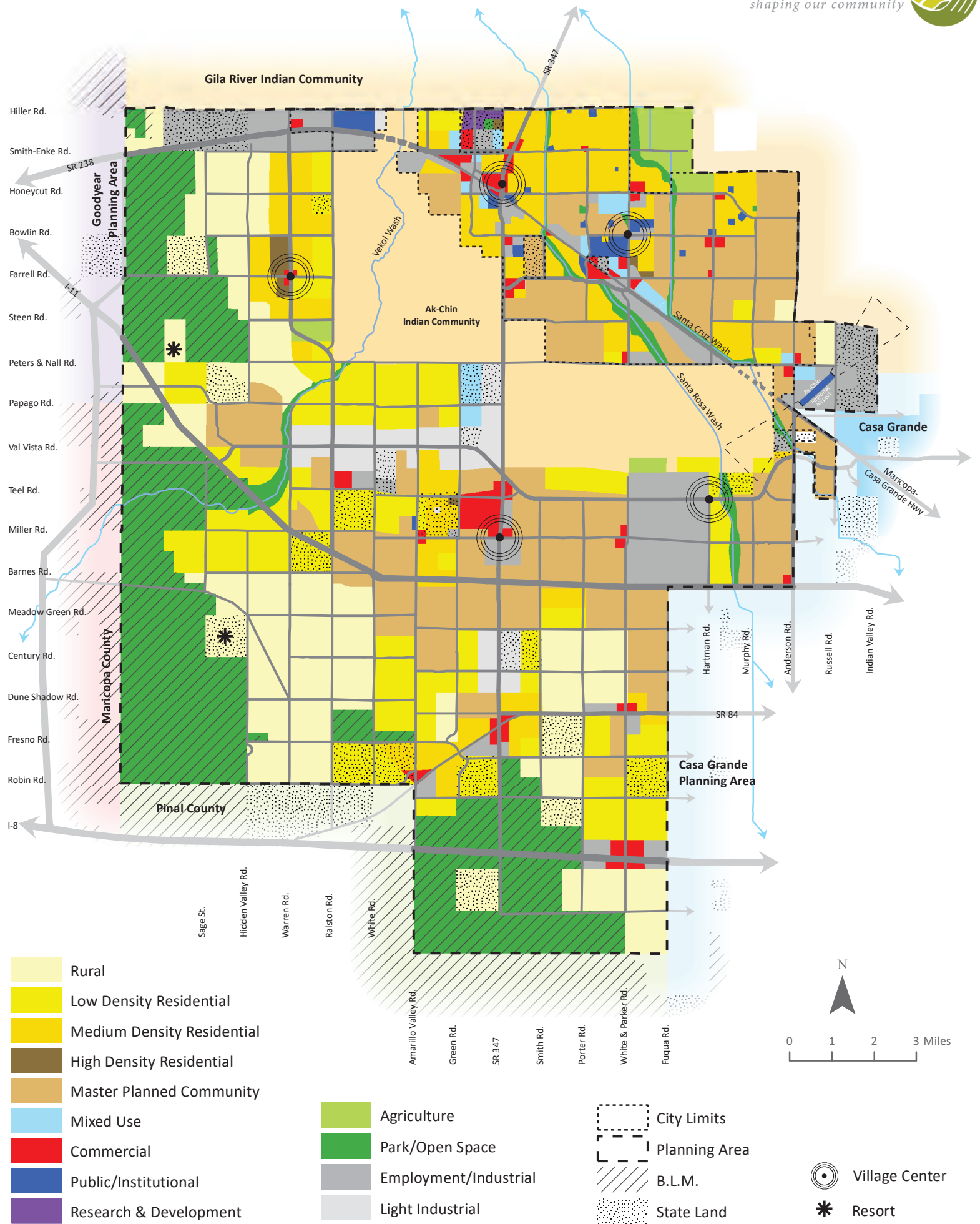
Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.02	0.02	0.00	0.00	0.03
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	0.00	16.84
Movement LOS		A	A	A		C
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.00	0.11
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	2.71
d_A, Approach Delay [s/veh]	0.00		0.00		16.84	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	0.05					
Intersection LOS	C					

APPENDIX D

FUTURE LAND USE



- Rural
- Low Density Residential
- Medium Density Residential
- High Density Residential
- Master Planned Community
- Mixed Use
- Commercial
- Public/Institutional
- Research & Development
- Agriculture
- Park/Open Space
- Employment/Industrial
- Light Industrial

- City Limits
- Planning Area
- B.L.M.
- State Land
- Village Center
- * Resort

APPENDIX E

Signal Warrants Report For Intersection 2: SR 347 & Access A

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	Yes
#2	Four Hour Vehicular Volume	Yes
#3	Peak Hour	Yes

Intersection Warrants Parameters

Major Approaches	N, S
Minor Approaches	W
Speed > 40mph	Yes
Population < 10,000	No
Warrant Factor	70%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	N	S	W
1	536	305	650
2	520	296	631
3	509	290	618
4	477	271	579
5	423	241	514
6	418	238	507
7	413	235	501
8	375	214	455
9	370	210	448
10	364	207	442
11	316	180	384
12	295	168	358
13	289	165	351
14	214	122	260
15	214	122	260
16	150	85	182
17	86	49	104
18	86	49	104
19	48	27	59
20	27	15	33
21	16	9	20
22	5	3	7
23	5	3	7
24	5	3	7

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3 Condition B
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		
1	3	841	2	650	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
2	3	816	2	631	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
3	3	799	2	618	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
4	3	748	2	579	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
5	3	664	2	514	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	Yes
6	3	656	2	507	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	Yes
7	3	648	2	501	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	Yes
8	3	589	2	455	No	Yes	Yes	Yes	No	No	No	Yes	Yes	Yes
9	3	580	2	448	No	Yes	Yes	Yes	No	No	No	Yes	Yes	Yes
10	3	571	2	442	No	Yes	Yes	Yes	No	No	No	Yes	Yes	Yes
11	3	496	2	384	No	Yes	Yes	Yes	No	No	No	No	Yes	Yes
12	3	463	2	358	No	No	Yes	Yes	No	No	No	No	Yes	No
13	3	454	2	351	No	No	Yes	Yes	No	No	No	No	Yes	No
14	3	336	2	260	No	No	No	Yes	No	No	No	No	No	No
15	3	336	2	260	No	No	No	Yes	No	No	No	No	No	No
16	3	235	2	182	No	No	No	No	No	No	No	No	No	No
17	3	135	2	104	No	No	No	No	No	No	No	No	No	No
18	3	135	2	104	No	No	No	No	No	No	No	No	No	No
19	3	75	2	59	No	No	No	No	No	No	No	No	No	No
20	3	42	2	33	No	No	No	No	No	No	No	No	No	No
21	3	25	2	20	No	No	No	No	No	No	No	No	No	No
22	3	8	2	7	No	No	No	No	No	No	No	No	No	No
23	3	8	2	7	No	No	No	No	No	No	No	No	No	No
24	3	8	2	7	No	No	No	No	No	No	No	No	No	No
Hours Met					7	11	13	15	0	4	7	10	13	11

Warrant 3 Condition A

Orientation	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	198.8
Number of Lanes on Minor Street Approach	2
VehicleHours of Stopped Delay on Minor Approach ([h]:mm)	35:53
Delay Condition Met	Yes
Volume on Minor Street Approach During Same Hour	650
High Minor Volume Condition Met	Yes
Total Entering Volume on All Approaches During Same Hour	1491
Number of Approaches on Intersection	3
Total Volume Condition Met	Yes
Warrant Met for Approach	Yes
Warrant Met for Intersection	Yes

Signal Warrants Report For Intersection 1: SR 347 & Miller Road/Louis Johnson Drive

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	Yes
#2	Four Hour Vehicular Volume	Yes
#3	Peak Hour	Yes

Intersection Warrants Parameters

Major Approaches	N, S
Minor Approaches	E, W
Speed > 40mph	Yes
Population < 10,000	No
Warrant Factor	70%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets	
	N	S	E	W
1	750	361	114	443
2	728	350	111	430
3	713	343	108	421
4	668	321	101	394
5	593	285	90	350
6	585	282	89	346
7	578	278	88	341
8	525	253	80	310
9	518	249	79	306
10	510	245	78	301
11	443	213	67	261
12	413	199	63	244
13	405	195	62	239
14	300	144	46	177
15	300	144	46	177
16	210	101	32	124
17	120	58	18	71
18	120	58	18	71
19	68	32	10	40
20	38	18	6	22
21	23	11	3	13
22	8	4	1	4
23	8	4	1	4
24	8	4	1	4

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3 Condition B
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		
1	5	1111	4	443	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
2	5	1078	4	430	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
3	5	1056	4	421	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
4	5	989	4	394	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
5	5	878	4	350	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
6	5	867	4	346	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
7	5	856	4	341	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
8	5	778	4	310	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
9	5	767	4	306	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
10	5	755	4	301	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
11	5	656	4	261	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	No
12	5	612	4	244	Yes	Yes	Yes	Yes	No	No	No	Yes	Yes	No
13	5	600	4	239	Yes	Yes	Yes	Yes	No	No	No	Yes	Yes	No
14	5	444	4	177	No	No	Yes	Yes	No	No	No	No	No	No
15	5	444	4	177	No	No	Yes	Yes	No	No	No	No	No	No
16	5	311	4	124	No	No	No	No	No	No	No	No	No	No
17	5	178	4	71	No	No	No	No	No	No	No	No	No	No
18	5	178	4	71	No	No	No	No	No	No	No	No	No	No
19	5	100	4	40	No	No	No	No	No	No	No	No	No	No
20	5	56	4	22	No	No	No	No	No	No	No	No	No	No
21	5	34	4	13	No	No	No	No	No	No	No	No	No	No
22	5	12	4	4	No	No	No	No	No	No	No	No	No	No
23	5	12	4	4	No	No	No	No	No	No	No	No	No	No
24	5	12	4	4	No	No	No	No	No	No	No	No	No	No
Hours Met					13	13	15	15	4	10	11	13	13	10

Warrant 3 Condition A

Orientation	E	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	117.9	209.1
Number of Lanes on Minor Street Approach	3	4
VehicleHours of Stopped Delay on Minor Approach ([h]:mm)	3:44	25:43
Delay Condition Met	No	Yes
Volume on Minor Street Approach During Same Hour	114	443
High Minor Volume Condition Met	No	Yes
Total Entering Volume on All Approaches During Same Hour	1668	1668
Number of Approaches on Intersection	4	4
Total Volume Condition Met	Yes	Yes
Warrant Met for Approach	No	Yes
Warrant Met for Intersection	Yes	

Signal Warrants Report For Intersection 3: SR 347 & Access B

Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	Yes
#2	Four Hour Vehicular Volume	Yes
#3	Peak Hour	Yes

Intersection Warrants Parameters

Major Approaches	N, S
Minor Approaches	W
Speed > 40mph	Yes
Population < 10,000	No
Warrant Factor	70%

Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets
	N	S	W
1	624	538	239
2	605	522	232
3	593	511	227
4	555	479	213
5	493	425	189
6	487	420	186
7	480	414	184
8	437	377	167
9	431	371	165
10	424	366	163
11	368	317	141
12	343	296	131
13	337	291	129
14	250	215	96
15	250	215	96
16	175	151	67
17	100	86	38
18	100	86	38
19	56	48	22
20	31	27	12
21	19	16	7
22	6	5	2
23	6	5	2
24	6	5	2

Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3 Condition B
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		
1	3	1162	2	239	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
2	3	1127	2	232	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
3	3	1104	2	227	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
4	3	1034	2	213	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
5	3	918	2	189	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
6	3	907	2	186	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
7	3	894	2	184	No	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
8	3	814	2	167	No	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	No
9	3	802	2	165	No	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	No
10	3	790	2	163	No	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	No
11	3	685	2	141	No	No	Yes	Yes	No	No	Yes	Yes	Yes	No
12	3	639	2	131	No	No	No	Yes	No	No	Yes	Yes	No	No
13	3	628	2	129	No	No	No	Yes	No	No	No	Yes	No	No
14	3	465	2	96	No	No	No	No	No	No	No	No	No	No
15	3	465	2	96	No	No	No	No	No	No	No	No	No	No
16	3	326	2	67	No	No	No	No	No	No	No	No	No	No
17	3	186	2	38	No	No	No	No	No	No	No	No	No	No
18	3	186	2	38	No	No	No	No	No	No	No	No	No	No
19	3	104	2	22	No	No	No	No	No	No	No	No	No	No
20	3	58	2	12	No	No	No	No	No	No	No	No	No	No
21	3	35	2	7	No	No	No	No	No	No	No	No	No	No
22	3	11	2	2	No	No	No	No	No	No	No	No	No	No
23	3	11	2	2	No	No	No	No	No	No	No	No	No	No
24	3	11	2	2	No	No	No	No	No	No	No	No	No	No
Hours Met					4	10	11	13	6	10	12	13	11	7

Warrant 3 Condition A

Orientation	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	20.1
Number of Lanes on Minor Street Approach	2
VehicleHours of Stopped Delay on Minor Approach ([h]:mm)	1:20
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	239
High Minor Volume Condition Met	Yes
Total Entering Volume on All Approaches During Same Hour	1401
Number of Approaches on Intersection	3
Total Volume Condition Met	Yes
Warrant Met for Approach	No
Warrant Met for Intersection	No

APPENDIX F

TRAFFIC IMPACT ANALYSIS
FOR

Pecan Woods Residential Development
Papago Road and Amarillo Valley Road
Pinal County, Arizona

July 2, 2018
Revision 1: May 3, 2021
Revision 2: June 28, 2021

Prepared for:

CVL Consultants
4550 North 12th Street
Phoenix, AZ 85014

Prepared by:

United Civil Group
Project Number: TR18048



Conducted by:

Sarah Simpson PhD, PE
President

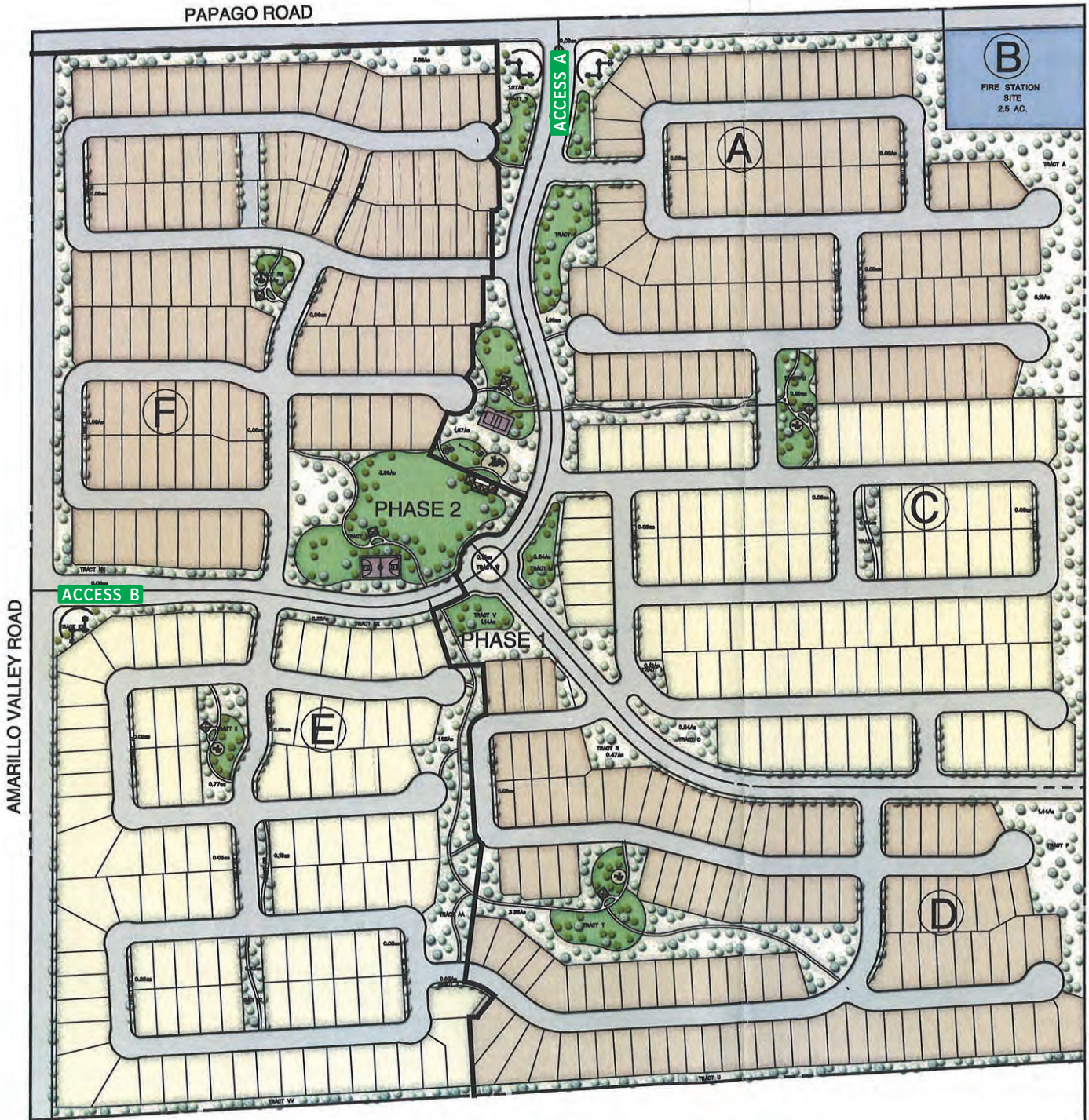


Figure 3: Site Plan

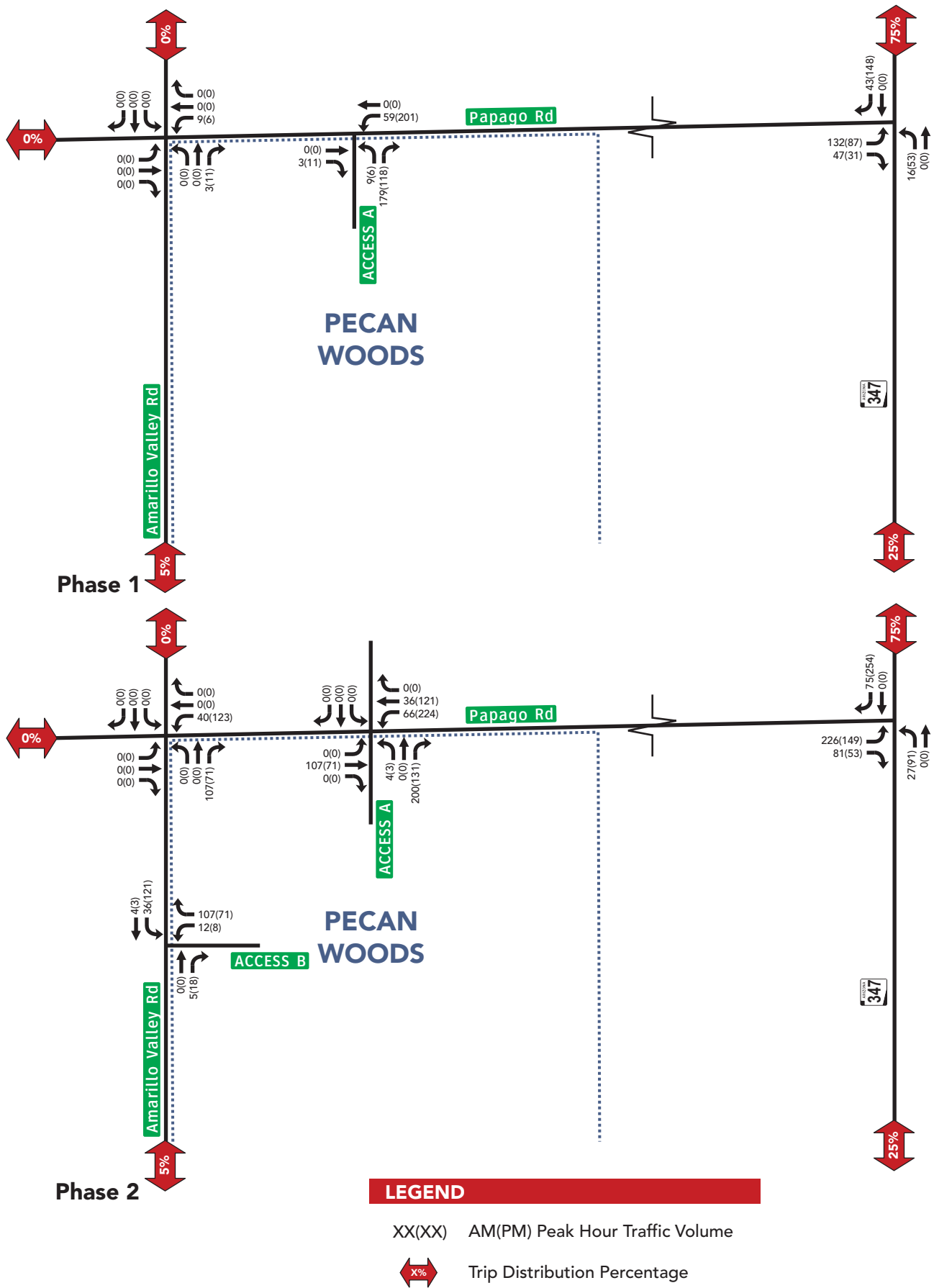


Figure 9: Site Generated Traffic and Trip Distribution

TRAFFIC IMPACT ANALYSIS

Tresana Development
SWC of Papago Road and Green Road
Pinal County, Arizona

January 27, 2020
Revision #1: June 26, 2020
Revision #2: November 6, 2020
Revision #3: June 22, 2021

UCG Project Number: TR20001

PREPARED FOR
CVL Consultants
4550 North 12th Street
Phoenix, Arizona 85014

PREPARED BY

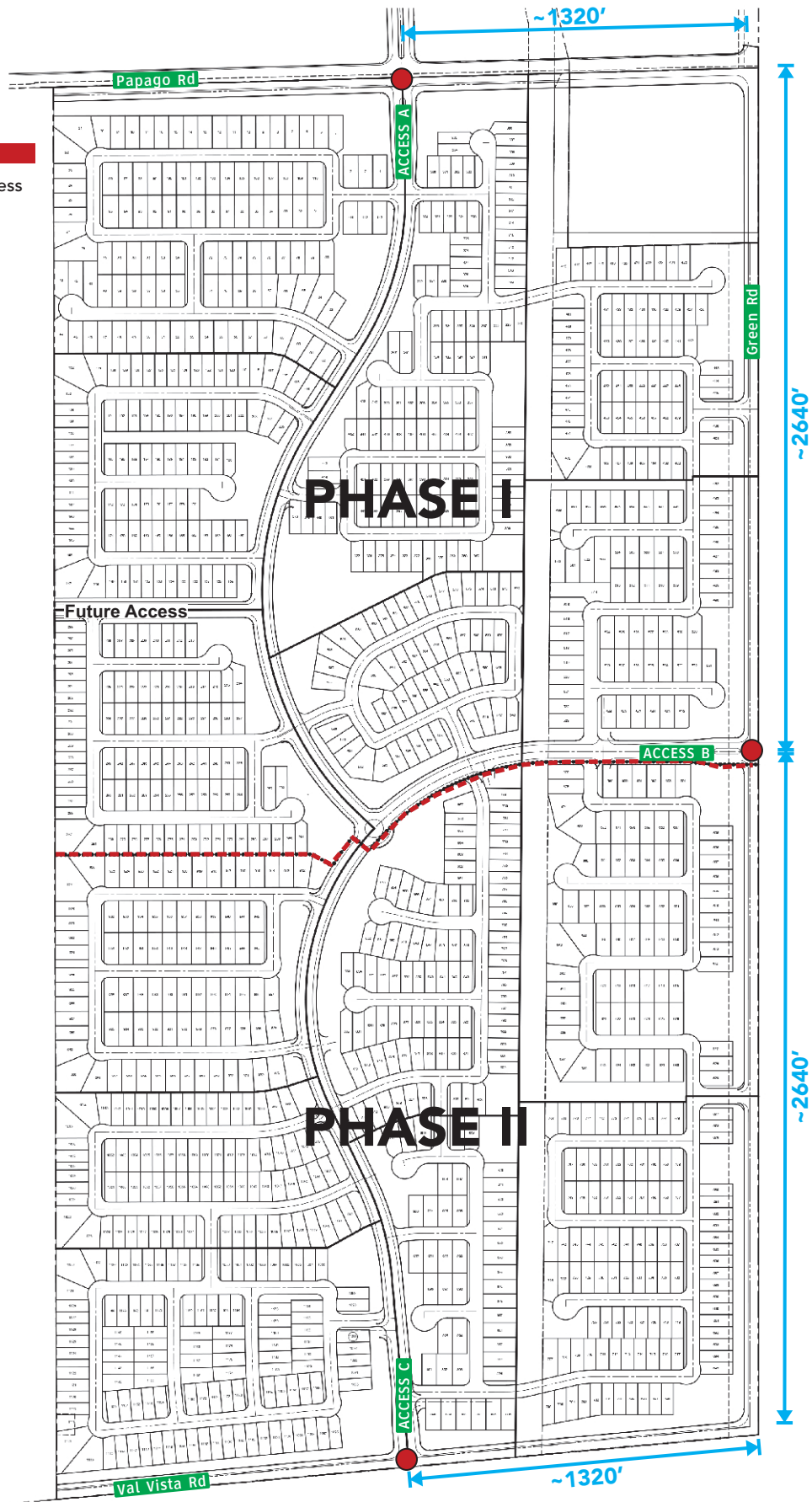
United Civil Group
2803 N. 7th Avenue
Phoenix, Arizona 85007
602-265-6155



CONDUCTED BY

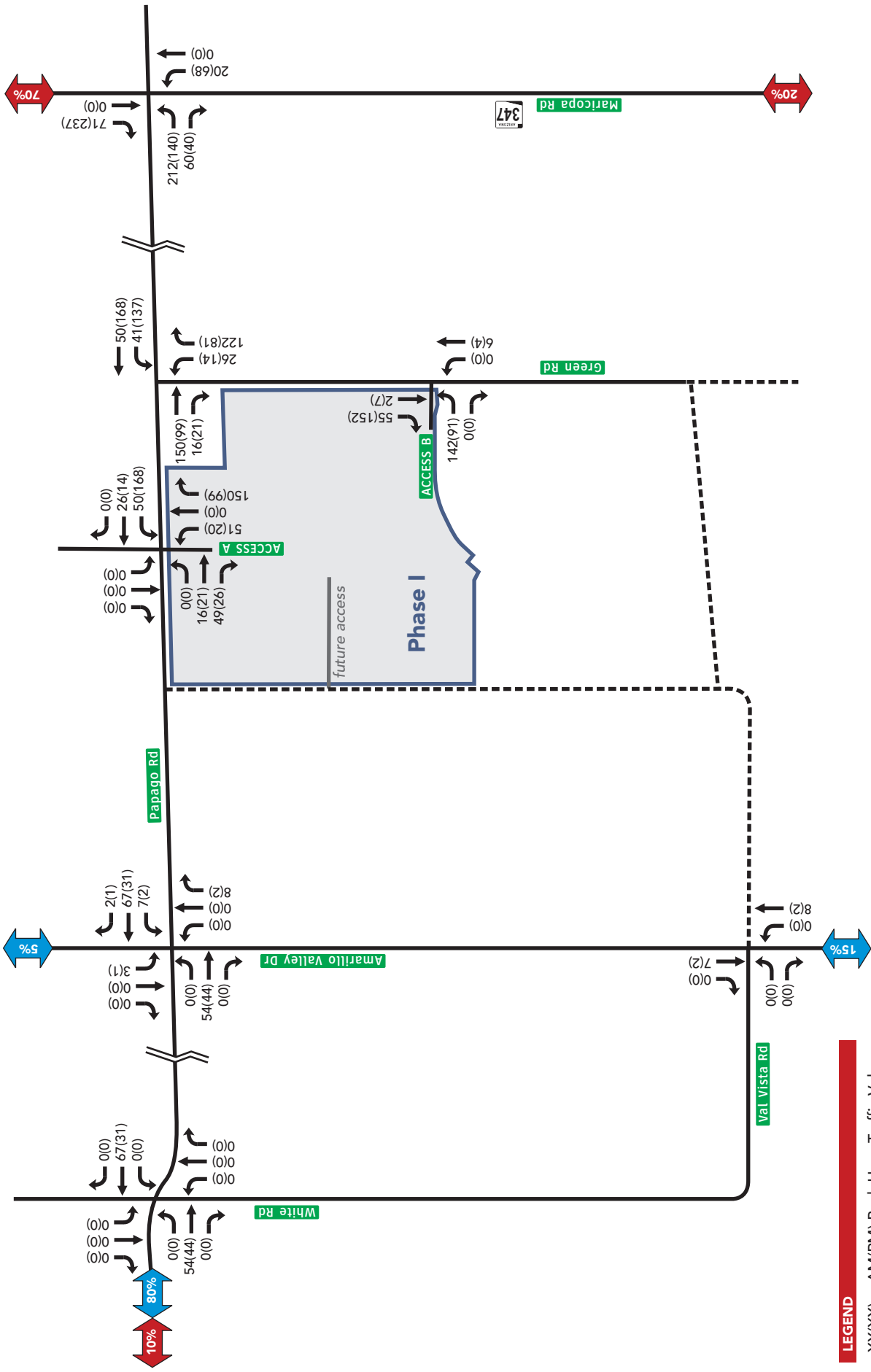
Sarah Simpson, PhD, PE
President

- LEGEND**
- Proposed Full Access
 - - - Phase Boundary



not to scale

Figure 2: Site Plan



- LEGEND**
- XX(XX) AM(PM) Peak Hour Traffic Volume
 - 8% Trip Distribution - Residential Homes
 - 8% Trip Distribution - Elementary School
 - Unimproved Road

Figure 6: Site Generated Traffic and Trip Distribution - Phase I

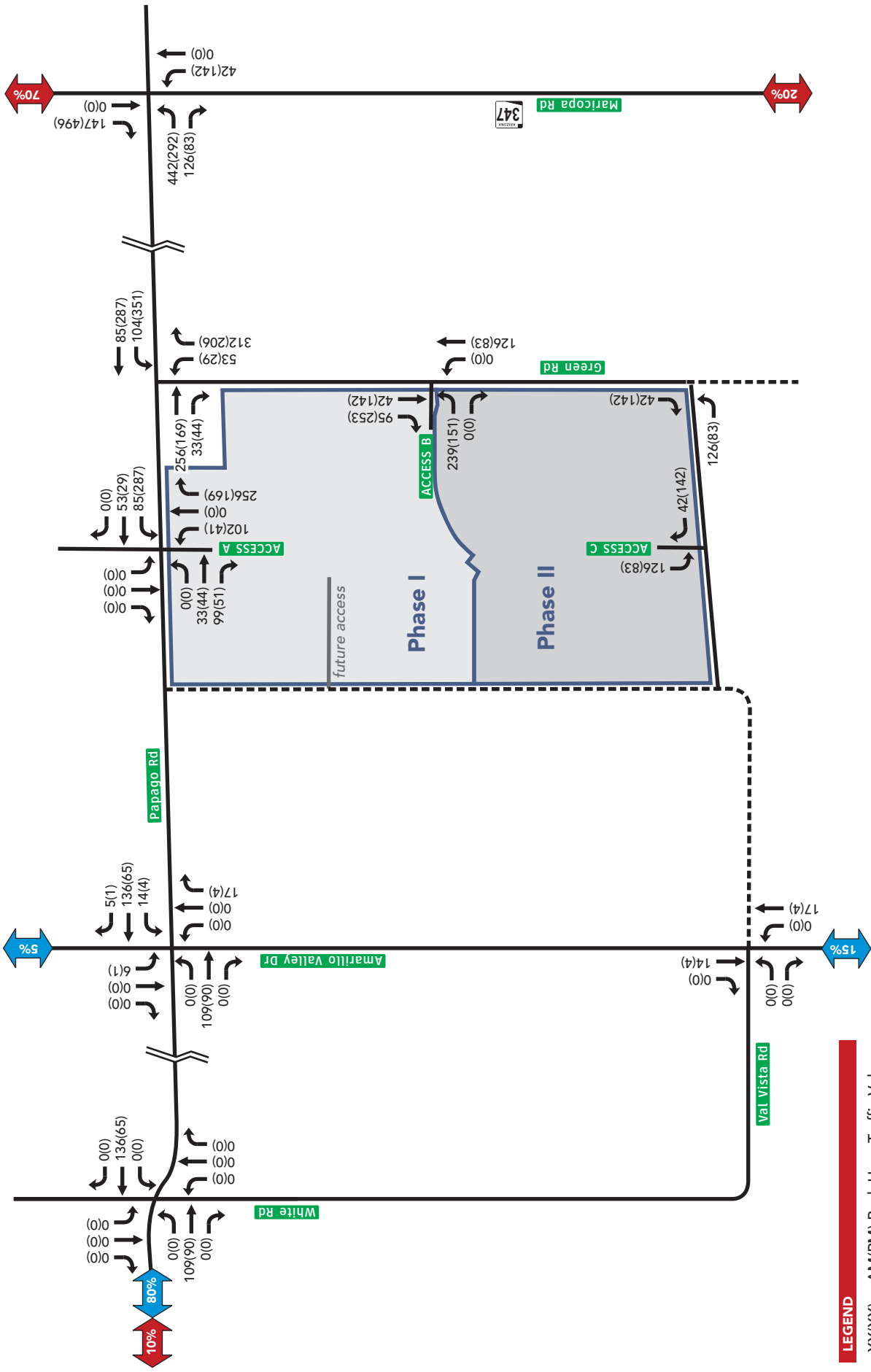


Figure 7: Site Generated Traffic and Trip Distribution - Phases I and II

TRAFFIC IMPACT ANALYSIS

Amarillo Creek
NWC of Papago Road and Green Road
Pinal County, Arizona

January 14, 2021

UCG Project Number: TR20073

PREPARED FOR
CVL Consultants
4550 North 12th Street
Phoenix, Arizona 85014

PREPARED BY



United Civil Group

2803 N. 7th Avenue
Phoenix, Arizona 85007
602-265-6155



CONDUCTED BY

Sarah Simpson, PhD, PE
President



not to scale



Figure 3: Site Plan

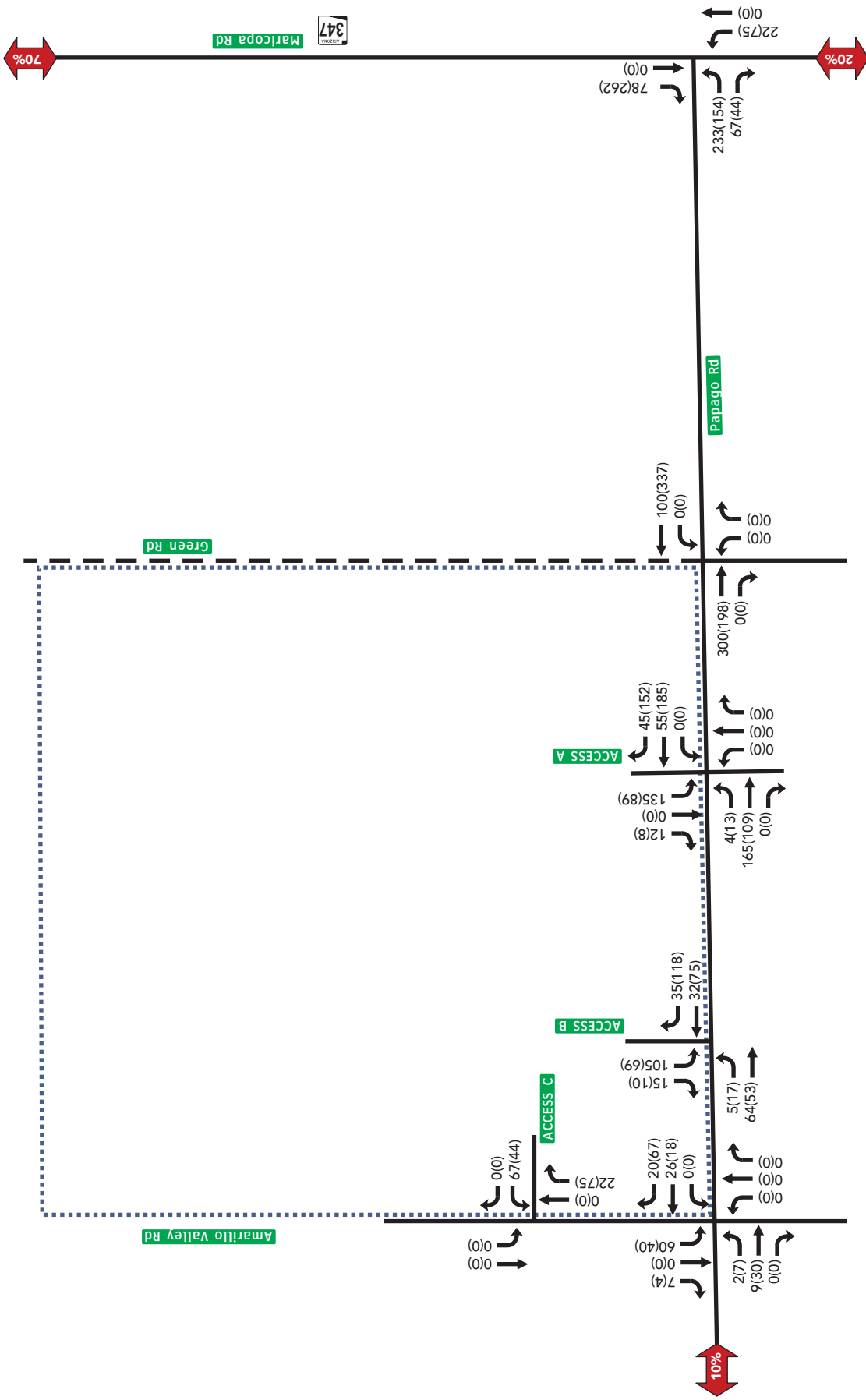


Figure 5: Site Generated Traffic and Trip Distribution - Phase I

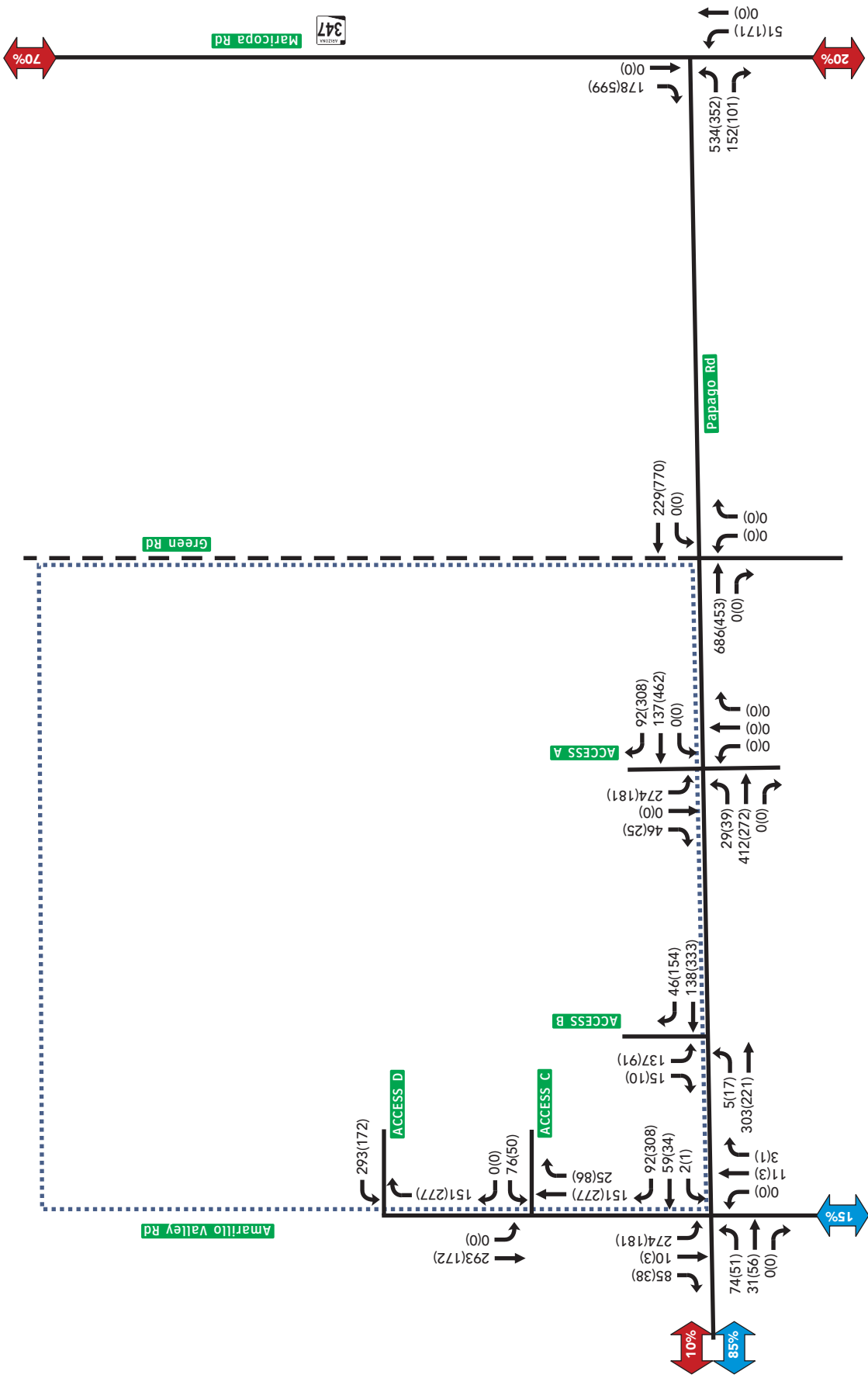


Figure 6: Site Generated Traffic and Trip Distribution - Phases I and II

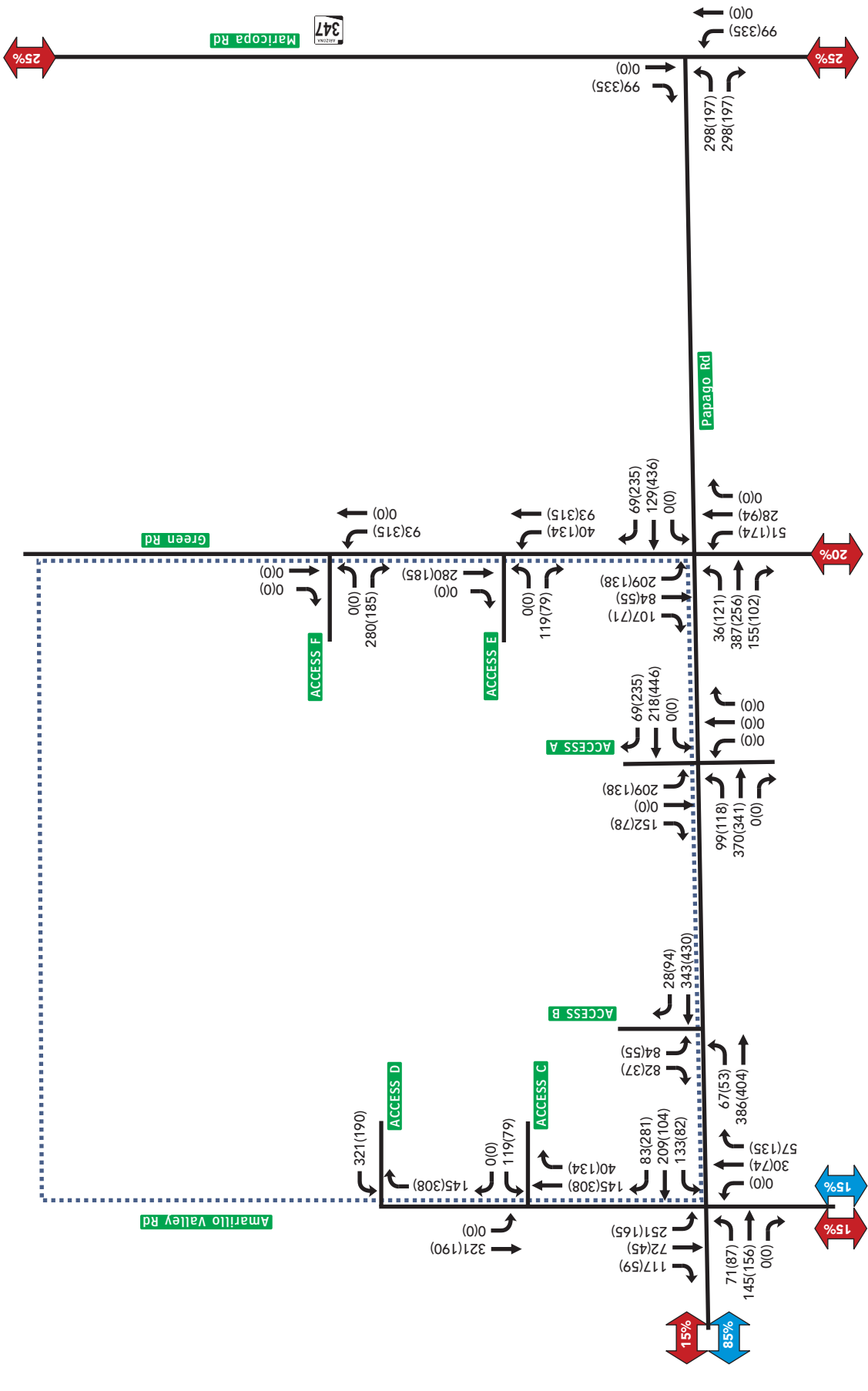


Figure 7: Site Generated Traffic and Trip Distribution - Full Build Out

TRAFFIC IMPACT ANALYSIS

Palomino Ranch

North of Papago Road between Amarillo Valley Road and White Road
Pinal County, Arizona

June 10, 2021

UCG Project Number: TR20073

PREPARED FOR

PRP 350, LLC

11624 SE 5th Street, Suite 210
Bellevue, Washington 98005

PREPARED BY



United Civil Group

2803 N. 7th Avenue

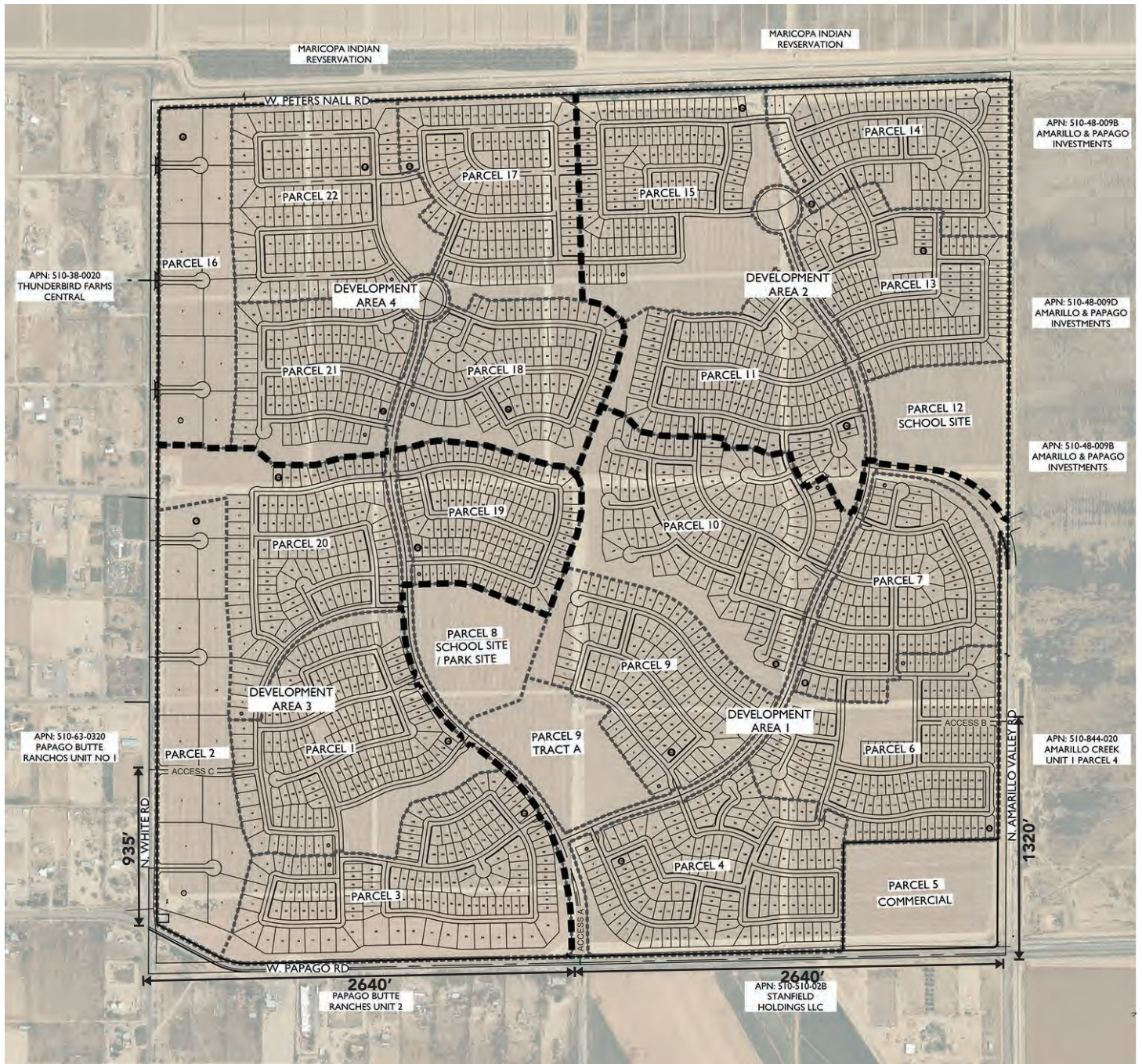
Phoenix, Arizona 85007

602-265-6155



CONDUCTED BY

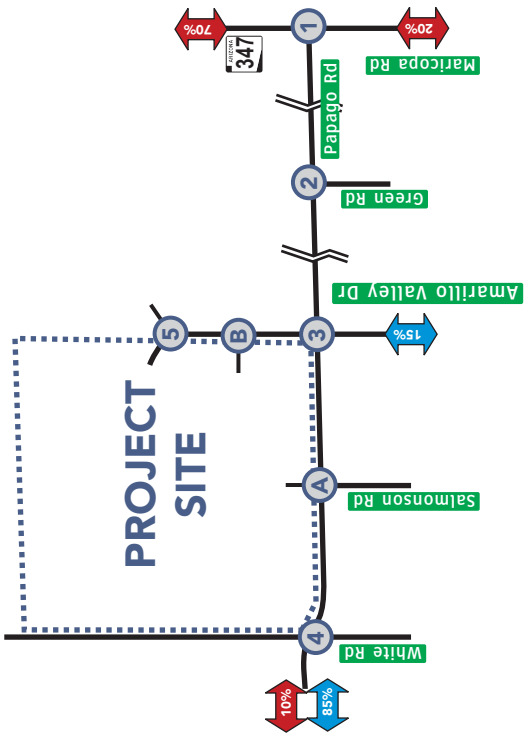
Sarah Simpson, PhD, PE
President



not to scale



Figure 3: Site Plan



LEGEND

XX(XX) AM(PM) Peak Hour Traffic Volume

X% Trip Distribution Percentage
Single Family

X% Trip Distribution Percentage
School

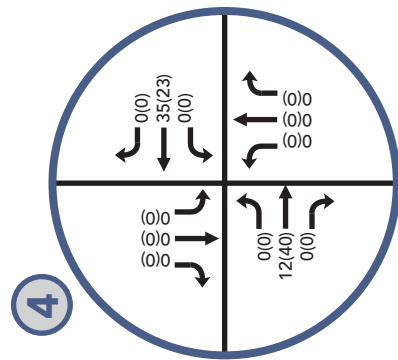
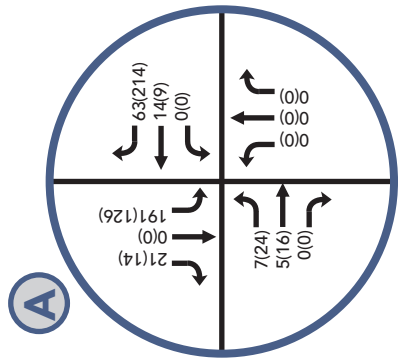
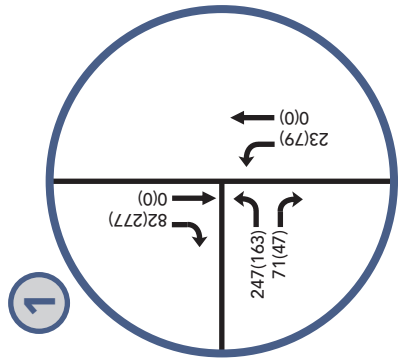
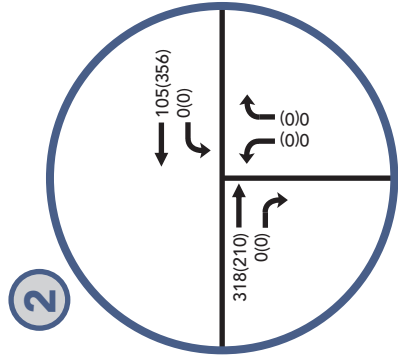
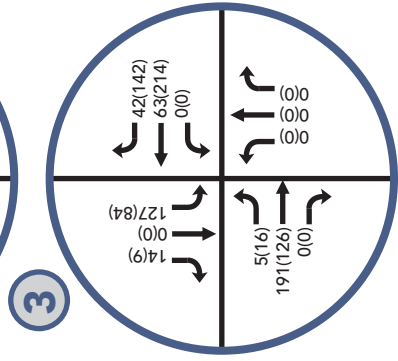
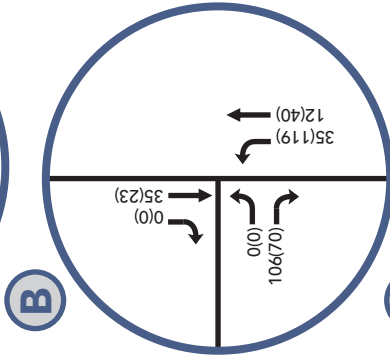
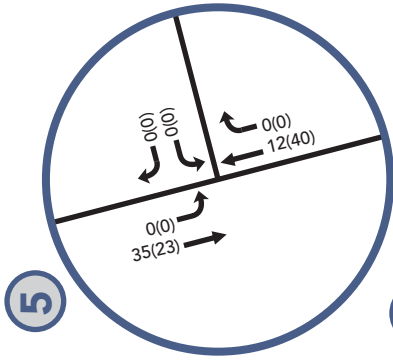
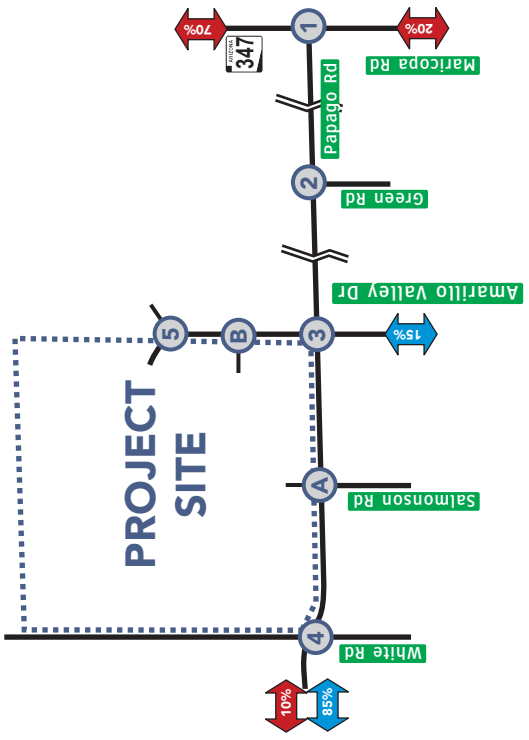


Figure 5: Site Generated Traffic and Trip Distribution - Phase 1



LEGEND

XX(XX) AM(PM) Peak Hour Traffic Volume



Trip Distribution Percentage
Single Family



Trip Distribution Percentage
School

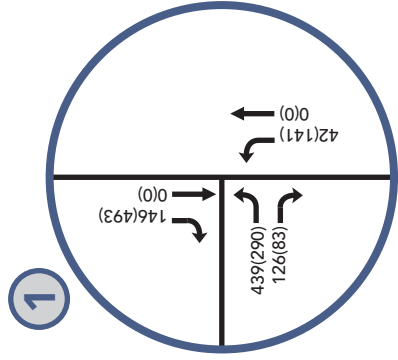
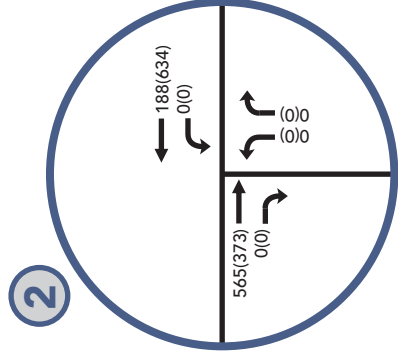
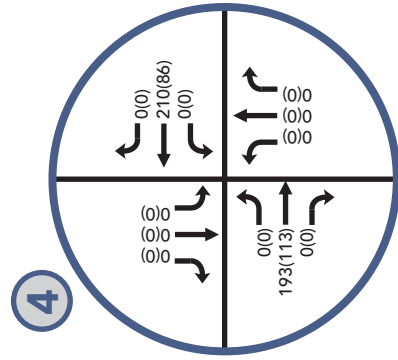
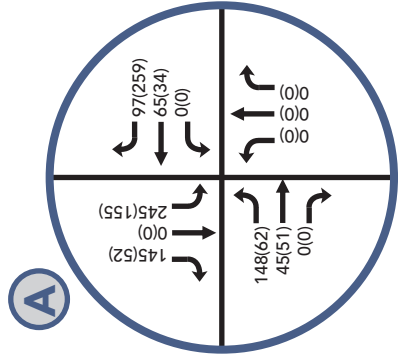
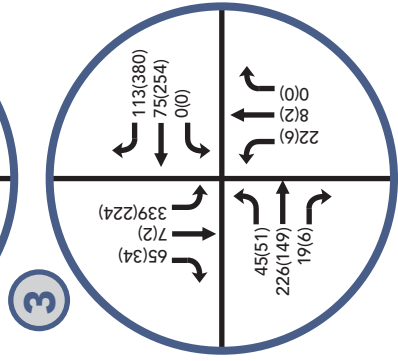
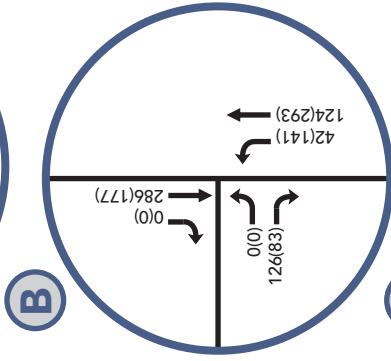
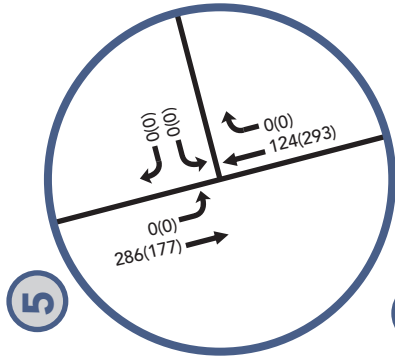
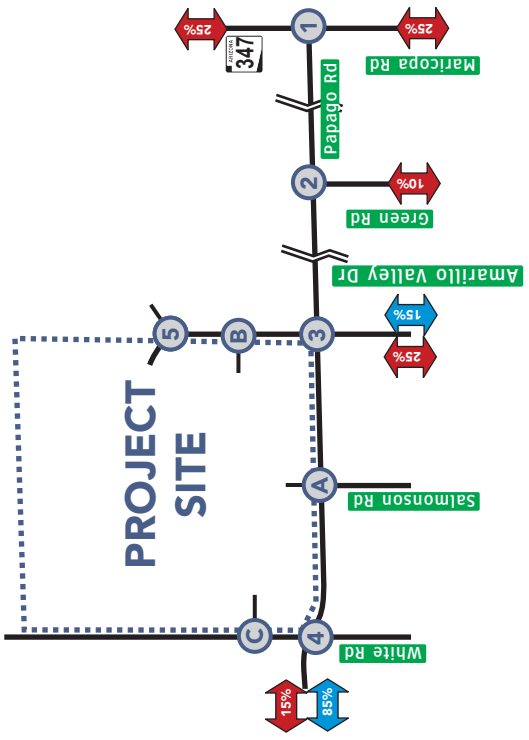


Figure 6: Site Generated Traffic and Trip Distribution - Phases 1-2



LEGEND

XX(XX) AM(PM) Peak Hour Traffic Volume



Trip Distribution Percentage
Single Family



Trip Distribution Percentage
School

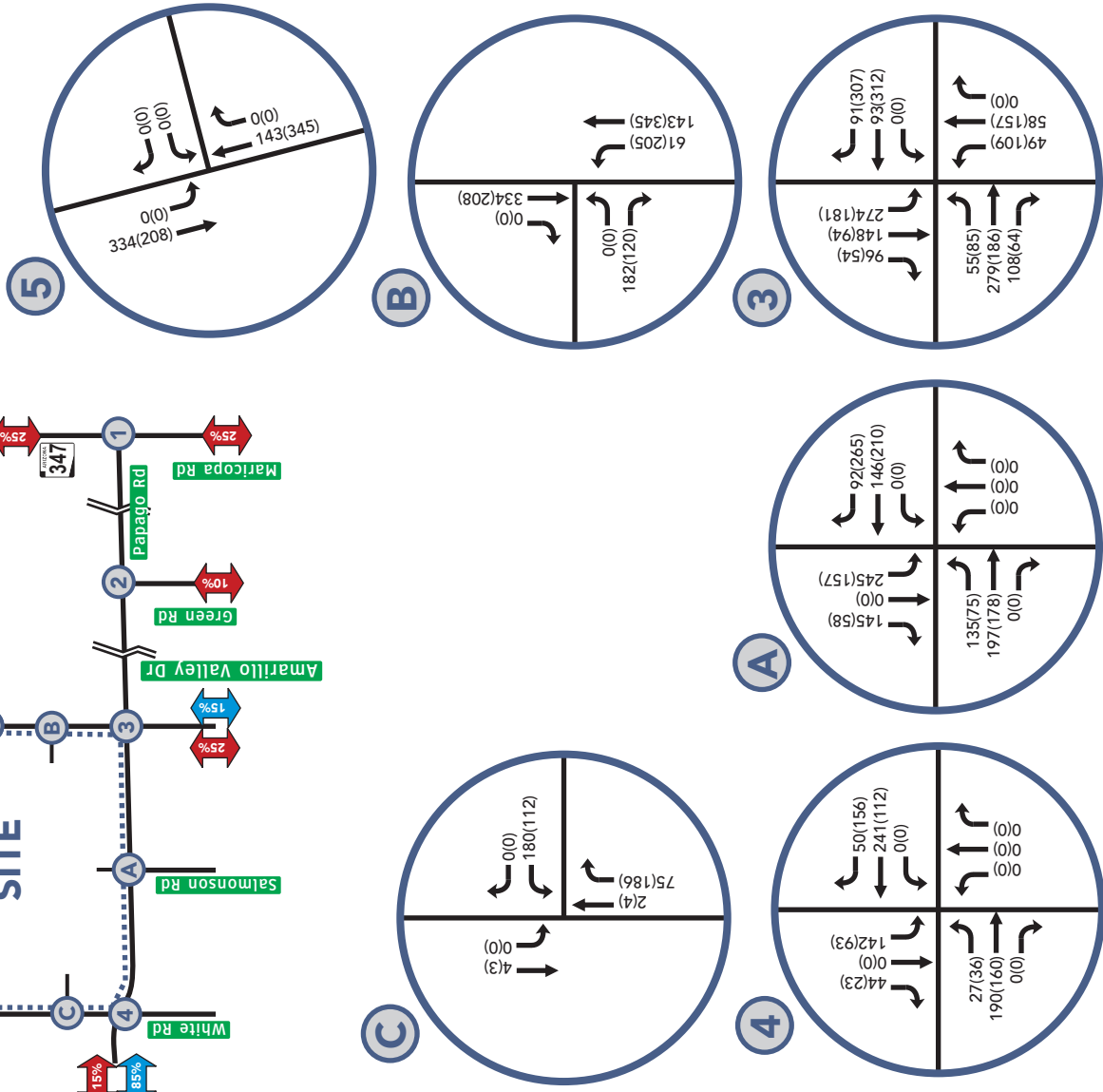
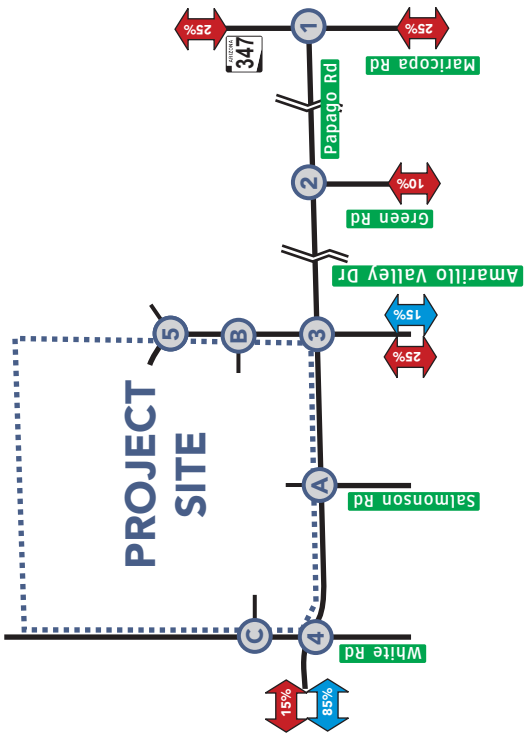


Figure 7: Site Generated Traffic and Trip Distribution - Phases 1-3



LEGEND

XX(XX) AM(PM) Peak Hour Traffic Volume



Trip Distribution Percentage
Single Family



Trip Distribution Percentage
School

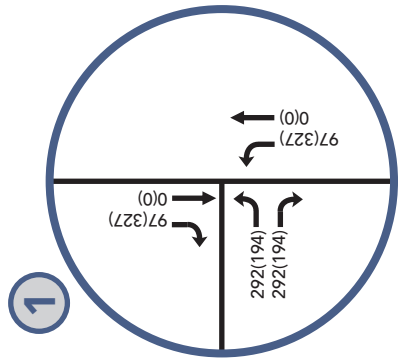
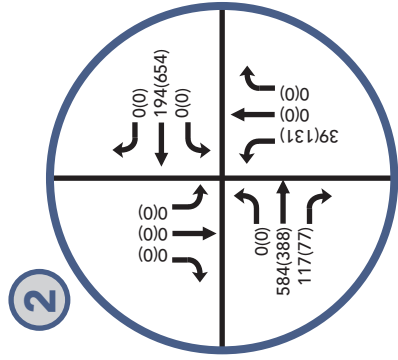
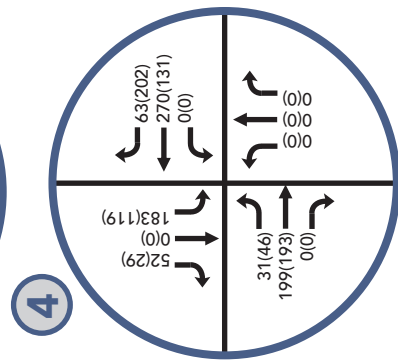
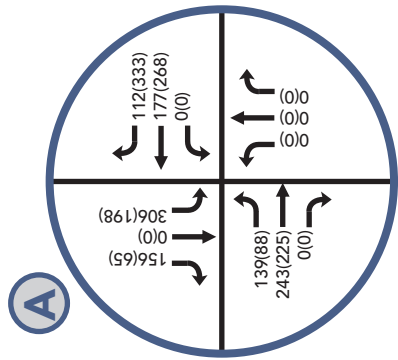
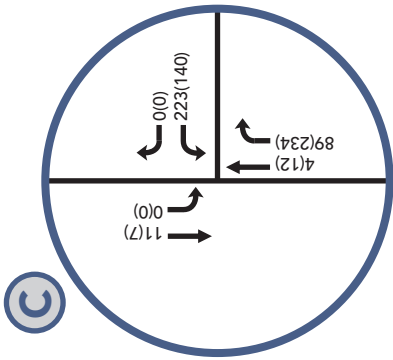
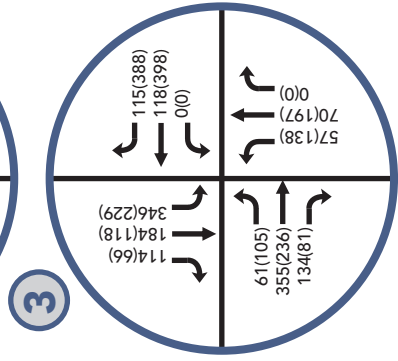
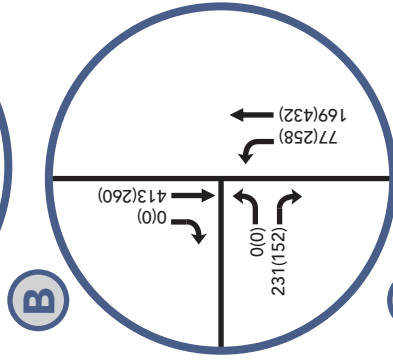
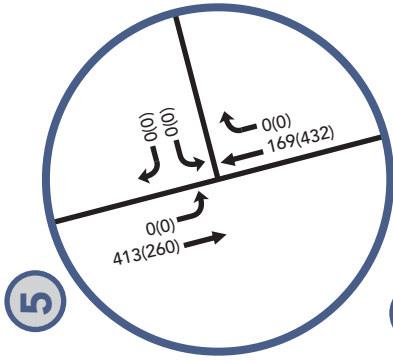


Figure 8: Site Generated Traffic and Trip Distribution - Full Built-Out

APPENDIX G

Transportation Systems Management and Operations**Douglas A. Ducey**, Governor**John S. Halikowski**, Director**Dallas Hammit**, Deputy Director for Transportation**Brent Cain**, Division Director

April 9, 2021

Dr. Sarah Simpson, PhD, PE
United Civil Group
2803 N 7th Ave.
Phoenix, AZ 85007

Re: Northwest Corner (NWC) of SR 347 and Miller Road
Traffic Impact Analysis (TIA) for Midway Development – February, 2021

Dear Dr. Simpson:

This letter is being sent to provide comments on the Traffic Impact Analysis (TIA) dated February 23, 2021 and received March 18, 2021, for the proposed Midway Development in the northwest corner (NWC) of SR 347 and Miller Road in Pinal County. The proposed development is requesting six (6) driveway access points: two (2) onto SR 347, two (2) onto Green Road, and two (2) onto Miller Road.

The proposed Midway development would be constructed in five (5) phases and would consist of 2,170 single family homes, 680 multi-family units, 17.05 acres of commercial use, and an approximate 10-acre school site. According to the ITE Trip Generation Manual, 10th Edition, the proposed development is estimated to generate 32,381 daily trips, with 2,430 trips occurring in the AM peak hour and 3,309 trips occurring in the PM peak hour.

Below you will find comments on the traffic study that need to be addressed prior to acceptance.

- Page 2 - Section C - The statement "ADOT's Traffic Policies and Guidelines" should read "ADOT's Traffic Engineering Guidelines and Processes". Please revise.
- Page 3 - Section C - The statement "Any work performed in ADOT's right of way will require a development agreement." should read "Any work performed in ADOT's right of way will require an Encroachment Permit. The Development Agreement between Pinal County and the Developer will need to be coordinated with ADOT to ensure recommendations and mitigations are achieved." Please revise. Same comment on Page 55.
- Pages 5-6 - Section II. Proposed Development, D. Site Accessibility - Consideration should be given to altering the site plan and driveway locations to achieve an ideal ½-mile spacing between Access A, Access B, and Miller Road in the event that signals become warranted at all three locations in the future. Seems like a good discussion with the traffic study team, Developer, Pinal County, and ADOT. Similar comment for Page 31.
- Page 6 - Section D - The statement "Site accesses A and B should be designed per the ADOT Traffic Guidelines and Processes" should read "Site accesses A and B should be designed per the ADOT Traffic Engineering Guidelines and Processes and current version of the ADOT Roadway Design Guidelines".
- Page 11 - Section IV. Existing Roadway Conditions, A. Physical Characteristics - In the second sentence of the SR 347 paragraph, please clarify the statement "connects Interstate 10 to Interstate 8 via State Route 84."

- Page 11 - Section IV. Existing Roadway Conditions, A. Physical Characteristics - The last sentence of the Green Road paragraph is cut off. Please advise.
- Page 19 - Section V. Projected Traffic, A. Trip Generation, Table 5: Please use the average rate to calculate trip generation for the Single Family Housing as it yields more conservative values.
- Page 19 - Section V. Projected Traffic, A. Trip Generation, Table 5 - The trip generation values shown for the Multi-Family Housing may be too high (they appear to have been calculated using the Single Family rates). As with Single Family Housing, consider using the average rate to calculate the trip generation as it yields more conservative values for the AM and PM peak hours. Please advise.
- Pages 21-26 - Section V. Projected Traffic, B. Trip Distribution - The trip distribution arrows shown in Figures 7-9 do not appear to match what's described in Table 6. Because the distributions change after Phase 2 (and therefore would not be consistent in Figures 7-9), consideration should be given to removing the arrows from Figures 5-9.
- Pages 21-26 - Section V. Projected Traffic, B. Trip Distribution - An additional suggestion would be to add two new figures between Table 6 and existing Figures 5-9. These figures could show just the trip distribution arrows (with no turning movements): one for Phases 1-2 and one for Phases 3-5 to simply distributions. Please advise.
- Figures 6, 7, and 8 - Update Legend as there are no unimproved roads in those figures.
- Figure 8 - It seems more traffic would use Access B than Access D, knowing there's a future traffic signal proposed at SR 347 and Access B. Similar comment Access E and F.
- Page 32 - 2nd to last sentence - The statement "Per ADOT TGP 430...the desirable minimum storage lengths..." needs clarification. Since these are new access points desirable distances will be used, not the minimums. Minimum distances are used for retro-fit scenarios.
- Page 33 - Section VI. Traffic and Improvement Analysis, B. Auxiliary Lane Analyses, Table 14 - Please double check the Recommended Storage calculations. The recommended turn lane storage values listed should be rounded up from Calculated Storage + Desirable Braking Distance (not the Minimum, as these are new access points, not retro-fitted).
- Page 35 - Section VI. Traffic and Improvement Analysis, B. Auxiliary Lane Analyses, Table 15 - Please double check the Recommended Storage calculations. The recommended turn lane storage values listed should be rounded up from Calculated Storage + Desirable Braking Distance (not the Minimum, as these are new access points, not retro-fitted).
- Page 53 - Figure 18: Recommendations - The taper and gap (opening) length are the same for right turn lanes, but the taper is different from the gap (opening) for left turn lanes. Please adjust the bottom line of the legend accordingly.
- Page 53 - Figure 18: Recommendations - Please double-check the storage lengths for the dual left turn lanes. I believe the values should be equal to half the queue length plus the full minimum braking distance. Also double-check the gap length for the EB dual left turn lanes at the SR 347 and Miller Rd. intersection. Typically, ADOT uses twice the Gap length for dual left turn lanes.
- Appendix E - The Traffic Signal Warrant Evaluations provided in the TIA (for Access A, Miller Road, and Access B) serve as a great planning tool for the Developer, however, they will need to be performed based on the actual field conditions prior to the time of installation, as indicated on Page 37. This should be included in the Pinal County Development agreement. The ADOT Encroachment Process will be followed.

Northwest Corner (NWC) of SR 347 and Miller Road
Traffic Impact Analysis (TIA) for Midway Development – February, 2021

Prior to the start of the project, the developer/owner will need to complete an Encroachment Permit Application to use State Right-of-Way prior to commencing work within State right-of-way. The On-Site Plans and Off-Site Improvement Plans, including the traffic plans, civil plans, and other requirements of the Encroachment Permit will need to be submitted to the Southcentral District Permits Office in Tucson and will need to be reviewed for approval by the appropriate disciplines. Additional information can be found on ADOT's website at <https://azdot.gov/business/permits/encroachment-permits/>.

Questions regarding the Encroachment Permit requirements, applications, or process should be directed to Mr. Richard LaPierre, Southcentral District Permits Supervisor in Tucson. Mr. LaPierre can be reached at (520) 388-4234.

If you should have any questions, comments, or concerns regarding the mitigations or requirements necessary for approval of the TIA, please call me at (520) 388-4231.

Sincerely,



James Gomes, Jr., P.E.
ADOT Southern Regional Traffic Engineering
1221 S. 2nd Ave.
Tucson, AZ 85713
Office 520-388-4231
JGomes@azdot.gov

CC: Doug Moeske, PE, Assistant District Engineer, SC District, ADOT
Rick Freije, PE, Southern Region TE Supervisor, ADOT
Tom Martinez, Southern Region TE Specialist, ADOT
Richard LaPierre, Southcentral District Permits Supervisor, ADOT
Scott Nodes, PE, PTOE, Pinal County Traffic Engineer

Project: Midway Development by SR347 at Miller Road TIA (PZ PD 006 21))
Agency: ADOT
Review Date: May 18, 2021
Reviewer: Jay Gomes, PE
Review No: 1st Submittal Review

Sheet #	Comment #	Response
Page 2	1	Revised to read "ADOT's Traffic Engineering Guidelines and Processes"
Page 3 and 55	2	Revised to read "Any work performed in ADOT's right of way will require an Encroachment Permit. The Development Agreement between Pinal County and the Developer will need to be coordinated with ADOT to ensure recommendations and mitigations are achieved."
Pages 5-6 - Section II	3	Much consideration was given to access placement. For this project, Access A is located approximately 1 mile south of the newly proposed Val Vista Parkway alignment. As shown on the site plan, the spacing between Access B and Access A is approximately ½ mile spacing, and the spacing between Access B and Miller Road is ¼ mile spacing. This spacing should work in the future for signal progression needs along the SR347 corridor.
Page 6 - Section D	4	Revised to read "Site Accesses A and B should be designed per the ADOT Traffic Engineering Guidelines and Processes and current version of the ADOT Roadway Design Guidelines.
Page 11 - Section IV. Existing Roadway Conditions	5	Revised to read: "...and regionally connects Interstate 10 to Interstate 8 via State Route 84"
Page 11 - Section IV. Existing Roadway Conditions	6	Added: " ".... one lane in each direction"
Page 19 - Section V. Projected Traffic	7	Revised to use the average rate for trip generation of single family homes.
Page 19 - Section V. Projected Traffic	8	Revised multifamily to use the correct average rate
Pages 21-26 - Section V. Projected Traffic	9	Removed trip distribution arrows from figures for clarity and consistency.
Pages 21-26 - Section V. Projected Traffic	10	Removed trip distribution arrows from figures for clarity and consistency. Distributions are presented in the report by phase
Figures 6, 7, and 8	11	Updated legend on all figures for clarity.

Figure 8	12	Agree. Redistributed traffic between the accesses to account for signals and SR347 access.
Page 33 - Section VI. Traffic and Improvement Analysis	13	Modified braking from minimum to desirable.
Page 35 - Section VI. Traffic and Improvement Analysis	14	Recalculated storage based on desirable breaking distances.
Page 53 - Figure 18: Recommendations	15	The storage lengths, tapers, gaps and openings were modified per changes to storage calculations
Page 53 - Figure 18: Recommendations	16	Recommendations figure was updated with longer storage and twice the gap length was used for the dual lefts at the intersection of SR347 and Miller Road.
Appendix E	17	Agree. The signal warrants are for study periods only and give an approximate time of when a signal may be needed. Signals should only be installed when actual counts show that they are warranted and a traffic study deems them necessary. This will be included in the Pinal County Development agreement and the developer will follow the ADOT Encroachment Process.



PINAL COUNTY
WIDE OPEN OPPORTUNITY

Project Name:		Midway Development by SR347 at Miller Rd			
Engineering Firm:		United Civil Group		Reviewed by:	John Kraft Christopher Wanamaker
Case #:	PZ PD 006 21	Review Status:	1st Submittal	Date:	5/18/2021
Pinal Proj#					
RESPOND TO ALL COMMENTS AND REDLINES.					
Sheet #	Comment #				
Pg 1	1	Under A. Purpose of the Report, Referencing “necessary” change sentence to read “Necessary to serve the Midway development to include warrant studies and installation of new traffic signals, turn lanes, and other off-site paving improvements.”			
Pg 3	2	Under Phase II of the Midway Development – 2025, prior to the word “Evaluate” add: “During Phase II, developer to”			
Pg 4	3	Under Phase III of the Midway Development - 2027, prior to the word “Evaluate” add: “During Phase III, developer to”			
Pg 4	4	Prior to “Phase IV for the Midway Development – 2029” add bullet: “Developer to construct dual left turn lanes when warranted.”			
Figure 3: Site Plan	5	Address the following Note: Add a Table showing which parcel is to be built in which Phase of development and add map showing locations where each access point is to serve each phase of development.			
Pg 37	6	Under “Signal Warrant Summary” referencing the word “recommended” address the following comment: “Rather than recommend future traffic signal warrant analyses to confirm traffic signal needs at the intersection, please plan on having developer commit to providing these analyses at the time it is expected traffic is estimated to meet these warrants and have traffic signal plans ready to be constructed when the need is expected.”			
Pg 37	7	Under D. Intersection Sight Distance, address the following note: “To ensure proper sight distance triangles are provided, design plans for landscape & hardscape shall include sight triangle provisions where needed prior to construction. Plans should not be approved that are exempt from these requirements.”			
Pg 39	8	Referencing “With the addition of Phase III of Midway, the intersections will continue to perform at acceptable LOC C or better in the morning and evening peak hours once the intersection of Sr347/Access B is signalized.” Please address the comment: “Report should require signal be installed by developer prior to LOS degrading below a LOS C”			
Pg 40	9	Please provide wording to avoid having LOS performance be maintained at an acceptable LOS C or better.			
Pg 41 Table 20	10	Referencing LOS E & F, Change unacceptable LOS by making provisions in the report.			
Pg 42 Table 21	11	Referencing LOS E & F, Change unacceptable LOS by making provisions in the report.			
Pg 43 Table 22	12	Referencing LOS E & F, Change unacceptable LOS by making provisions in the report.			

Public Works Department



PINAL COUNTY

WIDE OPEN OPPORTUNITY

Pg 43	13	Second to last paragraph, Referencing acceptable LOS D change to acceptable LOS C or better.
Pg 45	14	Referencing bullet "Evaluate the need for traffic signals at SR347/ Access B and SR347/Miller Road" Projections in this report show need is there, please plan to include provisions in this report to have supply meet demand.
Pg 55	15	Referencing "Warrants should be completed using actual traffic counts" Reword to say "Warrant study will be completed by developer to confirm estimates for future traffic signal meet warrants using actual traffic counts and TS installations warranted by new development will be installed by new development prior to LOS becoming degraded below LOS C."
Pg 55	16	Referencing "Proper intersection sight distance and sight triangles shall be provided" add: "and incorporated into design plans"
Pg 56	17	Prior to Phase I, Add the following: "Improvements Proposed to be constructed by Developer:" Also, show in lieu of installing traffic signal, indicate how much developer is willing to fund % of construction of TS installation (100%, 50%, etc.)
	18	Has ADOT reviewed this TIA? Please provide confirmation from ADOT that they have reviewed the TIA.
	19	Per Table 1 of the Pinal County TIA guidelines, this project is considered a regional development. Therefore a Category IIC analysis is required. Please provide additional analysis of "All State highways, signalized intersections, and major unsignalized street intersections within 3 miles of the site boundary" This study only looked at intersections in the immediate vicinity of the project.
	21	Add a conclusions section to the report which states that: <ol style="list-style-type: none">1. This report is in conformance with the Pinal County Pinal County Traffic Impact Assessment Guidelines & Procedures (or Pinal County Traffic Impact Statement Guidelines, if applicable).2. This report concludes that the proposed development will either maintain or improve the existing level of service for all intersections within the required study area.

Project: Midway Development by SR347 at Miller Road TIA (PZ PD 006 21))
Agency: Pinal County
Review Date: May 18, 2021
Reviewer: John Kraft and Christopher Wanamaker
Review No: 1st Submittal Review

Sheet #	Comment #	Response
Page 1	1	Added sentence to read "These improvements include warrant studies and installation of new traffic signals, turn lanes and other off site paving improvements."
Page 3	2	Added "During phase II, developer will evaluate..." for 2025
Page 4	3	Added "During phase II, developer will evaluate..." for 2027
Page 4	4	Added new bullet to Phase IV 2029 recommendations "When warranted, the developer will construct dual left turn lanes at the intersection of SR347/Miller Road."
Figure 3: Site Plan	5	Added a new table to II Proposed Development C Phasing and Timing on page 5 that shows parcels to be constructed with each phase of development plus access points.
Page 37	6	Added sentence to read "The developer will perform signal warrant analyses using actual traffic counts prior to completion of the phase of development that meets warrants as presented in the recommendations of this report."
Page 37	7	Added sentence to read "To ensure proper sight distance triangles are provided, design plans for landscape and hardscape shall include sight triangle provisions where needed prior to construction. Plans should not be approved that are exempt from these requirements."
Page 39	8	Signals are installed based on signal warrants not LOS. LOS for two way stop conditions is reporting the approach LOS for the stopped leg. While the unsignalized legs are performing at LOS A. Added sentence "Signalization of the intersections shown should be installed once warrants are met to reduce the likelihood of unacceptable LOS at the intersection."
Page 40	9	Wording has been modified to show LOS at an acceptable LOS of C.
Page 41	10	An additional access was added to accommodate traffic and improve the LOS at Access F
Page 42	11	An additional access was added to accommodate traffic and improve the LOS at Access F
Page 43	12	An additional access was added to accommodate traffic and improve the LOS at Access F
	13	Changed LOS D to LOS C

		Traffic signal contributions are included in this TIA
Page	15	Added sentences to read "When warranted using actual traffic data, the traffic signals should be installed at the designated intersections. The warrant studies will be completed by the developer to determine when the signals are required. Signalization of the intersections should be constructed once warrants are met to reduce the likelihood on unacceptable LOS at the intersections."
	16	Added sentence to read "The sight triangles shall be provided on the developer's landscape plans."
	17	Traffic signal contributions are included in this TIA: SR347/Access A – 50% SR347/Access B – 50% SR347/Miller Road – 25%
	18	ADOT has review the TIA and comments have been addressed within this 1 st resubmittal. See comments and responses for ADOT on following pages.
	19	Added the following major intersections within 3 miles of the site: SR347/Papago Road Amarillo Valley Road/Papago Road Amarillo Valley Road/Val Vista Road Amarillo Valley Road/Miller Road
	20	Added the following concluding sentences to the report "This report concludes that when constructed, the offsite improvements recommended above will assist in maintaining an acceptable LOS C or better. However, it should be noted that many assumptions were made within this report to forecast traffic volumes and distributions in the future traffic projections. As this area grows, and new development is proposed, traffic may redistribute from what was originally proposed which affects LOS."



PINAL COUNTY
WIDE OPEN OPPORTUNITY

Public Works Traffic Engineering Review Comment Letter

Project Name:		Midway Development by SR347 at Miller Rd			
Engineering Firm:		United Civil Group		Reviewed by:	John Kraft Christopher Wanamaker
Engineer:		Sarah A. Simpson #32850, Sealed: 08/06/2021			
Case #:	PZ-PD-006-21	Review Status:	2 nd Review	Date:	9/28/2021
RESPOND TO ALL COMMENTS AND REDLINES:					
Sheet #	Comment #				
Pg 1	1	Under A. Purpose of the Report, Referencing “necessary” change sentence to read “Necessary to serve the Midway development to include warrant studies and installation of new traffic signals, turn lanes, and other off-site paving improvements.” Comment from 1st review not yet addressed.			
Pg 3	2	Under Phase II of the Midway Development – 2025, prior to the word “Evaluate” add: “During Phase II, developer to” Comment from 1st review not yet addressed.			
Pg 4	3	Under Phase III of the Midway Development - 2027, prior to the word “Evaluate” add: “During Phase III, developer to” Comment from 1st review not yet addressed.			
Pg 4	4	Prior to “Phase IV for the Midway Development – 2029” add bullet: “Developer to construct dual left turn lanes when warranted.” Comment from 1st review not yet addressed.			
Figure 3: Site Plan	5	Address the following Note: Add a Table showing which parcel is to be built in which Phase of development and add map showing locations where each access point is to serve each phase of development. Comment from 1st review not yet addressed.			
Pg 37	6	Under “Signal Warrant Summary” referencing the word “recommended” address the following comment: “Rather than recommend future traffic signal warrant analyses to confirm traffic signal needs at the intersection, please plan on having developer commit to providing these analyses at the time it is expected traffic is estimated to meet these warrants and have traffic signal plans ready to be constructed when the need is expected.” Comment from 1st review not yet addressed.			
Pg 37	7	Under D. Intersection Sight Distance, address the following note: “To ensure proper sight distance triangles are provided, design plans for landscape & hardscape shall include sight triangle provisions where needed prior to construction. Plans should not be approved that are exempt from these requirements.” Comment from 1st review not yet addressed.			
Pg 39	8	Referencing “With the addition of Phase III of Midway, the intersections will continue to perform at acceptable LOC C or better in the morning and evening peak hours once the intersection of Sr347/Access B is signalized.” Please address the comment: “Report should require signal be installed by developer prior to LOS degrading below a LOS C” Comment from 1st review not yet addressed.			
Pg 40	9	Please provide wording to avoid having LOS performance be maintained at an acceptable LOS C or better. Comment from 1st review not yet addressed.			
Pg 41, 42, & 43	10, 11, & 12	Tables 20-22, Referencing LOS E & F, Change unacceptable LOS by making provisions in the report. Comment from 1st review not yet addressed.			
Pg 43	13	Second to last paragraph, Referencing acceptable LOS D change to acceptable LOS C or better.			
Pg 45	14	Referencing bullet “Evaluate the need for traffic signals at SR347/ Access B and SR347/Miller Road” Projections in this report show need is there, please plan to include provisions in this report to have supply meet demand.			
Pg 55	15	Referencing “Warrants should be completed using actual traffic counts” Reword to say “Warrant			

Public Works Department

31 N. Pinal Street, Building F., PO Box 727 Florence, AZ 85132
T520-509-3555 Hours: M-F 8:00 am – 5:00 pm F520-866-6511



PINAL COUNTY
WIDE OPEN OPPORTUNITY

		study will be completed by developer to confirm estimates for future traffic signal meet warrants using actual traffic counts and TS installations warranted by new development will be installed by new development prior to LOS becoming degraded below LOS C."
Pg 55	16	Referencing "Proper intersection sight distance and sight triangles shall be provided" add: "and incorporated into design plans"
Pg 56	17	Prior to Phase I, Add the following: "Improvements Proposed to be constructed by Developer:"
	18	Has ADOT reviewed this TIA? Please provide confirmation from ADOT that they have reviewed the TIA.
	19	Per Table 1 of the Pinal County TIA guidelines, this project is considered a regional development. Therefore a Category IIC analysis is required. Please provide additional analysis of "All State highways, signalized intersections, and major unsignalized street intersections within 3 miles of the site boundary" This study only looked at intersections in the immediate vicinity of the project.
	20	Add a conclusions section to the report which states that: 1. This report is in conformance with the Pinal County Pinal County Traffic Impact Assessment Guidelines & Procedures (or Pinal County Traffic Impact Statement Guidelines, if applicable). 2. This report concludes that the proposed development will either maintain or improve the existing level of service for all intersections within the required study area.
	21	Please provide a written response to all comments.
Page 7	22	Under Access B, after "development" add "and connect Access B to Access D"
Page 7	23	Under Access C, Describe when (what phase) north-south collector roads will be constructed to connect A to C collector road to Miller Road
Page 8	24	Table 1 under phase I Accesses "Emergency/Secondary Access to Miller Road" Define what emergency access means
Page 8	25	Table 1 under phase II Accesses Delete "Emergency/Secondary Access to Miller Rd" and replace with "Collector Road from Access A to Access C"
Page 8	26	Table 1 under phase III add "Collector Road from Access B to Access D"
Page 8	27	Table 1 under phase III add "North-South Collector Roads from E-W Collector to Miller Rd."
Page 21	28	At the end of second paragraph under A. Trip Generation, Please provide calculations for parent drop of queue length required to drop off & pick up students.
Page 21	29	Change 15% trip reduction to 5% and change 50% trip reduction in school trips to 25%
Page 22	30	Table 6 change trip reductions to 5% for shopping & 25% for School Trips
Page 33	31	Table 13, referencing 263.19F & 270.19 F for Overall intersection on SR347/Papago Rd, please rerun analysis using a dual left at intersection to see if PM Peak Hour Delay improves significantly.
Page 42	32	Change developer's proportional share to 50% for SR347/Miller Rd and 100% for SR347/Access A & Access B. Carry thru changes throughout report.
		This TIA is not approved and a 3rd review will be required.

Project: Midway Development by SR347 at Miller Road TIA (PZ PD 006 21))
Agency: Pinal County
Review Date: September 28, 2021
Reviewer: John Kraft and Christopher Wanamaker
Review No: 2nd Submittal Review

Sheet #	Comment #	Response
Page 1	1	Comment was addressed in 1st Revision. See Page 1 which states: "These improvements include warrant studies and installation of new traffic signals, turn lanes and other off site paving improvements. "
Page 3	2	Before "Evaluate" added "During Phase II, developer to"
Page 4	3	Before "Evaluate" added "During Phase III, developer to"
Page 4	4	Added bullet under phase III" Developer to construct dual left turn lanes when warranted."
Figure 3 Site Plan	5	Comment was addressed in 1st Revision. Table 1 on page 8 was added to show parcel and access point by phase. Table was added to site plan as well.
Page 37	6	Reworded to read: The developer will complete traffic signal warrant analyses once actual development is realized to confirm traffic signal needs at the study intersections. The developer will commit to performing the signal warrant analyses using actual traffic counts prior to completion of the phase of development at the time it is expected traffic is estimated to meet the warrants as presented in the recommendations of this report.
		The developer is responsible for the completion of the signal design plans when the signal warrants are met.
	7	Comment was addressed in 1st Revision on page 43 and reads: To ensure proper sight distance triangles are provided, design plans for landscape and hardscape shall include sight triangle provisions where needed prior to construction. Plans should not be approved that are exempt from these requirements.

	8	Please address the comment: "Report should require signal be installed by developer prior to LOS degrading below a LOS C" –
		<i>Response:</i> Signals are installed based on signal warrants within the MUTCD not based on LOS. LOS for two way stop conditions is reports the approach LOS for the stopped leg, only. The unsignalized legs of the intersection perform at LOS A because there is no delay. Added sentence in 1 st review that addresses comment and states "Signalization of the intersections shown should be installed once warrants are met to reduce the likelihood of unacceptable LOS at the intersection."
	9	Please provide wording to avoid having LOS performance be maintained at an acceptable LOS C or better.
		<i>Response:</i> The wording is modified to strive to provide LOS C or better except where background traffic shows unacceptable LOS, then LOS is comparable or improved depending upon roadway improvement implemented.
Page 41, 42 and 43	10,11, and 12	In the background, the intersection of SR347/Papago Road will operate at an LOS F. Adding Midway through traffic does not degrade the intersection to a lower LOS. See the Pinal County Guidelines section 5.14 b. When other arterial roadways are constructed in the vicinity over the next 10 years, the traffic will reroute to the other roadways, such as the planned Val Vista Parkway.
Page 43	13	Comment was addressed in 1st Revision on Page 46
Page 45	14	Comment was addressed in 1st Revision on Page 55 that added " When warranted, install the traffic signals" Reworded Evaluate to "prepare signal warrant study" for clarification.

Page 55	15	<p>Reworded: "A traffic signal warrant study will be completed by the developer to confirm volume estimates for the future traffic signal meet the warrants using actual traffic counts. When warranted using actual traffic data, the traffic signals will be installed at the designated intersections. The warrant studies will be completed by the developer to determine when the signals are required. Signalization of the intersections should be constructed once warrants are met to reduce the likelihood on unacceptable LOS at the intersections."</p> <p><i>Response:</i> <i>Signals are installed based on signal warrants within the MUTCD not based on LOS. LOS for two way stop conditions is reports the approach LOS for the stopped leg, only. The unsignalized legs of the intersection perform at LOS A because there is no delay. Added sentence in 1st review that addresses comment and states "Signalization of the intersections shown should be installed once warrants are met to reduce the likelihood of unacceptable LOS at the intersection."</i></p>
Page 55	16	<p>Comment was addressed in 1st Revision Added a sentence "The sight triangles shall be incorporated into landscape and design plans"</p>
Page 56	17	<p>Prior to Phase I, Added: "Based on this TIA, the following roadway and intersection improvements are proposed to be constructed by the developer."</p>
General	18	<p>Yes, ADOT has reviewed this TIA and provided comments. See comments and responses.</p>
General	19	<p>Comment was addressed in the 1st Revision</p> <p>Added the following major intersections within 3 miles of the site to the: SR347/Papago Road Amarillo Valley Road/Papago Road Amarillo Valley Road/Val Vista Road Amarillo Valley Road/Miller Road</p> <p>All state highways, signalized intersections and major unsignalized street intersections are included in this TIA per the guidelines and procedures.</p>

General	20	<p>Comment was addressed in the 1st Revision</p> <p>Added the following concluding sentences to the report “This report concludes that when constructed, the offsite improvements recommended above will assist in maintaining an acceptable LOS C or better. However, it should be noted that many assumptions were made within this report to forecast traffic volumes and distributions in the future traffic projections. As this area grows, and new development is proposed, traffic may redistribute from what was originally proposed which affects LOS.”</p> <p>As for 2. Response: See County Guidelines Section 5.14 b. which states: Where the highway will operate below a level of service C in the horizon year(s) without the development, the traffic impact of the development <u>shall</u> be mitigated to provide the same level of service (i.e., based on the delay time not merely the resulting LOS) at the horizon year(s).</p> <p>Therefore, 2 per the comment cannot be stated because of the use “existing”. The horizon years for background and total traffic should be compared (which they are), not the existing to the total.</p>
General	21	See appendix G for all comments as provided in 1st Revision
Page 7	22	Added “and connect Access B to Access D”
Page 7	23	<p>Added: The western portion of the A-C Collector Road to the center of the development will be constructed in Phase I. The remaining portion of A-C Collector Road will be constructed in Phase II. The two north-south collector roads that connect A-C Collector Road to Miller Road will be constructed through phases II through IV, beginning on in the north as the land develops.</p> <p><i>Response:</i> Added colors to phasing on Figure 3 to ease review of construction through each phase of development.</p>
Page 8	24	Emergency secondary access provides the first and second phases of development with a second way out of the development in case of emergency only. Also, this access will allow emergency access into the development if required, or if Access A/SR347 is blocked.

Page 8	25	Added: "Collector Road from Access A to Access C" <i>Response: Emergency access must still be provided to allow for two accesses into and out of the development per fire review and comment. Therefore, the access will remain until Phase 3 where it can and should be deleted.</i>
Page 8	26	Added: "Collector Road from Access B to Access D" for Phase III
Page 8	27	Added "Collector F-C from Phase 3 boundary to Miller Road" for Phase III
Page 21	28	Added: Section E which provides queue calculations for the elementary school. Added to conclusions also.
Page 21	29	<i>Response: The development is a mile by a mile. Therefore, it is reasonable to assume that 50% of the public school's students will come from within the neighborhood. In fact, this is conservative because elementary schools are included within most developments surrounding Midway (for example Amarillo Creek, Hidden Valley, Palomino and Tresana).</i> <i>Interaction between the shopping and the residences at 15% is also reasonable due to the size of the development. According to the ITE Trip Generation Handbook 3rd Edition, residential trips to retail are 42% in the evening peak hour and destinations from retail to residential are 17% in the morning peak hour. Therefore, 15% is reasonable and in accordance with ITE procedures.</i>

Page 22	30	<p>Response: The development is a mile by a mile. Therefore, it is reasonable to assume that 50% of the public school's students will come from within the neighborhood. In fact, this is conservative because elementary schools are included within most developments surrounding Midway (for example Amarillo Creek, Hidden Valley, Palomino and Tresana)</p> <p>Interaction between the shopping and the residences at 15% is also reasonable due to the size of the development. According to the ITE Trip Generation Handbook 3rd Edition, residential trips to retail are 42% in the evening peak hour and destinations from retail to residential are 17% in the morning peak hour. Therefore, 15% is reasonable and in accordance with ITE procedures.</p> <p>Response: No pass by trips were accounted for in this analysis for the shopping/retail, even though the retail development is along SR347 and pass by will occur. Therefore, these estimates are conservative when performing LOS analyses.</p>
Page 33	31	<p>Response: At the intersection of SR347/Papago Road, NB and EB dual lefts are provided in the analyses for years 2035 and 2040 for the background and total year conditions with the intersection designed to its ultimate configuration per ADOT see analyses in Appendix B. As Val Vista Road and other arterials are constructed, traffic from Papago Road/SR347 intersection will redistribute.</p>
Page 42	32	<p>Response: The developer is responsible for their proportionate share of signal costs at 25% for SR347/Miller Rd and 50% for SR347/Access A & Access B. As development occurs around SR347/Miller Road the three other quadrants are responsible for their share. As land develops on the east side of SR347 and accesses align with A and B, the developer is responsible for their 50% share of each of the signal costs.</p>

Project: Midway Development by SR347 at Miller Road TIA (PZ PD 006 21))
Agency: Pinal County
Review Date: 2/11/2022
Reviewer: John Kraft and Christopher Wanamaker
Review No: 3rd Submittal Review

Sheet #	Comment #	Response
Page 4	4	<i>Reworded to state that dual left turn lanes may be required on SR347 at the site accesses and that left turn warrants should be prepared to determine when they should be installed by Phase III-2027.</i>
	8	<i>Per ADOT and County TIA Guidelines, where intersections will operate below arterial LOS C in horizon years without the development, traffic impact of the development shall be mitigated to provide the same LOS at the horizon years. SR347 is modeled as two lanes in each direction. As additional arterials and parkways are constructed and commercial development supports the residential communities within the vicinity of Midway, traffic will disperse to other intersections and traffic patterns will change.</i>
General	18	Yes, ADOT has reviewed this TIA and provided comments. The development team has met with James Gomes. See comments and responses.
General	19	<p>Comment was addressed in the 1st Revision and 2nd Revision</p> <p>Added the following major intersections within 3 miles of the site to the TIA. SR347/Papago Road Amarillo Valley Road/Papago Road Amarillo Valley Road/Val Vista Road Amarillo Valley Road/Miller Road</p> <p>All state highways, signalized intersections and major unsignalized street intersections are included in this TIA per the guidelines and procedures.</p> <p>No other highways, signalized intersections or major unsignalized intersections are required based on these guidelines.</p>
General	21	Added ADTs to the Existing, Background and Total Traffic Conditions
General	22	Modified Vistro to include a PHF of 0.9
General	23	Agree, signing and striping plans will be coordinated with recommendations from the TIA

TITLE REFERENCE

THIS SURVEY IS BASED UPON THE TITLE COMMITMENT PREPARED BY FIDELITY NATIONAL TITLE INSURANCE COMPANY TITLE NO. AZ-FMPC-IMP-N/A-1-20-55002510, DATED JULY 09, 2020.

HILGARTWILSON, LLC HAS RELIED SOLELY UPON THE INFORMATION CONTAINED WITHIN THE TITLE COMMITMENT AND SCHEDULE B DOCUMENTS PROVIDED BY FIDELITY NATIONAL TITLE INSURANCE COMPANY AS LISTED HEREON. HILGARTWILSON, LLC AND JOHN W. MARSHALL (RLS) MAKE NO STATEMENT AS TO THE ACCURACY OR COMPLETENESS OF THE SUBJECT REPORT.

TITLE COMMITMENT LEGAL DESCRIPTION

THE LAND REFERRED TO HEREIN BELOW IS SITUATED IN THE COUNTY OF MARICOPA, STATE OF ARIZONA, AND IS DESCRIBED AS FOLLOWS:

PARCEL NO. 1: APN: 510-48-027C

A PORTION OF THE NORTHWEST QUARTER OF SECTION 33, TOWNSHIP 5 SOUTH, RANGE 3 EAST OF THE GILA AND SALT RIVER BASE AND MERIDIAN, PINAL COUNTY, ARIZONA, MORE PARTICULARLY DESCRIBED AS FOLLOWS: BEGINNING AT THE NORTHWEST CORNER OF SAID SECTION 33; THENCE NORTH 82 DEGREES 05 MINUTES 44 SECONDS EAST, ALONG THE NORTH LINE OF SAID SECTION 33, A DISTANCE OF 2737.68 FEET; THENCE SOUTH 01 DEGREES 18 MINUTES 17 SECONDS WEST, A DISTANCE OF 1186.81 FEET; THENCE SOUTH 89 DEGREES 41 MINUTES 03 SECONDS WEST, A DISTANCE OF 2693.07 FEET TO A POINT ON THE WEST LINE OF THE NORTHWEST QUARTER OF SAID SECTION 33; THENCE NORTH 00 DEGREES 34 MINUTES 56 SECONDS EAST, ALONG SAID WEST LINE, A DISTANCE OF 824.90 FEET TO THE POINT OF BEGINNING.

PARCEL NO. 2: APN: 510-48-027E

THE WEST HALF OF SECTION 33, TOWNSHIP 5 SOUTH, RANGE 3 EAST OF THE GILA AND SALT RIVER BASE AND MERIDIAN, PINAL COUNTY, ARIZONA; EXCEPT THE FOLLOWING DESCRIBED PROPERTY: A PORTION OF THE NORTHWEST QUARTER OF SECTION 33, TOWNSHIP 5 SOUTH, RANGE 3 EAST OF THE GILA AND SALT RIVER BASE AND MERIDIAN, PINAL COUNTY, ARIZONA, MORE PARTICULARLY DESCRIBED AS FOLLOWS: BEGINNING AT THE NORTHWEST CORNER OF SAID SECTION 33; THENCE NORTH 82 DEGREES 05 MINUTES 44 SECONDS EAST, ALONG THE NORTH LINE OF SAID SECTION 33, A DISTANCE OF 2737.68 FEET; THENCE SOUTH 01 DEGREES 18 MINUTES 17 SECONDS WEST, A DISTANCE OF 1186.81 FEET; THENCE SOUTH 89 DEGREES 41 MINUTES 03 SECONDS WEST, A DISTANCE OF 2693.07 FEET TO A POINT ON THE WEST LINE OF THE NORTHWEST QUARTER OF SAID SECTION 33; THENCE NORTH 00 DEGREES 34 MINUTES 56 SECONDS EAST, ALONG SAID WEST LINE, A DISTANCE OF 824.90 FEET TO THE POINT OF BEGINNING; AND EXCEPT THE SOUTH 2472.00 FEET AS MEASURED ALONG THE EAST LINE OF THE WEST HALF OF SECTION 33, TOWNSHIP 5 SOUTH, RANGE 3 EAST OF THE GILA AND SALT RIVER BASE AND MERIDIAN, PINAL COUNTY, ARIZONA.

PARCEL NO. 3: APN: 510-48-027D

THE NORTH 1315.00 FEET OF THE SOUTH 2472.00 FEET AS MEASURED ALONG THE EAST LINE, THEREOF, OF THE WEST HALF OF SECTION 33, TOWNSHIP 5 SOUTH, RANGE 3 EAST OF THE GILA AND SALT RIVER BASE AND MERIDIAN, PINAL COUNTY, ARIZONA.

PARCEL NO. 4: APN: 510-48-027B

THE SOUTH 1157.00 FEET AS MEASURED ALONG THE EAST LINE OF THE WEST HALF OF SECTION 33, TOWNSHIP 5 SOUTH, RANGE 3 EAST OF THE GILA AND SALT RIVER BASE AND MERIDIAN, PINAL COUNTY, ARIZONA.

PARCEL NO. 5: APN: 510-48-028

THE EAST HALF OF SECTION 33, TOWNSHIP 5 SOUTH, RANGE 3 EAST OF THE GILA AND SALT RIVER BASE AND MERIDIAN, PINAL COUNTY, ARIZONA; EXCEPT THAT PART LYING EAST OF THE EASTERLY HIGHWAY RIGHT-OF-WAY LINE, AS SAID RIGHT-OF-WAY WAS GRANTED TO PINAL COUNTY, ARIZONA, BY EASEMENT RECORDED DECEMBER 13, 1950 IN DOCKET 35, PAGE 595; AND EXCEPT THAT PORTION OF THE SOUTHEAST QUARTER OF THE SOUTHEAST QUARTER OF SAID SECTION 33, DESCRIBED AS FOLLOWS: BEGINNING AT THE INTERSECTION OF THE NORTH LINE OF THE COUNTY HIGHWAY RIGHT-OF-WAY ALONG THE SOUTH LINE OF SAID SECTION 33, WITH THE WESTERLY LINE OF THE RIGHT-OF-WAY GRANTED TO PINAL COUNTY, ARIZONA, BY EASEMENT RECORDED DECEMBER 13, 1950 IN DOCKET 35, PAGE 595; THENCE WEST 210 FEET ALONG THE NORTH LINE OF THE COUNTY HIGHWAY RIGHT-OF-WAY; THENCE NORTH 420 FEET; THENCE EAST AND PARALLEL WITH THE SOUTH LINE OF SAID SECTION 33 TO THE WESTERLY LINE OF THE RIGHT-OF-WAY GRANTED TO PINAL COUNTY, ARIZONA, BY EASEMENT RECORDED DECEMBER 13, 1950 IN DOCKET 35, PAGE 595; THENCE SOUTHERLY ALONG SAID WESTERLY RIGHT-OF-WAY LINE TO THE POINT OF BEGINNING; AND EXCEPT ANY PORTION DEEDED TO PINAL COUNTY IN DOCKET 1767, PAGE 982, DESCRIBED AS FOLLOWS: BEGINNING AT THE NORTHEAST CORNER OF SAID SECTION 33; THENCE SOUTH 01 DEGREES 52 MINUTES 51 SECONDS WEST ALONG THE EAST LINE OF SECTION 33, A DISTANCE OF 3073.96 FEET TO THE EAST QUARTER CORNER OF SAID SECTION 33; THENCE SOUTH 01 DEGREES 53 MINUTES 27 SECONDS WEST ALONG THE EAST LINE OF SAID SECTION 33, A DISTANCE OF 1861.99 FEET; THENCE ALONG THE ARC OF A CURVE TO THE RIGHT HAVING A RADIUS OF 1432.40 FEET, A DISTANCE OF 520.84 FEET; THENCE SOUTH 22 DEGREES 43 MINUTES 27 SECONDS WEST, A DISTANCE OF 207.02 FEET; THENCE FROM A LOCAL TANGENT BEARING OF SOUTH 22 DEGREES 45 MINUTES 18 SECONDS WEST ALONG THE ARC OF A CURVE TO THE LEFT HAVING A RADIUS OF 1432.40 FEET, A DISTANCE OF 60.19 FEET; THENCE SOUTH 89 DEGREES 53 MINUTES 30 SECONDS WEST, A DISTANCE OF 82.34 FEET; THENCE FROM A LOCAL TANGENT BEARING OF NORTH 07 DEGREES 46 MINUTES 22 SECONDS EAST ALONG THE ARC OF A CURVE TO THE RIGHT HAVING A RADIUS OF 11,599.16 FEET, A DISTANCE OF 258.47 FEET; THENCE NORTH 09 DEGREES 02 MINUTES 59 SECONDS EAST, A DISTANCE OF 377.30 FEET; THENCE SOUTH 80 DEGREES 57 MINUTES 01 SECONDS EAST, A DISTANCE OF 10.00 FEET; THENCE FROM A LOCAL TANGENT BEARING OF NORTH 09 DEGREES 02 MINUTES 59 SECONDS EAST ALONG THE ARC OF A CURVE TO THE LEFT HAVING A RADIUS OF 11,329.16 FEET, A DISTANCE OF 1416.48 FEET; THENCE NORTH 01 DEGREES 53 MINUTES 09 SECONDS EAST, A DISTANCE OF 3339.67 FEET; THENCE ALONG THE ARC OF A CURVE TO THE LEFT HAVING A RADIUS OF 22,788.31 FEET, A DISTANCE OF 299.44 FEET TO A POINT ON THE NORTH LINE OF SAID SECTION 33; THENCE NORTH 82 DEGREES 10 MINUTES 26 SECONDS EAST, A DISTANCE OF 98.38 FEET TO THE POINT OF BEGINNING; AND EXCEPT ANY PORTION AS DEEDED TO PINAL COUNTY IN DOCKET 1767, PAGE 983, DESCRIBED AS FOLLOWS: BEGINNING AT THE SOUTHEAST CORNER OF SAID SECTION 33; THENCE SOUTH 89 DEGREES 36 MINUTES 53 SECONDS WEST ALONG THE SOUTH LINE OF SECTION 33, A DISTANCE OF 186.34 FEET TO THE TRUE POINT OF BEGINNING; THENCE CONTINUING ALONG THE SOUTH LINE OF SAID SECTION 33, SOUTH 89 DEGREES 36 MINUTES 53 SECONDS WEST, A DISTANCE OF 76.84 FEET TO THE NORTHWEST SECTION CORNER OF SECTION 4, TOWNSHIP 6 SOUTH, RANGE 3 EAST; THENCE SOUTH 89 DEGREES 53 MINUTES 30 SECONDS WEST ALONG THE SOUTH LINE OF SAID SECTION 33, A DISTANCE OF 73.24 FEET; THENCE FROM A LOCAL TANGENT BEARING OF NORTH 01 DEGREES 26 MINUTES 07 SECONDS EAST ALONG THE ARC OF A CURVE TO THE RIGHT HAVING A RADIUS OF 1507.40 FEET, A DISTANCE OF 469.69 FEET; THENCE NORTH 89 DEGREES 53 MINUTES 30 SECONDS EAST; A DISTANCE OF 79.77 FEET; THENCE FROM A LOCAL TANGENT BEARING OF NORTH 20 DEGREES 20 MINUTES 51 SECONDS EAST ALONG THE ARC OF A CURVE TO THE RIGHT HAVING A RADIUS OF 1432.40 FEET, A DISTANCE OF 60.19 FEET;

A.L.T.A./N.S.P.S. LAND TITLE SURVEY OF

A PORTION OF SECTION 33, TOWNSHIP 5 SOUTH, RANGE 3 EAST OF THE GILA AND SALT RIVER MERIDIAN, PINAL COUNTY, ARIZONA

TITLE COMMITMENT LEGAL DESCRIPTION (CONTINUED)

THENCE NORTH 22 DEGREES 43 MINUTES 27 SECONDS EAST, A DISTANCE OF 207.02 FEET; THENCE ALONG THE ARC OF A CURVE TO THE LEFT HAVING A RADIUS OF 1432.40 FEET, A DISTANCE OF 520.84 FEET; THENCE SOUTH 01 DEGREES 53 MINUTES 27 SECONDS WEST ALONG THE EAST LINE OF SAID SECTION 33, A DISTANCE OF 469.56 FEET; THENCE FROM A LOCAL TANGENT BEARING OF SOUTH 20 DEGREES 02 MINUTES 27 SECONDS WEST ALONG THE ARC OF A CURVE TO THE RIGHT HAVING A RADIUS OF 1507.40 FEET, A DISTANCE OF 70.60 FEET; THENCE SOUTH 22 DEGREES 43 MINUTES 27 SECONDS WEST, A DISTANCE OF 207.06 FEET; THENCE FROM A LOCAL TANGENT BEARING OF SOUTH 22 DEGREES 45 MINUTES 18 SECONDS WEST ALONG THE ARC OF A CURVE TO THE LEFT HAVING A RADIUS OF 1357.40 FEET, A DISTANCE OF 500.68 FEET TO THE TRUE POINT OF BEGINNING.

PARCEL NO. 6: APN 510-56-001 AND 510-56-002 (EXCLUDED FROM SUBJECT PROPERTY)

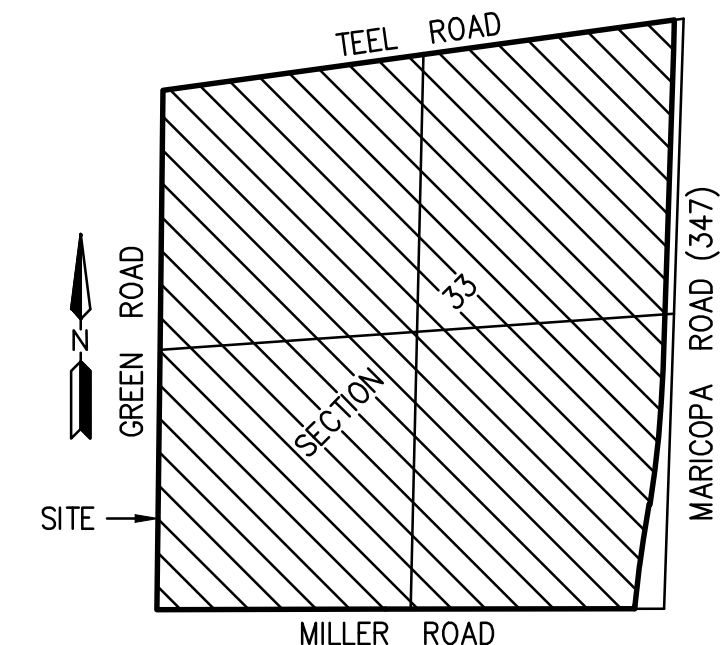
THAT PART OF THE SOUTHEAST QUARTER OF THE SOUTHEAST QUARTER OF SECTION 33, TOWNSHIP 5 SOUTH, RANGE 3 EAST OF THE GILA AND SALT RIVER BASE AND MERIDIAN, FINAL COUNTY, ARIZONA, MORE PARTICULARLY DESCRIBED AS FOLLOWS: BEGINNING AT THE INTERSECTION OF THE NORTH LINE OF THE RIGHT OF WAY FOR THE COUNTY HIGHWAY ALONG THE SOUTH LINE OF SAID SECTION 33 AND THE WESTERLY LINE OF THE RIGHT OF WAY GRANTED TO PINAL COUNTY, ARIZONA, BY EASEMENT RECORDED DECEMBER 13, 1950, IN DOCKET 35, PAGE 595, RECORDS OF PINAL COUNTY, ARIZONA; THENCE WEST 210 FEET ALONG THE NORTH LINE OF SAID COUNTY HIGHWAY RIGHT OF WAY; THENCE NORTH 420 FEET; THENCE EAST PARALLEL WITH THE SOUTH LINE OF SAID SECTION 33 TO THE WESTERLY LINE OF THE RIGHT OF WAY GRANTED TO PINAL COUNTY, ARIZONA, BY EASEMENT RECORDED DECEMBER 13, 1950, IN DOCKET 35, PAGE 595; THENCE SOUTHERLY ALONG SAID WESTERLY RIGHT OF WAY LINE TO THE POINT OF BEGINNING; EXCEPT THAT PORTION CONVEYED TO PINAL COUNTY BY MESNE DEEDS OF RECORD THE LAST OF WHICH RECORDED APRIL 22, 1996 IN DOCKET 1771, PAGE 97 DESCRIBED AS FOLLOWS: THAT PORTION OF THE SOUTHEAST QUARTER OF SECTION 33, TOWNSHIP 5 SOUTH, RANGE 3 EAST OF THE GILA AND SALT RIVER MERIDIAN, PINAL COUNTY, ARIZONA DESCRIBED AS FOLLOWS: BEGINNING AT THE SOUTHEAST CORNER OF SAID SECTION 33; THENCE SOUTH 89 DEGREES 36 MINUTES 53 SECONDS WEST, ALONG THE SOUTH LINE OF SECTION 33, A DISTANCE OF 261.38 FEET; THENCE FROM A LOCAL TANGENT BEARING OF NORTH 01 DEGREES 30 MINUTES 59 SECONDS EAST ALONG THE ARC OF A CURVE TO THE RIGHT HAVING A RADIUS OF 1432.40 FEET, A DISTANCE OF 40.03 FEET; THENCE CONTINUING ALONG THE ARC OF SAID 1432.40 FEET RADIUS CURVE TO THE RIGHT A DISTANCE OF 211.98 FEET TO THE TRUE POINT OF BEGINNING; THENCE SOUTH 89 DEGREES 53 MINUTES 30 SECONDS WEST, A DISTANCE OF 48.93 FEET; THENCE FROM A LOCAL TANGENT BEARING OF NORTH 06 DEGREES 43 MINUTES 37 SECONDS EAST ALONG THE ARC OF A CURVE TO THE RIGHT HAVING A RADIUS OF 13,599.16 FEET A DISTANCE OF 199.35 FEET; THENCE CONTINUING ALONG THE ARC OF SAID 11,599.16 FEET RADIUS CURVE TO THE LEFT A DISTANCE OF 12.40 FEET; THENCE NORTH 89 DEGREES 53 MINUTES 30 SECONDS EAST, A DISTANCE OF 82.34 FEET; THENCE FROM A LOCAL TANGENT BEARING OF SOUTH 20 DEGREES 20 MINUTES 51 SECONDS WEST ALONG THE ARC OF A CURVE TO THE LEFT HAVING A RADIUS OF 1432.40 A DISTANCE OF 218.76 FEET TO THE TRUE POINT OF BEGINNING; AND EXCEPT THAT PORTION CONVEYED TO PINAL COUNTY BY MESNE DEEDS OF RECORD THE LAST OF WHICH RECORDED APRIL 22, 1996 IN RECORDING NO. 1996-013983, DESCRIBED AS FOLLOWS: BEGINNING AT THE SOUTHEAST CORNER OF SAID SECTION 33; THENCE SOUTH 89 DEGREES 36 MINUTES 53 SECONDS WEST ALONG THE SOUTH LINE OF SECTION 33, A DISTANCE OF 261.38 FEET TO THE TRUE POINT OF BEGINNING; THENCE CONTINUING SOUTH 89 DEGREES 36 MINUTES 53 SECONDS WEST, A DISTANCE OF 1.79 FEET; THENCE SOUTH 89 DEGREES 53 MINUTES 30 SECONDS WEST ALONG THE SOUTH LINE OF SECTION 33, A DISTANCE OF 45.14 FEET; THENCE FROM A LOCAL TANGENT BEARING OF NORTH 05 DEGREES 29 MINUTES 05 SECONDS EAST ALONG THE ARC OF A CURVE TO THE RIGHT HAVING A RADIUS OF 11,599.16 FEET A DISTANCE OF 40.20 FEET; THENCE CONTINUING ALONG THE ARC OF SAID 11,599.16 FEET RADIUS CURVE TO THE RIGHT A DISTANCE OF 211.28 FEET; THENCE NORTH 89 DEGREES 53 MINUTES 30 SECONDS EAST, A DISTANCE OF 48.93 FEET; THENCE FROM A LOCAL TANGENT BEARING OF SOUTH 11 DEGREES 34 MINUTES 49 SECONDS WEST ALONG THE ARC OF A CURVE TO THE LEFT HAVING A RADIUS OF 1432.40 FEET, A DISTANCE OF 211.99 FEET; THENCE CONTINUING ALONG THE ARC OF SAID 1432.40 FEET RADIUS CURVE TO THE LEFT A DISTANCE OF 40.03 FEET TO THE TRUE POINT OF BEGINNING.

SURVEYOR'S LEGAL DESCRIPTION

ALL OF SECTION 33, TOWNSHIP 5 SOUTH, RANGE 3 EAST OF THE GILA AND SALT RIVER BASE AND MERIDIAN, PINAL COUNTY, ARIZONA; EXCEPT THAT PART LYING EAST OF THE WESTERLY HIGHWAY RIGHT-OF-WAY LINE, AS SAID RIGHT-OF-WAY WAS GRANTED TO PINAL COUNTY, ARIZONA, BY EASEMENT RECORDED DECEMBER 13, 1950 IN DOCKET 35, PAGE 595; AND EXCEPT ANY PORTION DEEDED TO PINAL COUNTY IN DOCKET 1767, PAGE 982, AND EXCEPT ANY PORTION AS DEEDED TO PINAL COUNTY IN DOCKET 1767, PAGE 983, AND EXCEPT THAT PORTION CONVEYED TO PINAL COUNTY BY MESNE DEEDS OF RECORD THE LAST OF WHICH RECORDED APRIL 22, 1996 IN DOCKET 1771, PAGE 97, AND EXCEPT THAT PORTION CONVEYED TO PINAL COUNTY BY MESNE DEEDS OF RECORD THE LAST OF WHICH RECORDED APRIL 22, 1996 IN RECORDING NO. 1996-013983, AND EXCEPT THAT PART OF THE SOUTHEAST QUARTER OF THE SOUTHEAST QUARTER OF SECTION 33, TOWNSHIP 5 SOUTH, RANGE 3 EAST OF THE GILA AND SALT RIVER BASE AND MERIDIAN, PINAL COUNTY, ARIZONA, MORE PARTICULARLY DESCRIBED AS FOLLOWS: BEGINNING AT THE INTERSECTION OF THE NORTH LINE OF THE RIGHT OF WAY FOR THE COUNTY HIGHWAY ALONG THE SOUTH LINE OF SAID SECTION 33 AND THE WESTERLY LINE OF THE RIGHT OF WAY GRANTED TO PINAL COUNTY, ARIZONA, BY EASEMENT RECORDED DECEMBER 13, 1950, IN DOCKET 35, PAGE 595, RECORDS OF PINAL COUNTY, ARIZONA; THENCE WEST 210 FEET ALONG THE NORTH LINE OF SAID COUNTY HIGHWAY RIGHT OF WAY; THENCE NORTH 420 FEET; THENCE EAST PARALLEL WITH THE SOUTH LINE OF SAID SECTION 33 TO THE WESTERLY LINE OF THE RIGHT OF WAY GRANTED TO PINAL COUNTY, ARIZONA, BY EASEMENT RECORDED DECEMBER 13, 1950, IN DOCKET 35, PAGE 595; THENCE SOUTHERLY ALONG SAID WESTERLY RIGHT OF WAY LINE TO THE POINT OF BEGINNING;

FLOOD ZONE DESIGNATION

THE SUBJECT PROPERTY LIES WITHIN UNSHADED ZONE "X" WITH A DEFINITION OF: AREAS OUTSIDE THE 0.2-PERCENT-ANNUAL-CHANCE FLOODPLAIN. NO BFES OR DEPTHS ARE SHOWN IN THIS ZONE, AND INSURANCE PURCHASE IS NOT REQUIRED. DESIGNATION DETERMINED BY FEMA FLOOD ZONE MAP 04021C1125E, PANEL NUMBER 1125 OF 2575, EFFECTIVE DATE DECEMBER 4, 2007.



VICINITY MAP NOT TO SCALE

OWNER/CLIENT

TRES POINTS, LLC 1121 WEST WARNER ROAD, SUITE 109 TEMPE, ARIZONA 85284 CONTACT: SETH KEELER

SURVEYOR

HILGARTWILSON, LLC 2141 E. HIGHLAND AVE., STE. 250 PHOENIX, ARIZONA 85016 PHONE: (602) 490-0535 CONTACT: JOHN W. MARSHALL, RLS

BASIS OF BEARING

BASIS OF BEARING IS N01°54'06"E ALONG THE EAST LINE OF THE SOUTHEAST QUARTER OF SECTION 33, TOWNSHIP 5 SOUTH, RANGE 3 EAST OF THE GILA AND SALT RIVER MERIDIAN, PINAL COUNTY, ARIZONA, BETWEEN THE MONUMENTS AS SHOWN HEREON.

REFERENCE DOCUMENTS

- 1. RESULTS OF SURVEY PER BOOK 1 PAGE 171, OR FEE NO. 1986-032729, P.C.R.
2. A.L.T.A. SURVEY PER CABINET 21, SLIDE 067 OR FEE NO. 2007-055729, P.C.R.
3. QUITCLAIM DEED PER FEE NO. 2015-006818, P.C.R.

NOTES

- 1. AREA IS 29,987,780 SQ. FT. OR 688.4247 ACRES MORE OR LESS.
2. THIS SURVEY REFLECTS ABOVE GROUND INDICATIONS OF UTILITIES. THE SURVEYOR MAKES NO GUARANTEE THAT ALL OF THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE LOCATION INDICATED, ALTHOUGH HE DOES CERTIFY THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM THE INFORMATION PROVIDED. THE SURVEYOR HAS NOT PHYSICALLY LOCATED UNDERGROUND UTILITIES. (TABLE A, ITEM #11 & 21 IN REFERENCE TO VISIBLE SURFACE UTILITIES)
3. DECLARATION IS MADE TO THE ORIGINAL PURCHASER OF SURVEY AND ALL PARTIES LISTED IN THE SURVEYOR'S CERTIFICATION. IT IS NOT TRANSFERABLE TO ADDITIONAL INSTITUTIONS OR SUBSEQUENT OWNERS WITHOUT WRITTEN PERMISSION OF THE SURVEYOR.
4. THIS SURVEY IS VALID ONLY WHEN BEARING SEAL AND SIGNATURE OF SURVEYOR.
5. THIS SURVEY IS BASED ON FIELD WORK LAST PERFORMED BY HILGARTWILSON, LLC IN JUNE, 2020. SITE CONDITIONS THAT MAY HAVE CHANGED SUBSEQUENT TO FIELD WORK WILL NOT BE REFLECTED HEREON.
6. THE INTENT OF THIS SURVEY IS NOT TO CREATE AN ILLEGAL LAND SPLIT PER THE APPLICABLE ARIZONA LAW AND/OR STATUTES.
7. THE POTENTIAL BUYER(S) OF THIS SITE IS HEREBY ADVISED THAT THIS SITE MAY BE SUBJECT TO ARIZONA PLATTING LAWS PRIOR TO THE DEVELOPMENT OF THIS SITE.
8. SITE ADDRESS IS UNASSIGNED AT THIS TIME. (TABLE A, ITEM #2)
9. THE SUBJECT SITE HAS 0 AVAILABLE PARKING STALLS & 0 HANDICAPPED STALLS. (TABLE A, ITEM #9)
10. THIS SURVEY IS LIMITED TO SURFACE AND ABOVE SURFACE OBSERVATIONS OF EXISTING UTILITIES. NO UNDERGROUND UTILITY INFORMATION IS SHOWN HEREON. (TABLE A, ITEM #11)
11. THERE IS NO EVIDENCE OF RECENT EARTH MOVING WORK, BUILDING CONSTRUCTION OR BUILDING ADDITIONS OBSERVED IN THE PROCESS OF CONDUCTING THE FIELDWORK. (TABLE A, ITEM #16)

SURVEYOR'S CERTIFICATION

- TO:
1. FNIA-AZ CRRAR
2. FIDELITY NATIONAL TITLE INSURANCE COMPANY

THIS IS TO CERTIFY THAT THIS MAP OR PLAT AND THE SURVEY ON WHICH IT IS BASED WERE MADE IN ACCORDANCE WITH THE 2016 MINIMUM STANDARD DETAIL REQUIREMENTS FOR A.L.T.A./N.S.P.S. LAND TITLE SURVEYS, JOINTLY ESTABLISHED AND ADOPTED BY ALTA AND NSPS, AND INCLUDES ITEMS 1, 2, 3, 4, 7(G), 8, 9, 11, 16, AND 21 OF TABLE A THEREOF. THE FIELDWORK WAS COMPLETED IN JUNE, 2020.

JOHN W. MARSHALL RLS# 53151 HILGARTWILSON, LLC 2141 E. HIGHLAND AVE., STE. 250 PHOENIX, ARIZONA 85016 P: 602.490.0535 jmarshall@hilgartwilson.com



Handwritten signature of John W. Marshall.

NOTE: A.R.S. 32-151 STATES THAT THE USE OF THE WORD "CERTIFY" OR "CERTIFICATION" BY A PERSON OR FIRM THAT IS REGISTERED OR CERTIFIED BY THE BOARD IS AN EXPRESSION OF PROFESSIONAL OPINION REGARDING FACTS OR FINDINGS THAT ARE SUBJECT OF THE CERTIFICATION AND DOES NOT CONSTITUTE AN EXPRESS OR IMPLIED WARRANTY OR GUARANTEE.

MIDWAY - PHASE 1

N.W.C. OF STATE HIGHWAY 347 & MILLER ROAD PINAL COUNTY, ARIZONA

A.L.T.A./N.S.P.S. LAND TITLE SURVEY

Table with project details: PROJ NO.: 2232, DATE: AUG. 2020, SCALE: AS SHOWN, DRAWN: JDL, DESIGNED: HW, APPROVED: JMM

DWG. NO. SV-1

SHT. 1 OF 4

SCHEDULE 'B' - EXCEPTIONS

A. PROPERTY TAXES, WHICH ARE A LIEN NOT YET DUE AND PAYABLE, INCLUDING ANY ASSESSMENTS COLLECTED WITH TAXES TO BE LEVIED FOR THE YEAR 2020.
B. TAXES AND ASSESSMENTS (PLUS PENALTIES AND INTEREST, IF ANY) COLLECTIBLE BY THE COUNTY TREASURER FOR THE FOLLOWING YEAR:
YEAR: 2018
CERTIFICATE OF PURCHASE NO.: 11374
AMOUNT: \$4,320.16
AMOUNT GOOD THROUGH: OCTOBER 20, 2020
(AFFECTS PARCEL NO. 3)
C. LIABILITIES AND OBLIGATIONS IMPOSED UPON SAID LAND BY ITS INCLUSION WITHIN ANY DISTRICT FORMED PURSUANT TO TITLE 48, ARIZONA REVISED STATUTES.
D. ANY RIGHTS, LIENS, CLAIMS OR EQUITIES, IF ANY, IN FAVOR OF FOLLOWING DISTRICTS:
CENTRAL ARIZONA WATER CONSERVATION DISTRICT
PINAL COUNTY FLOOD CONTROL DISTRICT
STANFIELD FLOOD DISTRICT
MARICOPA/STANFIELD IRRIGATION AND DRAINAGE DISTRICT
E. EASEMENT(S) FOR THE PURPOSE(S) SHOWN BELOW AND RIGHTS INCIDENTAL THERETO AS SET FORTH IN A DOCUMENT:
PURPOSE: PUBLIC HIGHWAY
RECORDING DATE: MAY 26, 1950
RECORDING NO: DOCKET 27, PAGE 351
(AFFECTS PARCEL NO. 4)
(SHOWN)
F. EASEMENT(S) FOR THE PURPOSE(S) SHOWN BELOW AND RIGHTS INCIDENTAL THERETO AS SET FORTH IN A DOCUMENT:
PURPOSE: HIGHWAY PURPOSES
RECORDING DATE: MAY 26, 1950
RECORDING NO: DOCKET 27, PAGE 402
(AFFECTS PARCEL NO. 5)
(SHOWN)
G. EASEMENT(S) FOR THE PURPOSE(S) SHOWN BELOW AND RIGHTS INCIDENTAL THERETO AS SET FORTH IN A DOCUMENT:
PURPOSE: ELECTRIC LINES AND APPURTENANT FACILITIES
RECORDING DATE: JANUARY 29, 1951
RECORDING NO: DOCKET 39, PAGE 5
(AFFECTS PARCEL NO. 5)
(CENTERLINE SHOWN - NO WIDTH GIVEN)
H. MATTERS CONTAINED IN THAT CERTAIN DOCUMENT
ENTITLED: ESTABLISH ROADWAY
RECORDING DATE: FEBRUARY 21, 1964
RECORDING NO: DOCKET 375, PAGE 572
REFERENCE IS HEREBY MADE TO SAID DOCUMENT FOR FULL PARTICULARS.
(PARCEL NOS. 1, 2, 3, 4 AND 5)
(SHOWN)
I. EASEMENT(S) FOR THE PURPOSE(S) SHOWN BELOW AND RIGHTS INCIDENTAL THERETO AS SET FORTH IN A DOCUMENT:
PURPOSE: ELECTRIC LINES AND APPURTENANT FACILITIES
RECORDING DATE: OCTOBER 21, 1971
RECORDING NO: DOCKET 645, PAGE 200; AND THEREAFTER ASSIGNMENT OF ELECTRICAL UTILITY EASEMENTS
RECORDING DATE: SEPTEMBER 30, 2010
RECORDING NO: 2010-092661
(AFFECTS PARCEL NOS. 3 AND 4)
(SHOWN)
J. EASEMENT(S) FOR THE PURPOSE(S) SHOWN BELOW AND RIGHTS INCIDENTAL THERETO AS SET FORTH IN A DOCUMENT:
PURPOSE: ELECTRIC LINES AND APPURTENANT FACILITIES
RECORDING DATE: JULY 29, 1971
RECORDING NO: DOCKET 637, PAGE 286; AND THEREAFTER CORRECTION
RECORDING DATE: OCTOBER 21, 1971
RECORDING NO: DOCKET 645, PAGE 201; AND THEREAFTER ASSIGNMENT OF ELECTRICAL UTILITY EASEMENTS
RECORDING DATE: SEPTEMBER 30, 2010
RECORDING NO: 2010-092661
(AFFECTS PARCEL NO. 5)
(SHOWN)
K. EASEMENT(S) FOR THE PURPOSE(S) SHOWN BELOW AND RIGHTS INCIDENTAL THERETO AS SET FORTH IN A DOCUMENT:
PURPOSE: ELECTRIC LINES AND APPURTENANT FACILITIES
RECORDING DATE: APRIL 25, 1977
RECORDING NO: DOCKET 864, PAGE 805
(AFFECTS PARCEL NOS. 2 AND 3)
(SHOWN)
L. MATTERS CONTAINED IN THAT CERTAIN DOCUMENT
ENTITLED: MEMORANDUM OF UNDERSTANDING AND AGREEMENT
RECORDING DATE: APRIL 18, 1984
RECORDING NO: DOCKET 1219, PAGE 811
REFERENCE IS HEREBY MADE TO SAID DOCUMENT FOR FULL PARTICULARS.
(AFFECTS PARCEL NO. 4)
(NOT SHOWN - NOTHING PLOTTABLE)
M. MATTERS CONTAINED IN THAT CERTAIN DOCUMENT
ENTITLED: NOTICE OF EXERCISE OF RESERVED RIGHT-OF-WAY BY THE UNITED STATES
RECORDING DATE: SEPTEMBER 02, 1986
RECORDING NO: DOCKET 1385, PAGE 593
REFERENCE IS HEREBY MADE TO SAID DOCUMENT FOR FULL PARTICULARS.
(AFFECTS PARCEL NO. 5)
(SHOWN)
N. MATTERS CONTAINED IN THAT CERTAIN DOCUMENT
ENTITLED: NOTICE OF EXERCISE OF RESERVED RIGHT-OF-WAY TO PRIVATE INTEREST OR CORPORATION FOR OPEN CANAL
RECORDING DATE: OCTOBER 07, 1986
RECORDING NO: DOCKET 1392, PAGE 737
REFERENCE IS HEREBY MADE TO SAID DOCUMENT FOR FULL PARTICULARS.
(AFFECTS PARCEL NO. 5)
(SHOWN)
O. MATTERS CONTAINED IN THAT CERTAIN DOCUMENT
ENTITLED: AGREEMENT RELATING TO EXERCISE OF RESERVED RIGHT-OF-WAY WITH PRIVATE INTEREST OR CORPORATION FOR OPEN CANAL
RECORDING DATE: JUNE 07, 1987
RECORDING NO: DOCKET 1448, PAGE 873; AND
RECORDING DATE: AUGUST 29, 1987
RECORDING NO: DOCKET 1482, PAGE 300
REFERENCE IS HEREBY MADE TO SAID DOCUMENT FOR FULL PARTICULARS.
(AFFECTS PARCEL NO. 5)
(SHOWN)
P. MATTERS CONTAINED IN THAT CERTAIN DOCUMENT
ENTITLED: NOTICE REGARDING LANDS INCLUDED WITHIN MARICOPA-STANFIELD IRRIGATION AND DRAINAGE DISTRICT
RECORDING DATE: JUNE 06, 1989
RECORDING NO: DOCKET 1609, PAGE 685
REFERENCE IS HEREBY MADE TO SAID DOCUMENT FOR FULL PARTICULARS.
(NOT SHOWN - NOTHING PLOTTABLE)

SCHEDULE 'B' - EXCEPTIONS

Q. MATTERS CONTAINED IN THAT CERTAIN DOCUMENT
ENTITLED: AGREEMENT (IRRIGATION FACILITIES)
RECORDING DATE: SEPTEMBER 18, 1989
RECORDING NO: DOCKET 1630, PAGE 778
REFERENCE IS HEREBY MADE TO SAID DOCUMENT FOR FULL PARTICULARS.
(AFFECTS PARCEL NOS. 2, 3 AND 4)
(NOT SHOWN - AGREEMENT - NOTHING PLOTTABLE)
R. MATTERS CONTAINED IN THAT CERTAIN DOCUMENT
ENTITLED: AGREEMENT
RECORDING DATE: OCTOBER 18, 1989
RECORDING NO: DOCKET 1636, PAGE 273
REFERENCE IS HEREBY MADE TO SAID DOCUMENT FOR FULL PARTICULARS.
(AFFECTS PARCEL NO. 5)
(NOT SHOWN - AGREEMENT - NOTHING PLOTTABLE)
S. THE COMMUNITY INTEREST OF BILL JOHNSTON JR., IF MARRIED ON SEPTEMBER 4, 1990, AS DISCLOSED BY QUIT-CLAIM DEED RECORDED SEPTEMBER 11, 1990 IN DOCKET 1697, PAGE 922.
(AFFECTS PARCEL NO. 6)
(NOT SHOWN - NOTHING PLOTTABLE)
T. MATTERS CONTAINED IN THAT CERTAIN DOCUMENT
ENTITLED: AGREEMENT TO DONATE RIGHT-OF-WAY APPRAISAL/COMPENSATION WAIVER
RECORDING DATE: DECEMBER 26, 1990
RECORDING NO: DOCKET 1716, PAGE 226, AND
RE-RECORDING DATE: JANUARY 29, 1991
RE-RECORDING NO: DOCKET 1722, PAGE 566, AND
RECORDING DATE: SEPTEMBER 10, 1991
RECORDING NO: DOCKET 1771, PAGE 101
REFERENCE IS HEREBY MADE TO SAID DOCUMENT FOR FULL PARTICULARS.
(AFFECTS PARCEL NO. 6)
(SHOWN)
U. THE RIGHT PROHIBIT, LIMIT, CONTROL OR RESTRICT ACCESS TO MARICOPA ROAD, AS SET FORTH IN THE DOCUMENT (QUIT-CLAIM DEED)
RECORDING DATE: DECEMBER 26, 1990
RECORDING NO.: DOCKET 1716, PAGE 228; AND
RE-RECORDING DATE: JANUARY 29, 1991
RE-RECORDING NO: DOCKET 1722, PAGE 568, AND
RECORDING DATE: SEPTEMBER 10, 1991
RECORDING NO: DOCKET 1771, PAGE 101, AND
RECORDING DATE: APRIL 22, 1996
RECORDING NO: 1996-013983
(AFFECTS PARCEL NO. 6)
(SHOWN)
V. MATTERS CONTAINED IN THAT CERTAIN DOCUMENT
ENTITLED: AGREEMENT TO DONATE RIGHT-OF-WAY APPRAISAL/COMPENSATION WAIVER
RECORDING DATE: DECEMBER 26, 1990
RECORDING NO: DOCKET 1716, PAGE 229, AND
RE-RECORDING DATE: JANUARY 29, 1991
RE-RECORDING NO: DOCKET 1722, PAGE 570; AND
RECORDING DATE: SEPTEMBER 10, 1991
RECORDING NO: DOCKET 1771, PAGE 97
REFERENCE IS HEREBY MADE TO SAID DOCUMENT FOR FULL PARTICULARS.
(AFFECTS PARCEL NO. 6)
(SHOWN)
W. THE RIGHT PROHIBIT, LIMIT, CONTROL OR RESTRICT ACCESS TO MARICOPA ROAD, AS SET FORTH IN THE DOCUMENT (QUIT-CLAIM DEED)
RECORDING DATE: DECEMBER 26, 1990
RECORDING NO.: DOCKET 1716, PAGE 231; AND
RE-RECORDING DATE: JANUARY 29, 1991
RE-RECORDING NO: DOCKET 1722, PAGE 572; AND
RECORDING DATE: SEPTEMBER 10, 1991
RECORDING NO: DOCKET 1771, PAGE 97
(AFFECTS PARCEL NO. 6)
(SHOWN)
X. THE RIGHT PROHIBIT, LIMIT, CONTROL OR RESTRICT ACCESS TO MARICOPA ROAD, AS SET FORTH IN THE DOCUMENT (QUIT-CLAIM DEEDS)
RECORDING DATE: AUGUST 22, 1991
RECORDING NO: DOCKET 1767, PAGE 982; AND
RECORDING NO: DOCKET 1767, PAGE 983
(AFFECTS PARCEL NO. 5)
(SHOWN)
Y. MATTERS CONTAINED IN THAT CERTAIN DOCUMENT
ENTITLED: NOTICE OF EXERCISE OF EASEMENT AND GRANT OF USE OF PIPELINE FACILITIES
RECORDING DATE: JULY 20, 1994
RECORDING NO: DOCKET 2028, PAGE 164
REFERENCE IS HEREBY MADE TO SAID DOCUMENT FOR FULL PARTICULARS.
(AFFECTS PARCEL NOS. 2, 3 AND 4)
(NOT SHOWN - SOUTH OF PROPERTY)
Z. MATTERS CONTAINED IN THAT CERTAIN DOCUMENT
ENTITLED: PINAL COUNTY RESOLUTION NO. 110100-MI FOR THE DEVELOPMENT OF MIDWAY I
RECORDING DATE: NOVEMBER 03, 2000
RECORDING NO: 2000-045966
REFERENCE IS HEREBY MADE TO SAID DOCUMENT FOR FULL PARTICULARS.
(NOT SHOWN - AGREEMENT - NOTHING PLOTTABLE)
AA. MATTERS CONTAINED IN THAT CERTAIN DOCUMENT
ENTITLED: RESOLUTION OF DISPOSAL
RECORDING DATE: JUNE 29, 2004
RECORDING NO: 2004-048761
REFERENCE IS HEREBY MADE TO SAID DOCUMENT FOR FULL PARTICULARS.
(AFFECTS PARCEL NO. 6)
(NOT SHOWN - NOTHING PLOTTABLE)
BB. MATTERS SHOWN ON RECORD OF SURVEY:
RECORDING NO.: BOOK 21 OF SURVEYS, PAGE 67
(AFFECTS PARCEL NOS. 1, 2, 3 AND 4)
(NOT SHOWN - NOTHING PLOTTABLE)
CC. AN UNRECORDED LEASE WITH CERTAIN TERMS, COVENANTS, CONDITIONS AND PROVISIONS SET FORTH THEREIN AS DISCLOSED BY THE DOCUMENT
ENTITLED: SUBORDINATION AGREEMENT
LESSOR: ARROYO PACIFIC INVESTMENTS, INC., AN ARIZONA CORPORATION
LESSEE: ABCDW.L.L.C., AN ARIZONA LIMITED LIABILITY COMPANY
SUB-LESSEE: TEMPE FARMING CO., AN ARIZONA GENERAL PARTNERSHIP
RECORDING DATE: MARCH 27, 2009
RECORDING NO: 2009-030729
(AFFECTS PARCEL NO. 4)
(NOT SHOWN - NOTHING PLOTTABLE)
DD. MATTERS CONTAINED IN THAT CERTAIN DOCUMENT
ENTITLED: AFFIDAVIT OF DISCLOSURE
RECORDING DATE: FEBRUARY 28, 2012
RECORDING NO: 2012-015871
REFERENCE IS HEREBY MADE TO SAID DOCUMENT FOR FULL PARTICULARS.
(AFFECTS PARCEL NO. 1)
(NOT SHOWN - NOTHING PLOTTABLE)

SCHEDULE 'B' - EXCEPTIONS

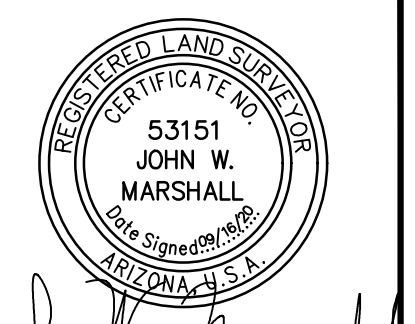
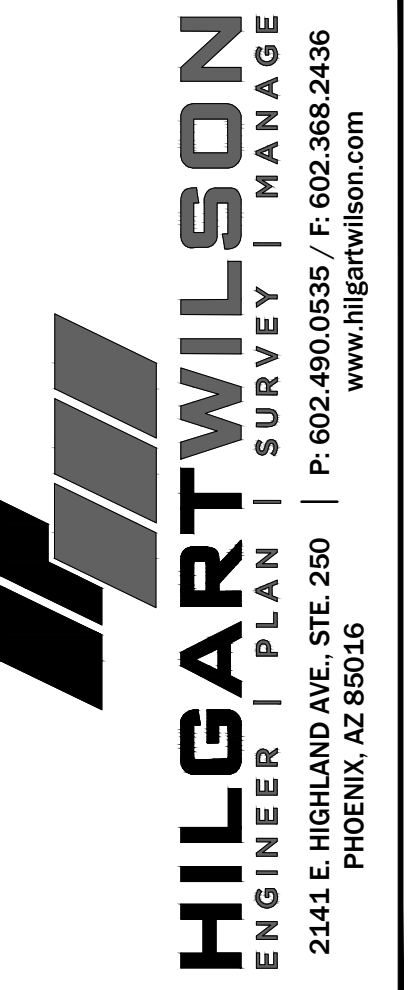
EE. A DEED OF TRUST TO SECURE AN INDEBTEDNESS IN THE AMOUNT SHOWN BELOW, AMOUNT: \$NONE SHOWN
DATED: FEBRUARY 28, 2012
TRUSTOR/GRANTOR ENTITLEMENTS, LLC, AN ARIZONA LIMITED LIABILITY COMPANY; AND FB1, LLC, AN ARIZONA LIMITED LIABILITY COMPANY
TRUSTEE: SECURITY TITLE AGENCY, INC.
BENEFICIARY: GEORGETOWN HOLDINGS, LLC, AN ARIZONA LIMITED LIABILITY COMPANY
RECORDING DATE: MARCH 30, 2012
RECORDING NO: 2012-025789
(AFFECTS PARCEL NO. 1)
(NOT SHOWN - NOTHING PLOTTABLE)
FF. A DEED OF TRUST TO SECURE AN INDEBTEDNESS IN THE AMOUNT SHOWN BELOW, AMOUNT: \$1,158,333.00
DATED: FEBRUARY 5, 2014
TRUSTOR/GRANTOR TRES POINTS, LLC, AN ARIZONA LIMITED LIABILITY COMPANY
TRUSTEE: SECURITY TITLE AGENCY, INC.
BENEFICIARY: THE DON LIEZ ENTERPRISES, INC. PROFIT SHARING PLAN
RECORDING DATE: FEBRUARY 06, 2014
RECORDING NO: 2014-007293
FIRST LOAN MODIFICATION TO THE TERMS AND PROVISIONS OF SAID DEED OF TRUST AS THEREIN PROVIDED
RECORDING DATE: DECEMBER 22, 2017
RECORDING NO: 2017-093827
LOAN ASSUMPTION AND RELEASE AGREEMENT TO MODIFY THE TERMS AND PROVISIONS OF SAID DEED OF TRUST AS THEREIN PROVIDED
BY AND BETWEEN: THE DON LIEM ENTERPRISES, INC., PROFIT SHARING PLAN, TRES POINTS, LLC, AN ARIZONA LIMITED LIABILITY COMPANY, AND FB5, LLC, AN ARIZONA LIMITED LIABILITY COMPANY
RECORDING DATE: JANUARY 30, 2019
RECORDING NO: 2019-006333
AN ASSIGNMENT OF THE BENEFICIAL INTEREST UNDER SAID DEED OF TRUST WHICH NAMES: ASSIGNEE: DLE PSP, LLC, AN ARIZONA LIMITED LIABILITY COMPANY
RECORDING DATE: MARCH 13, 2019
RECORDING NO: 2019-017355
(PARCEL NO. 2)
(NOT SHOWN - NOTHING PLOTTABLE)
GG. A DEED OF TRUST TO SECURE AN INDEBTEDNESS IN THE AMOUNT SHOWN BELOW, AMOUNT: \$1,100,000.00
DATED: AUGUST 11, 2014
TRUSTOR/GRANTOR TRES POINTS, LLC, AN ARIZONA LIMITED LIABILITY COMPANY
TRUSTEE: SECURITY TITLE AGENCY, INC.
BENEFICIARY: PAUL T. CLIFTON, AS TRUSTEE OF THE HANSFAM THREE SETTLEMENT TRUST (31.82%); AND SUSAN LEAS CLIFTON, AS TRUSTEE OF THE ROBERT AND MARIE HANSEN FOUNDATION (68.18%)
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RECORDING NO: 2014-046752
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RECORDING DATE: OCTOBER 31, 2017
RECORDING NO: 2017-079563
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ASSIGNEE: PAUL T. CLIFTON, SUSAN LEA CLIFTON, AND GREGORY V. GADARIAN, TRUSTEES OF THE ROBERT & MARIE HANSEN FOUNDATION CREATED UNDER AGREEMENT DATED JULY 1, 2001
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RECORDING NO: 2019-060708
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RECORDING DATE: JULY 29, 2019
RECORDING NO: 2019-060709
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(NOT SHOWN - NOTHING PLOTTABLE)
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RECORDING DATE: JANUARY 25, 2016
RECORDING NO: 2016-004540
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RECORDING DATE: JUNE 21, 2016
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TRUSTEE: SECURITY TITLE AGENCY, INC.
BENEFICIARY: SENECA RANCH, L.L.C., AN ARIZONA LIMITED LIABILITY COMPANY
RECORDING DATE: MARCH 22, 2017
RECORDING NO: 2017-019750
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RECORDING DATE: DECEMBER 22, 2017
RECORDING NO: 2017-093838
(AFFECTS PARCEL NO. 5)
(NOT SHOWN - NOTHING PLOTTABLE)
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OPTIONOR: TRES POINTS, LLC, AN ARIZONA LIMITED LIABILITY COMPANY
OPTIONEE: FB5, LLC, AN ARIZONA LIMITED LIABILITY COMPANY
DISCLOSED BY: MEMORANDUM OF OPTION
RECORDING DATE: DECEMBER 21, 2017
RECORDING NO: 2017-093430
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(NOT SHOWN - NOTHING PLOTTABLE)

SCHEDULE 'B' - EXCEPTIONS

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RECORDING DATE: JANUARY 03, 2018
RECORDING NO: 2018-000428
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BENEFICIARY: TRES POINTS, LLC, AN ARIZONA LIMITED LIABILITY COMPANY
RECORDING DATE: JANUARY 17, 2018
RECORDING NO: 2018-003491
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RECORDING DATE: APRIL 30, 2018
RECORDING NO: 2018-031741
COLLATERAL ASSIGNMENT
BY AND BETWEEN: TRES POINTS, LLC AND DANIEL W. THELANDER, TRUSTEE OF THE DANIEL W. THELANDER TRUST UAD 3/21/94, AS TO AN UNDIVIDED 60% INTEREST; AND RICHARD T. THELANDER AND PAMELA L. THELANDER, TRUSTEES OF THE R. TODD THELANDER AND PAMELA THELANDER TRUST UAD 05/24/06, AS TO AN UNDIVIDED 40% INTEREST
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DATED: JANUARY 29, 2019
TRUSTOR/GRANTOR FB5, LLC, AN ARIZONA LIMITED LIABILITY COMPANY
TRUSTEE: SECURITY TITLE AGENCY, INC.
BENEFICIARY: TRES POINTS, LLC, AN ARIZONA LIMITED LIABILITY COMPANY
RECORDING DATE: JANUARY 30, 2019
RECORDING NO: 2019-006334
(AFFECTS PARCEL NO. 2)
(NOT SHOWN - NOTHING PLOTTABLE)
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DATED: JANUARY 29, 2019
TRUSTOR/GRANTOR FB5, LLC, AN ARIZONA LIMITED LIABILITY COMPANY
TRUSTEE: SECURITY TITLE AGENCY, INC.
BENEFICIARY: TRES POINTS, LLC, AN ARIZONA LIMITED LIABILITY COMPANY
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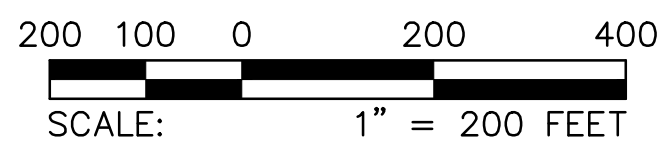
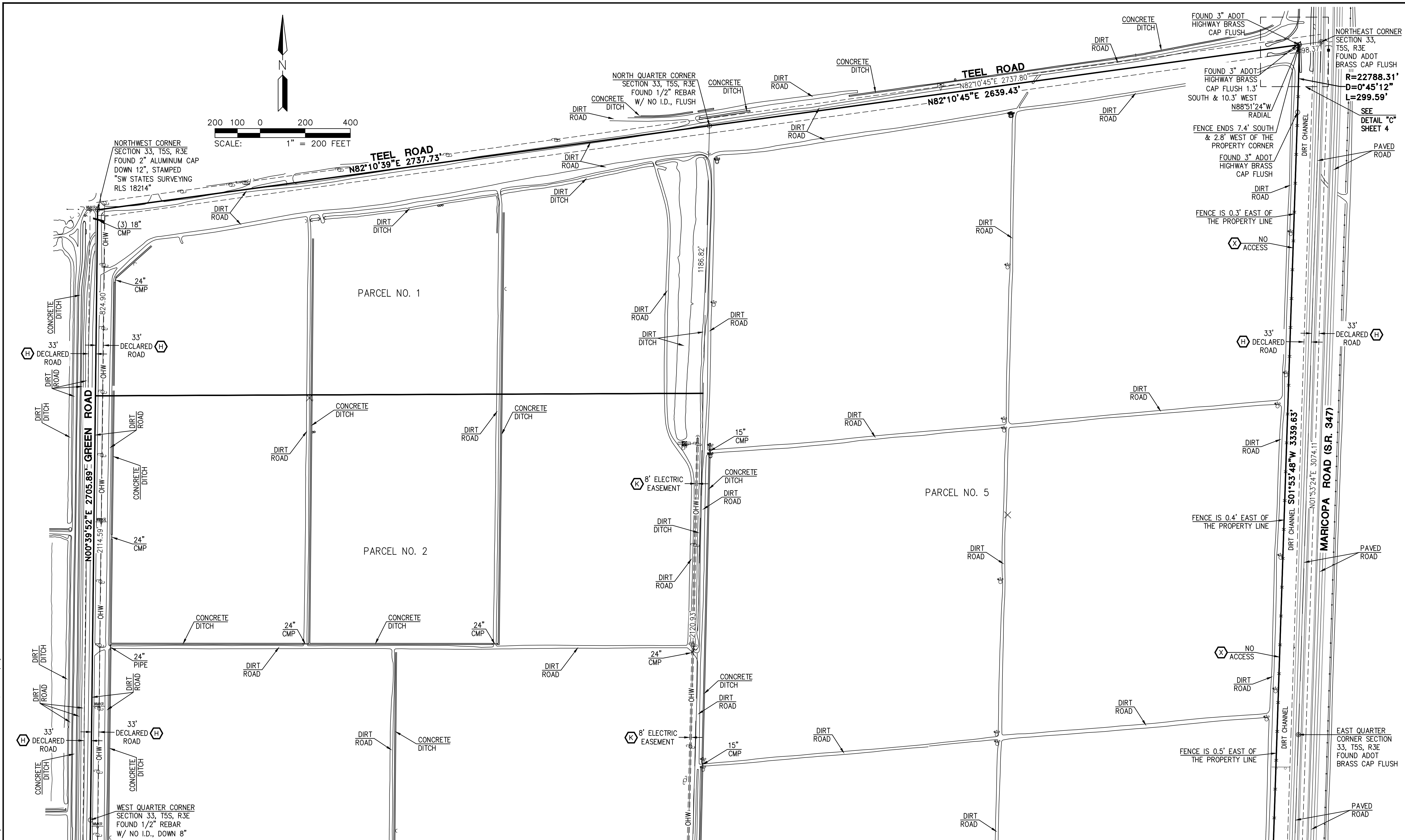
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REV:



MIDWAY - PHASE 1
N.W.C. OF STATE HIGHWAY 347 & MILLER ROAD
PINAL COUNTY, ARIZONA
A.L.T.A./N.S.P.S. LAND TITLE SURVEY

Table with project details: PROJ NO.: 2232, DATE: AUG. 2020, SCALE: AS SHOWN, DRAWN: JDL, DESIGNED: HW, APPROVED: JMM, DWG. NO. SV-2, SHT. 2 OF 4



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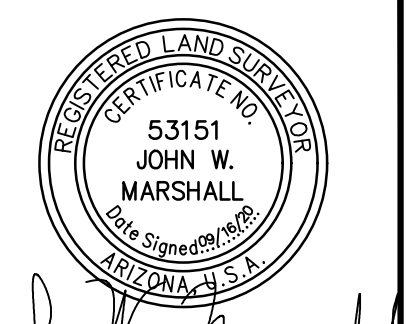
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○	ELECTRIC PANEL
○	SIGN
○	MAILBOX
○	TELEPHONE PEDESTAL
○	AIR RELEASE VALVE
○	WATER VALVE

SEE SHEET 4

○	WATER METER	— x — x —	BARB WIRE FENCE
○	WATER PUMP	R/W	RIGHT-OF-WAY
○	WATER STUB OUT	(R)	RECORD
○	WELL	(M)	MEASURED
○	WATER MARKER	RCP	REINFORCED CONCRETE PIPE
○	GAS MARKER	CMP	CORRUGATED METAL PIPE
○	GAS METER	P.C.R.	PINAL COUNTY RECORDS
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- - -	SECTION LINE		
- - -	RIGHT OF WAY LINE		
- - -	PARCEL LINE		

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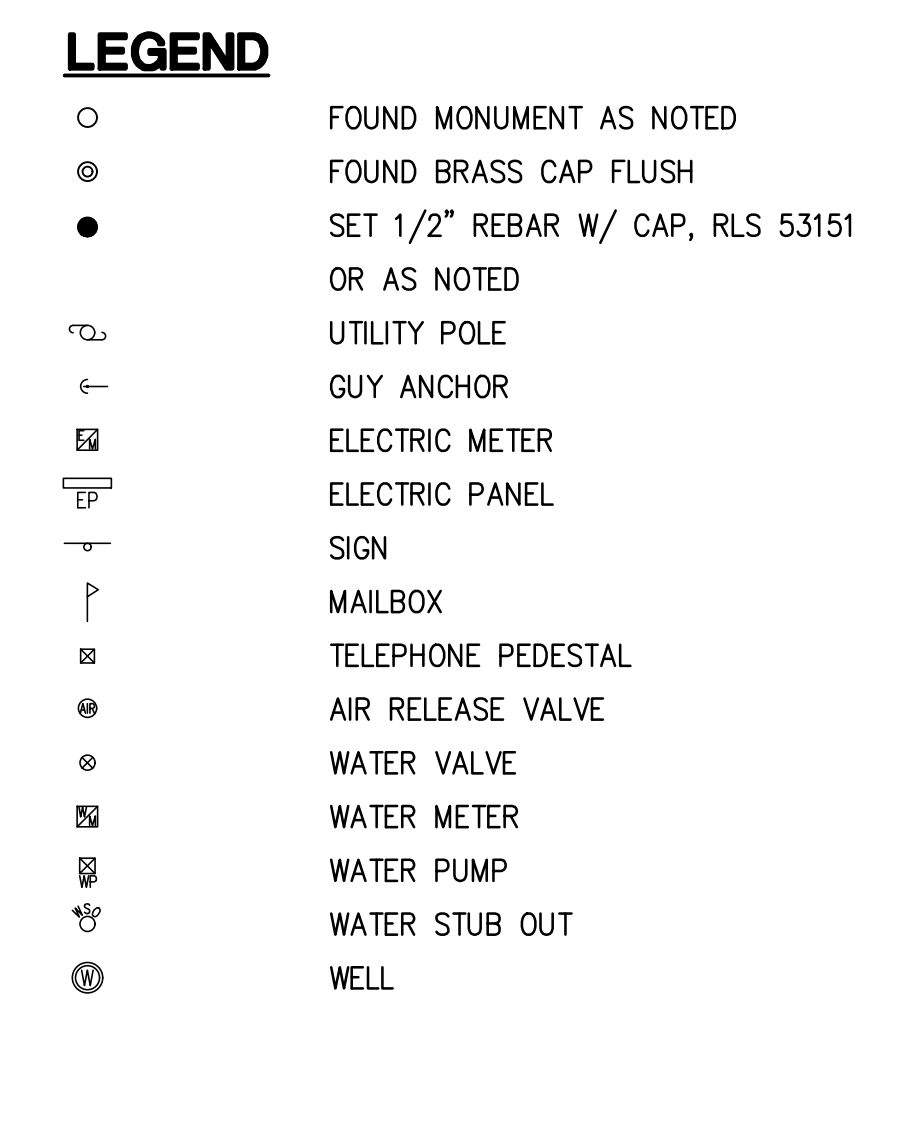
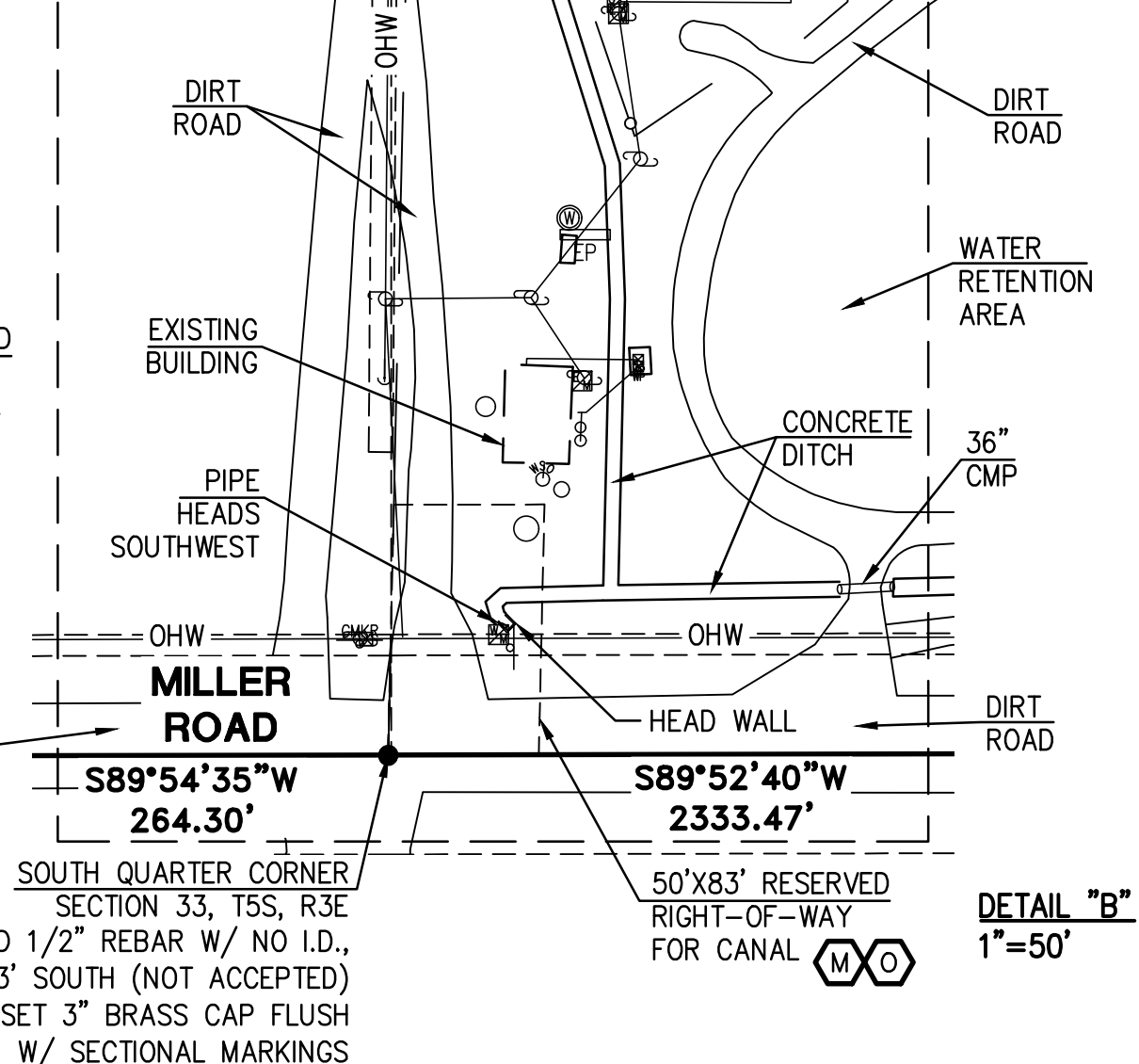
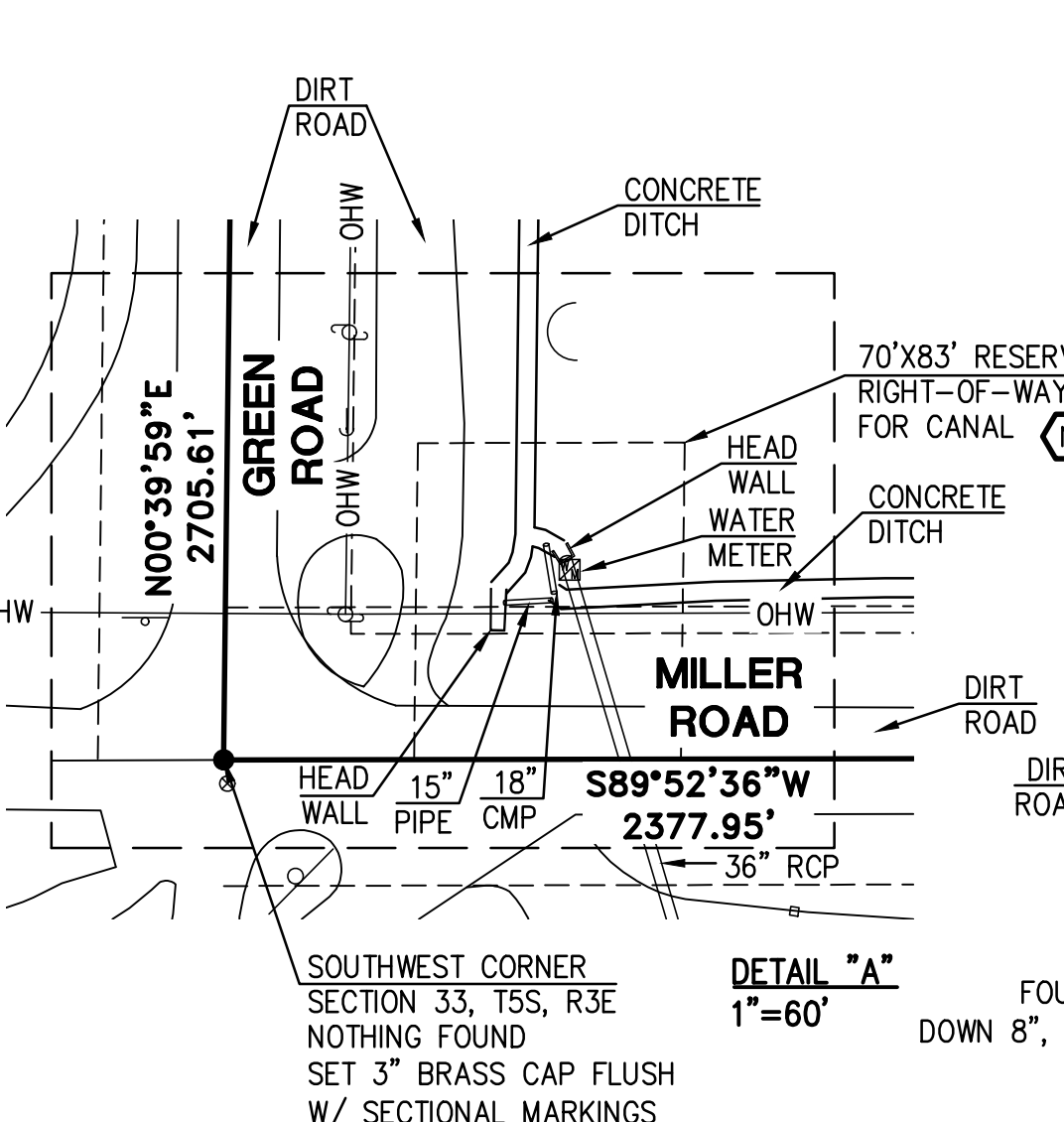
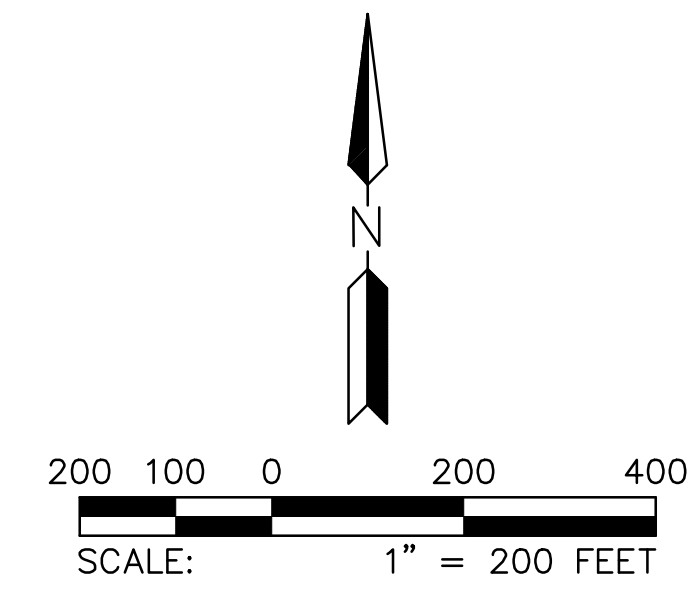
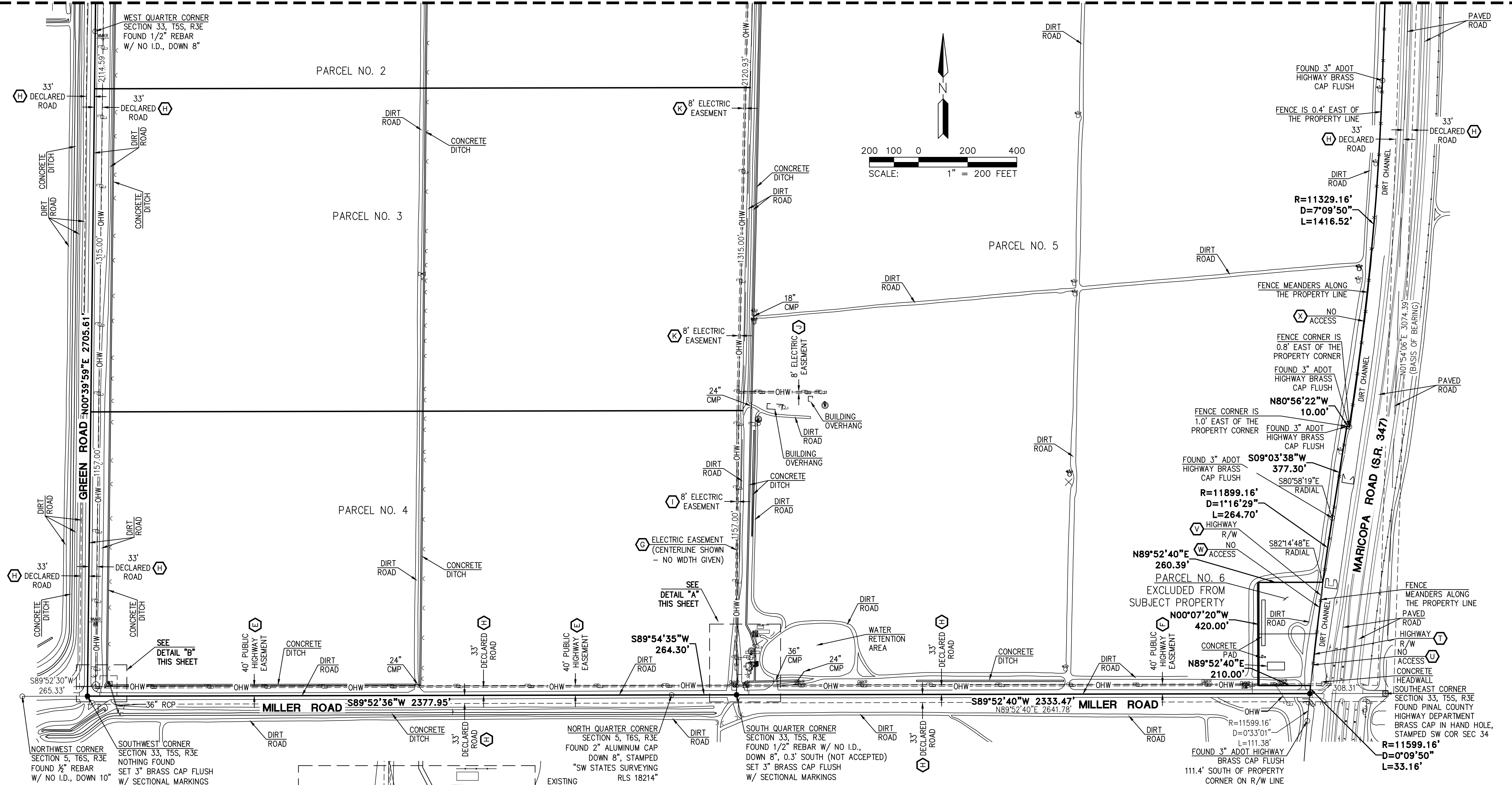
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MIDWAY - PHASE 1
N.W.C. OF STATE HIGHWAY 347 & MILLER ROAD
PINAL COUNTY, ARIZONA
A.L.T.A./N.S.P.S. LAND TITLE SURVEY

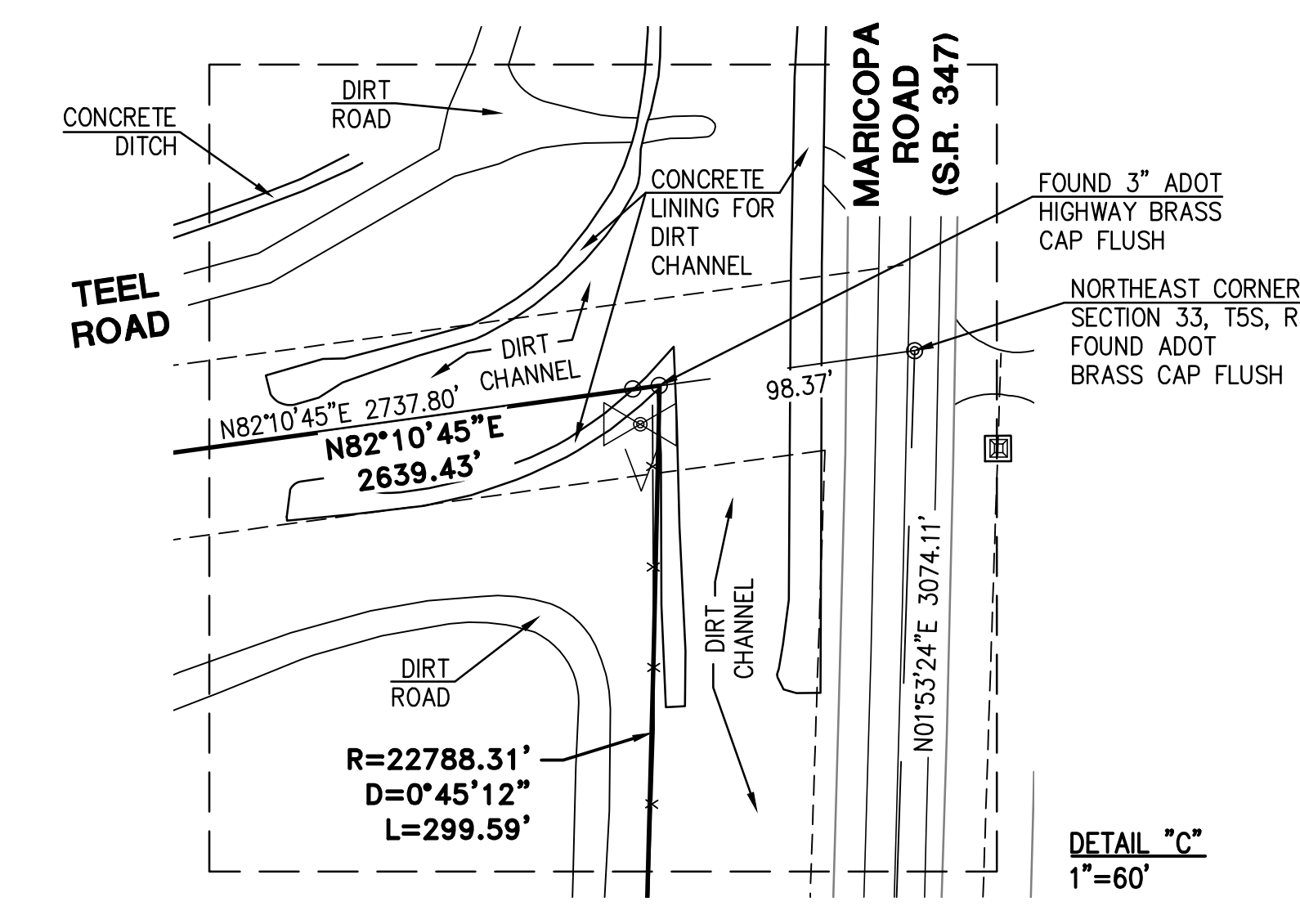
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	DESIGNED: HW
	APPROVED: JMM
DWG. NO. SV-3	
SHT. 3 OF 4	

SEE SHEET 3

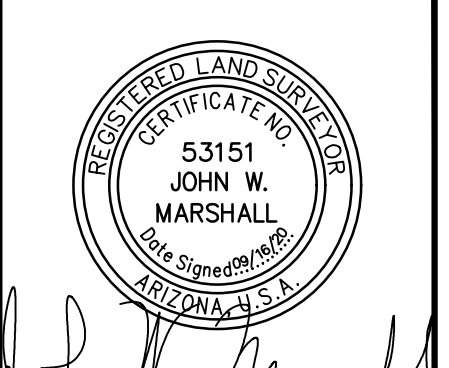


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- ELECTRIC METER
- ELECTRIC PANEL
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MIDWAY - PHASE 1
 N.W.C. OF STATE HIGHWAY 347 & MILLER ROAD
 PINAL COUNTY, ARIZONA
 A.L.T.A./N.S.P.S. LAND TITLE SURVEY

HILGARTWILSON	PROJ. NO.: 2232
	DATE: AUG. 2020
	SCALE: AS SHOWN
	DRAWN: JDL
	DESIGNED: HW
	APPROVED: JMM
	DWG. NO. SV-4
	SHT. 4 OF 4

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**MASTER DRAINAGE REPORT
FOR**

MIDWAY (PHASE 1)
MASTER PLANNED COMMUNITY
NWC OF STATE HIGHWAY 347 AND MILLER ROAD
PINAL COUNTY, ARIZONA

Prepared For:
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February 2021
HilgartWilson Project No. 2232

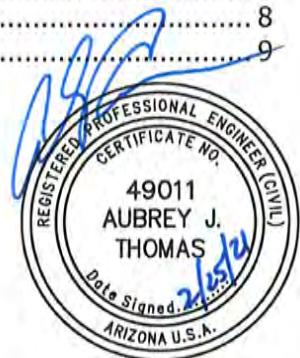




**MASTER DRAINAGE REPORT
FOR
MIDWAY - PHASE 1 MASTER PLANNED COMMUNITY**

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- A. Figures
 - 1. Vicinity Map
 - 2. FEMA Flood Map
 - 3. Existing Conditions Hydrology Map
 - 4. Existing Channels Exhibit
 - 5. Master Drainage Plan
- B. Preliminary Hydrologic Calculations
- C. Preliminary Retention & Dewatering Calculations
- D. Preliminary HEC-RAS Results
- E. Preliminary Hydraflow Results
- F. Previous Drainage Study Excerpts

1.0 INTRODUCTION

1.1 PROJECT NAME, LOCATION, TOPOGRAPHY

Midway is an approximately 5,750 acre master planned community located within Pinal County, proposed for development over multiple phases. Midway – Phase 1 (the Project) encompasses approximately 690 acres at the northern boundary of the overall Midway development, located northwest of the intersection of State Highway 347 and Miller Road in Pinal County, Arizona. The Project is bound by State Highway 347 to the east, the Teel Road alignment to the north, the Green Road alignment to the west, and Miller Road to the south. The Project lies within a portion of Section 33, Township 5 South, Range 3 East of the Gila and Salt River Base and Meridian. The Vicinity Map (**Figure 1, Appendix A**) presents an overview of the site location and surrounding areas.

The proposed improvements for the Project include construction of a mixed-use master planned community with corresponding roadway and utility improvements. The Project is currently envisioned to consist of a total of 25 parcels, which have been proposed to be developed within 4 separate phases.

Currently, the Project site is active agriculture fields. The Project site and surrounding area generally drains to the northeast at an approximate slope of 0.4%.

1.2 PURPOSE

The purpose of this master drainage report is to identify drainage constraints, provide preliminary drainage concepts, and establish design guidelines which will subsequently become the basis for more detailed studies as the Project approaches final design.

The Project is within the jurisdiction of Pinal County and has been designed to comply with the drainage policies with the *Pinal County Drainage Design Manual, Volume 1 Design Criteria*, and the *Pinal County Drainage Design Manual, Volume 2 Design Methodology and Procedures* (PCDDM).

1.3 FEMA FLOODPLAIN DESIGNATION

Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) coverage for the Project is provided on FIRM panel 04021C1125E (FEMA, December 4, 2007). According to this FIRM the Project resides entirely within flood hazard Zone X. FEMA defines Zone X as follows:

Areas of 500-year flood; areas of 100-year flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 100-year flood.

The FEMA FIRM panel and the Project boundary are shown on the FEMA Flood Map (**Figure 2, Appendix A**).

1.4 PREVIOUS DRAINAGE STUDIES

Holistic Engineering and Land Management (HELM) is in the process of preparing the Hidden Valley Area Drainage Study on behalf of Pinal County. This study was commissioned to study flooding issues in the Smith and Vekol watersheds within Pinal County, and to provide potential solutions to identified flooding issues. HILGARTWILSON coordinated with HELM on preliminary results from the Hidden Valley Area Drainage Study, particularly as it relates to the Project and surrounding area. It is important to note that the preliminary results have been used as a reference for this study, and have not been used for design. Relevant excerpts from this report have been included in **Appendix F**.

2.0 EXISTING DRAINAGE PATTERNS

2.1 OFFSITE

The Project and surrounding area currently consist of active agricultural land, generally sloping to the northeast at an approximate slope of 0.4%. During large storm events, the Project is impacted by localized offsite flows generated by active agricultural fields to the south and west. The localized offsite runoff approaches the Project's southern and western boundary largely within existing drainageways and via sheet flow.

More specifically, the localized offsite runoff concentrates at the Project's southeastern corner within the existing Highway 347 Channel, at the Project's southwestern corner within an existing irrigation and drainage ditch along Green Road, and at the Project's northwestern corner within an existing wash along the Teel Road alignment. The runoff conveyed within the Green Road irrigation ditch continues north and combines within the runoff conveyed within the Teel Road wash. This combined runoff then continues northeast and combines with the offsite runoff conveyed north along the Project's eastern boundary within the Highway 347 Channel, ultimately concentrating the entirety of the offsite runoff at the Project's northeastern corner within the Highway 347 Channel.

In addition to the localized offsite runoff, regional offsite runoff approaches the Project from the south and west in the form of breakout flows from the Santa Rosa Canal. This runoff mingles with the localized offsite runoff both as sheet flow and within existing drainageways before reaching the Project's southern and western boundaries. Locations where regional offsite runoff is expected to overflow from the Santa Rosa Canal and flow towards the Project are indicated on the Existing Conditions Hydrology Map (**Figure 3 of Appendix A**).

HILGARTWILSON has prepared both hydrologic and hydraulic modelling of the existing conditions in and around the Project in order to estimate the peak design discharges that have historically impacted the Project, and to analyze the capacity of the existing drainage infrastructure. More detailed discussion of the design procedures and methodology for the hydrologic and hydraulic modeling have been included in Sections 3.0 and 4.0.

2.2 ONSITE

As mentioned previously, the Project is currently comprised of active agricultural land. Under existing conditions, stormwater runoff produced within Project boundaries is routed northwest via sheet flow and existing irrigation ditches, ultimately concentrating at the Project's northeastern corner where it combines with the offsite runoff within the Highway 347 Channel. Upon entering the Highway 347 Channel, the combined onsite and offsite runoff exits Project boundaries and continues north within the Highway 347 Channel.

3.0 HYDROLOGIC ANALYSES

3.1 HEC-1/DDMS ANALYSIS

The existing conditions model for rainfall runoff was created using the Flood Control District of Maricopa County (FCDMC) HEC-1 Drainage Design Management System (DDMS). The methods for estimating peak design discharges affecting the site are described below.

3.1.1 RAINFALL DATA

National Oceanic and Atmospheric Administration Atlas 14 (NOAA 14) precipitation depths used are referenced for the HEC-1/DDMS analysis. The NOAA report is included with **Appendix B**.

3.1.2 DRAINAGE AREAS

The watersheds were divided into sub-basins based on existing flow patterns as shown on **Figure 3** of **Appendix A**. It is important to note that there are several flood control basins within the upstream watershed. These basins have been excluded from the model as their capacity and ability to capture flows has not been verified. These basins have been identified of **Figure 3** of **Appendix A**.

3.1.3 RAINFALL LOSSES

Composite rainfall loss parameters, used to calculate peak flows and volumes, are determined within DDMS for each sub-basin. These rainfall loss parameters, described in further detail below, are; 1) Initial Abstraction (IA), 2) hydraulic conductivity at natural saturation (XKSAT), 3) soil moisture deficit (DTHETA), and 4) wetting front capillary suction (PSIF).

In order to determine XKSAT, DTHETA, and PSIF, soil data for the site was required, which was referenced from United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) Web Soil Survey website. Shape files were imported into CAD from the NRCS website to calculate the soil type percentage compositions of the individual sub-basins. The NCRS Custom Soil Resource Map is included in **Appendix B**.

XKSAT values within DDMS are referenced from the Appendix B of the Arizona Department of Transportation Highway Drainage Design Manual Volume 2 – Hydrology based on soil types from the NRCS soil survey. The composite XKSAT value for each sub-basin is adjusted to account for vegetation cover.

The offsite areas impacting the sites southern and western boundaries are all active agricultural land. Therefore, a ‘normal’ DTHETA was used to estimate the most conservative results. PSIF values, dependent on XKSAT and DTHETA, are calculated within DDMS.

Initial abstraction (IA) and percent impervious (RTIMP) values correlate to the soil types and land uses for developed conditions. Default values within DDMS are used for IA and RTIMP for existing and developed conditions.

The Clark Unit Hydrograph procedure is recommended in the DDM for sub-basins less than about 5 square miles in size with an upper limit of 10 square miles. Therefore, the Clark Unit Hydrograph was used to model the developed conditions. Routing the Clark Unit Hydrograph was modeled in the DDMS using the Normal-Depth method.

3.1.4 HEC-1/DDMS ANALYSIS RESULTS

Results from the HEC-1 analysis have been used to estimate peak design discharges at relevant concentration points along the Project’s upstream boundaries, which then served as the design flowrates for a hydraulic analysis of the capacity of the existing drainageways, described in further detail in the sections below. Detailed HEC-1 results can be found in **Appendix B**, while **Figure 3** provides a summary of the results.

4.0 HYDRAULIC MODELING METHODOLOGY

100-year water surface elevations were determined using the US Army Corps of Engineer’s HEC-RAS V.5.0.3 program within GeoHECRAS to model the existing drainage corridors bordering the Project. The GeoHECRAS program provides an interface between AutoCAD Civil3D and HEC-RAS which allows geo-referencing and direct extraction of cross section geometry from a digital terrain model (DTM).

4.1 TOPOGRAPHIC DATA

Topographic data used in the hydraulic model was obtained from two sources. Topographic data obtained from Pinal County for this Project is comprised of 2-foot contour data, and topographic data obtained from Aerotech Mapping, Inc. for this Project is comprised of 1-foot contour data. The vertical control for the contour data is North American Vertical Datum of 1988 (NAVD 88). The collected topographic data of the Project was used to create a Digital Terrain Model (DTM) representing the natural ground using Civil3D for the hydraulic analysis. The topographic data obtained from Pinal County was only used where necessary to supplement the more detailed topographic data obtained from Aerotech Mapping, Inc.

4.2 CROSS SECTIONS

Cross sections were modeled within GeoHECRAS as shown on **Figure 4** (Existing Channels Exhibit) of **Appendix A**. Peak flows obtained from the HEC-1 results were applied to the upstream ends of the respective channel corridors.

4.3 LATERAL WEIRS

Upon running the HEC-RAS model with the peak flows obtained from the HEC-1 modelling results, it was determined that the existing drainage infrastructure surrounding the Project is undersized for the 100-year event, and would overtop into adjacent areas. To accurately model the overtopping flows, lateral weirs have been added to the reaches in areas where runoff is expected to overtop the banks. **Figure 4** of **Appendix A** includes the locations of each lateral weir.

4.4 GEOMETRIC INPUT PARAMETERS

Manning's n values of 0.032, 0.040, and 0.050 were applied to the main channel of the reaches throughout the model. Values of 0.045, 0.050, and 0.065 were utilized in overbank areas as these areas generally included additional roughness and vegetation. The range of values is largely dependent on aerial imagery which indicates some areas of the existing watercourses are more heavily vegetated than others. These values are in accordance with the FCDMC DDM, and HEC-RAS Hydraulics Reference Manual (USACE 2016).

4.5 BOUNDARY CONDITIONS

For the given possible boundary conditions in HEC-RAS, only the reach slope was known. Therefore, the upstream and downstream normal depth boundary condition was used, referencing the topographic slope for each end of the study reaches.

4.6 FLOW REGIME

The HEC-RAS model was run utilizing a sub-critical flow regime. The sub-critical flow regime was used to determine the most conservative maximum water surface elevations and floodplain limits.

4.7 HYDRAULIC MODEL RESULTS

This HEC-RAS model described above was prepared in part to analyze the capacity of the existing drainageways using the peak 100-year flows obtained from the HEC-1 models at the upstream end of each reach. The results of this analysis indicated overtopping flows would occur within the existing Green Road channel and the existing Teel Road wash. It has been determined that in existing conditions, during a peak 100-year storm, breakout flows from both the Green Road irrigation and drainage ditch and the intersection of the Teel Road wash and the Green Road irrigation and drainage ditch overtop into the Project. Beyond the junction of the Green Road channel and the Teel Road wash, runoff overtops the northern bank of the Teel Road wash (RS=5952 through 3528) and continues north beyond Project boundaries. Approximately halfway through the Project's northern boundary

(RS=3326), the runoff would overtop the Teel Road wash's southern bank and into the Project. The Highway 347 Channel has the capacity to convey the entirety of the 100-year peak flow from its tributary drainage area, with no freeboard. **Figure 4** details the water surface elevations, cross section and lateral weir locations of the HEC-RAS analysis. More detailed results are included in **Appendix D**. The proposed offsite management strategy will be designed to convey only the flows which have historically been maintained within Project boundaries, according to the results of the hydraulic model.

5.0 PROPOSED OFFSITE DRAINAGE MANAGEMENT

In existing conditions offsite runoff is routed along the Project's northern, eastern, and western boundaries along the alignment of the existing drainageways, as described above. The proposed drainage system will be designed to maintain the historic flow patterns in and around the site, utilizing the existing drainage infrastructure wherever possible, and conveying only the flows historically maintained within Project boundaries. Channels have been proposed along the Project's northern and western boundaries (Northern and Western Channels) which will convey offsite runoff in its historic drainage pattern. The Western Channel will be designed to convey the entirety of the expected peak runoff as the existing drainage way along Green Road has historically allowed offsite runoff to overtop within Project boundaries. The Northern Channel has been proposed in two sections, the first of which will extend from the confluence of the Northern and Western Channels at the Project's northwestern corner to approximately halfway along the sites northern boundary, The first section will be designed to allow a portion of the runoff to overtop the northern bank and continue north away from the Project as sheet flow, as it does in existing conditions. The second section of the Northern Channel will convey the balance of the 100-year peak runoff which has historically overtopped the southern boundary of the Teel Road wash, ultimately outfalling into the existing Highway 347 Channel. It is important to note that the existing Teel Road wash crossing of Green Road will need to be improved to ensure runoff does not overtop south into Project boundaries as it does in existing conditions.

The existing Highway 347 Channel will remain as is, as it currently has the capacity to convey the expected 100-year peak flow. As the Project approaches final design, fill may be proposed along the Project's eastern boundary to ensure adequate freeboard is provided throughout the reach. A small collector channel has been proposed along the Project's southern boundary to capture and convey local offsite runoff to the Highway 347 Channel. In addition to this, modifications have been proposed to the outfall of the existing irrigation pond at the Project's southeastern corner to ensure the entirety of the offsite runoff is routed around the Project and into the Highway 347 Channel.

The Master Drainage Plan (**Figure 5 of Appendix A**) provides an overview of the proposed offsite drainage plan. Offsite drainage infrastructure will be designed per the County's adopted design standards.

6.0 ONSITE DRAINAGE

The proposed grading and drainage improvements will allow runoff generated within Project boundaries to be conveyed to and captured by retention basins via street flow, and if necessary, stormdrain. As final design is approached, retention basin sizing and location will be finalized, on a parcel by parcel basis. An overview of the proposed drainage improvements and patterns are illustrated on **Figure 5 of Appendix A**.

6.1 ONSITE STORMWATER STORAGE REQUIREMENT

The onsite retention basins will be sized to accommodate the 100-year, 2-hour storm runoff volume produced by the tributary drainage area at a minimum, in accordance with Pinal County design policy. The precise geometry and ultimate locations of the retention basins will be refined and adapted as the development process proceeds. Onsite retention requirements were determined on a parcel by parcel basis.

The equation to calculate the 100-year, 2-hour required retention volumes is shown below:

$$V = C*(P/12)*A$$

Where:

V is the 100-year, 2-hr retention volume (acre-ft)

C is the weighted runoff coefficient per Table 2-1 of the PCDDM Vol. 2

P is the 100-year, 2-hour rainfall depth (inches)

A is the drainage area (acres)

The NOAA Atlas 14 100-year, 2-hour rainfall depth of 2.32 inches was used as the precipitation depth for the retention analysis. Preliminary required retention volumes for each parcel are detailed in **Appendix C**, and summarized on **Figure 5**. All side slopes of basins will be no steeper than 4:1. Additionally, retention basins have a maximum storage depth of three feet and each must be provided with 1 foot of freeboard to the top of the basin and an additional 1 foot of flood protection to the finished floor elevations.

If necessary, retention basins will be designed with overflow systems from upstream to downstream basins. Some retention basins within the project may not provide the required retention for their respective tributary drainage areas. For these basins an overflow system will be designed to convey runoff to downstream basins with enough capacity to meet the specified volume required.

The ultimate outfall is established at the Project's northeastern corner for storm events which exceed the 100-year design storm.

6.2 DISSIPATION OF STORED RUNOFF

All water stored within retention basins will be completely dissipated within 36 hours of the design storm. This dissipation will occur via the use of drywells and natural infiltration. Each retention basin greater than 1 foot in depth will require at least one drywell. For estimating purposes, the number of required drywells was determined neglecting natural surface infiltration and assuming a drywell disposal rate of 0.10 cfs per the PCDDM Vol. 1. Once retention basin grading is complete and post construction natural infiltration and drywell rates have been determined, the actual number of required drywells for each basin will be evaluated. Preliminary dewatering calculations are included in **Appendix C**.

6.3 PRELIMINARY CHANNEL CONVEYANCE

Hydraulic conveyance structures have been designed to handle flows generated by the offsite areas for the 100-year storm event. These analyses were performed using

the AutoCAD extension program Hydraflow Express. The 100-year peak flows to be conveyed within the proposed channels were determined using both the HEC-1 and HEC-RAS models mentioned previously. The longitudinal slope for each channel was estimated based on the existing grade. Side slopes for each channel were kept at 6:1. Velocities in each channel were kept below five feet per second. All proposed channels have a minimum freeboard of one foot above the 100-year peak design water surface elevation. It is important to note that the first section of the Northern Channel has been proposed to discharge runoff over its northern bank, and therefore will only provide freeboard on the Project side, or southern bank.

The preliminary Hydraflow channel cross sections for the Northern and Western Channels can be found in **Appendix E**. HEC-RAS results for the existing Highway 347 Channel have been included in **Appendix D**.

6.4 PRELIMINARY CULVERT DESIGN

In order to provide dry access throughout the development, culverts will be utilized to convey flow beneath roadways. The precise geometry of the culverts will be refined and adapted as the development process proceeds. The culvert system within this development will be designed based upon the peak 100-year rainfall event. The preliminary culvert cross sections can be found in **Appendix E**.

Riprap aprons will be placed downstream of all culvert outlets to protect against scour, provide uniform spreading of flows, and decrease flow velocity at the outlet. These aprons will be designed in accordance with Pinal County design standards.

7.0 FINISHED FLOORS

In order to protect proposed lots and buildings during the 100-year storm event, finished floor elevations will be set a minimum of 12 inches above the 100-year flow outfall elevation and 12 inches above water surface elevations of adjacent drainageways. Lots adjacent to retention basins will be set a minimum 12 inches above the basin high water elevations. Furthermore, finished floor elevations will be set 14 inches above the low site outfall for the site and 6 inches above the high side outfall for the lots, per the County's adopted design standards.

8.0 SUMMARY AND CONCLUSIONS

The Project's drainage system will be designed in accordance with all applicable drainage design guidelines and the drainage standards outlined in the PCDDM. No adverse impacts to downstream properties are anticipated as a result of these improvements. Existing drainage patterns will be maintained through and around the Project.

- Onsite flows will be conveyed to retention basins near low points in the site via surface flow and, when necessary, storm drain pipes.
- Onsite retention basins will be provided with a volume equal to or greater than the 100-year, 2-hour calculated volume. Emergency overflow corridors will be provided at the outfall of each retention basin to convey excess runoff downstream.
- Retention basins will be drained within 36 hours. The dewatering of the retention basins will be accomplished via drywells and natural infiltration.

- Proposed channels and roadway crossings will convey the peak 100-year rainfall runoff, and will be designed according to County design parameters.
- All finished floor elevations for any proposed structures within the development will meet the standards specified within the PCDDM.

9.0 REFERENCES

Federal Emergency Management Agency, FEMA (December 4, 2007). *Flood Insurance Rate Map 04021C1125E*

Flood Control District of Pinal County (2004). *Pinal County Drainage Manual Volume I, Design Criteria*. Pinal County, Arizona.

Flood Control District of Pinal County (2004). *Pinal County Drainage Manual Volume II, Design Methodology and Procedures*. Pinal County, Arizona.

Arizona Department of Transportation (2014). *Highway Drainage Design Manual Volume 2 – Hydrology, Appendix B*. Phoenix, Arizona.

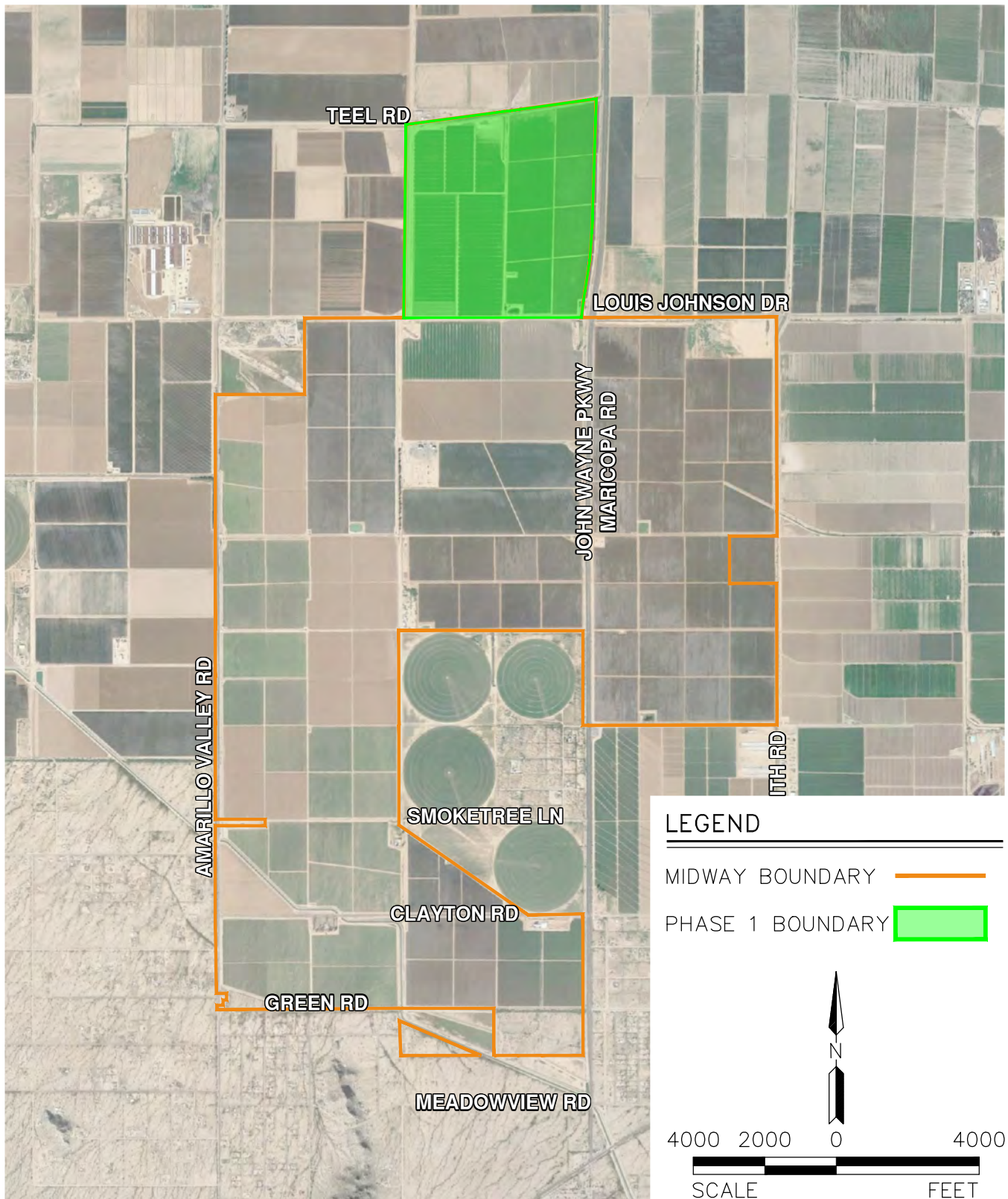
Holistic Engineering and Land Management (2020). *Hidden Valley Area Drainage Study*. Phoenix, Arizona.

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APPENDIX A

FIGURES



PROJ.NO.:	2232
DATE:	DEC 2020
SCALE:	1" = 4,000'
DRAWN BY:	SL
CHECKED BY:	AT

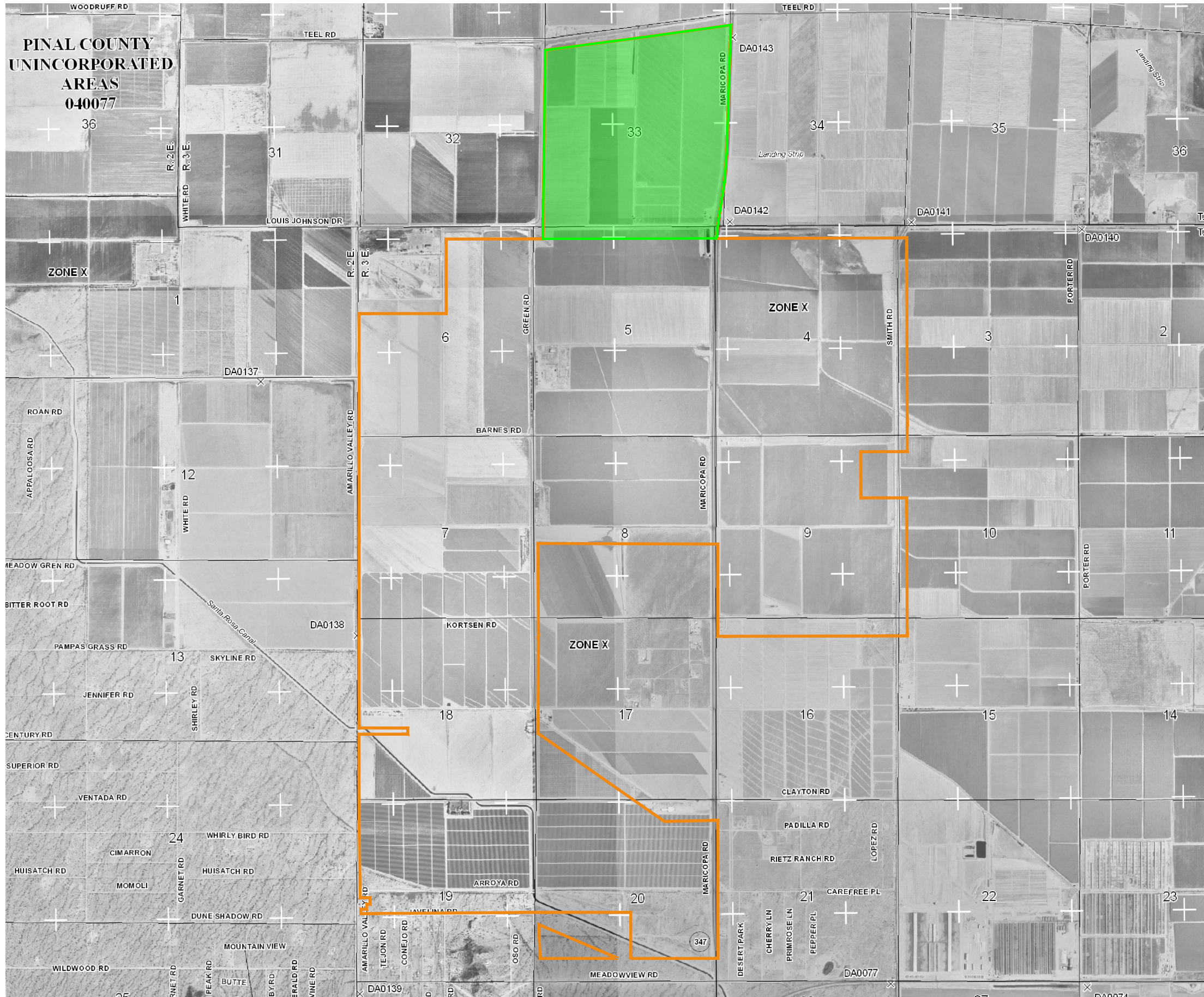
MIDWAY — PHASE 1

PINAL COUNTY, ARIZONA

FIG 1: VICINITY MAP

HILGARTWILSON

2141 E. HIGHLAND AVE., STE. 250
 PHOENIX, AZ 85016
 P: 602.490.0535 / F: 602.368.2436



**PINAL COUNTY
UNINCORPORATED
AREAS
040077**

NFIP PANEL 1125E

FIRM
FLOOD INSURANCE RATE MAP
PINAL COUNTY,
ARIZONA
AND INCORPORATED AREAS

PANEL 1125 OF 2575
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
PINAL COUNTY UNINCORPORATED AREAS	040077	1125	E

Notice to User: The Map Number shown below should be used when placing map orders. The Community Number shown above should be used on insurance applications for the subject community.

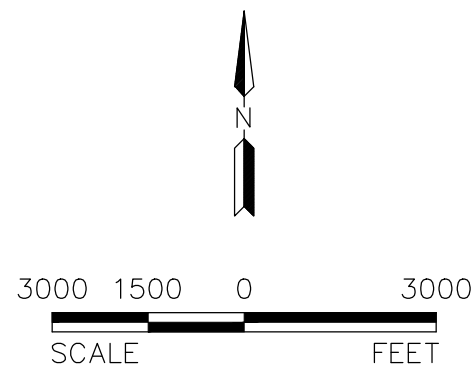
MAP NUMBER
04021C1125E

EFFECTIVE DATE
DECEMBER 4, 2007

Federal Emergency Management Agency

LEGEND

- MIDWAY BOUNDARY
- PHASE 1 BOUNDARY



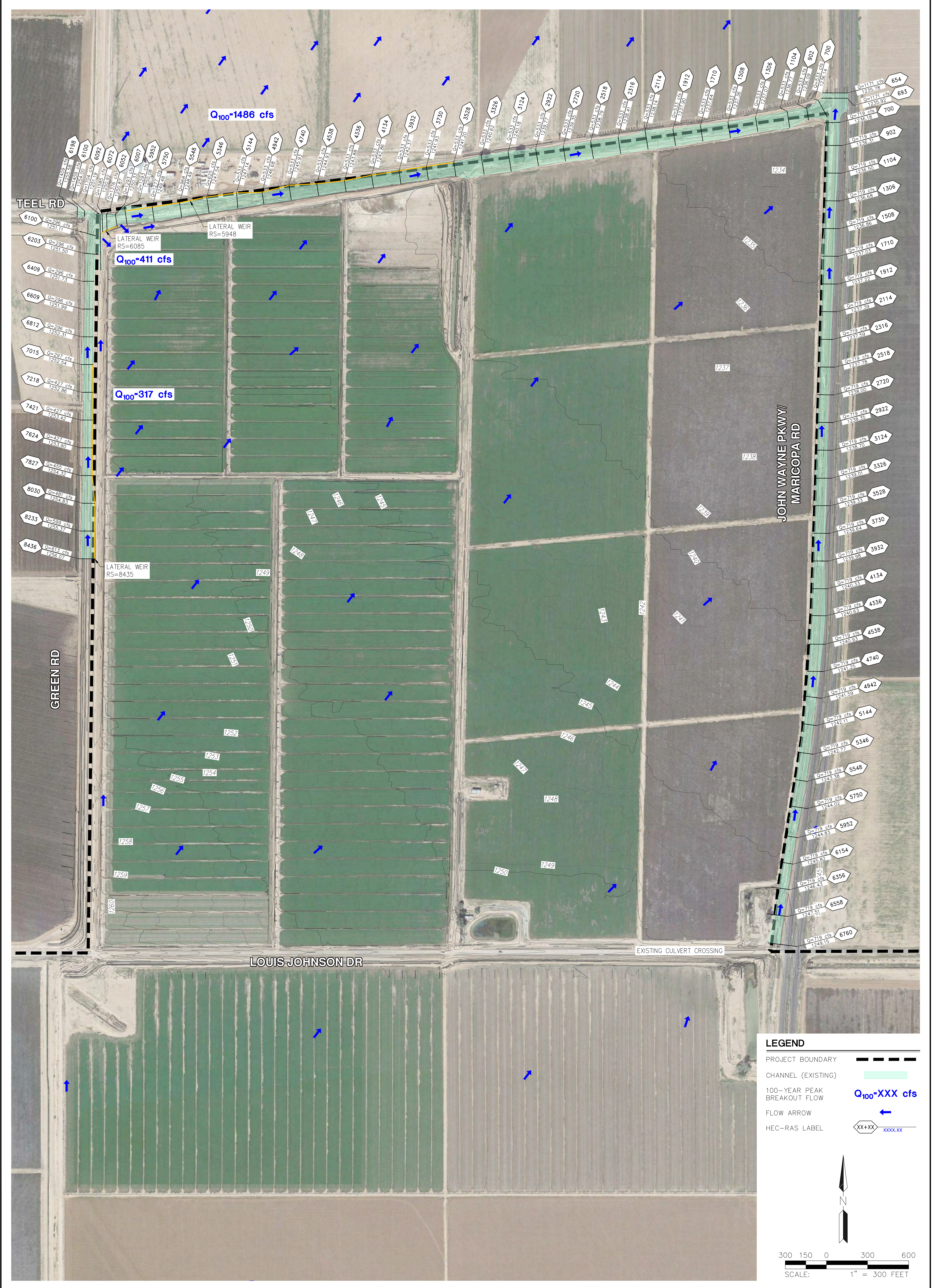
HILGARTWILSON
2141 E. HIGHLAND AVE., STE. 250
PHOENIX, AZ 85016
P: 602.490.0535 / F: 602.368.2436

MIDWAY — PHASE 1

PINAL COUNTY, ARIZONA

FIG 2: FEMA FLOOD MAP

PROJ. NO.:	2232
DATE:	DEC 2020
SCALE:	1" = 3,000'
DRAWN BY:	SL
CHECKED BY:	AT



LEGEND

- PROJECT BOUNDARY
- CHANNEL (EXISTING)
- 100-YEAR PEAK BREAKOUT FLOW Q₁₀₀-XXX cfs
- FLOW ARROW ←
- HEC-RAS LABEL XX+YY xxxxxx

N

300 150 0 300 600

SCALE: 1" = 300 FEET

HILGARTWILSON

PROJ NO.: 2232
 DATE: FEB 2021
 SCALE: 1" = 300'
 DRAWN: SL
 DESIGNED: HW
 APPROVED: AT

MIDWAY - PHASE 1

PINAL COUNTY, ARIZONA

FIG 4: EXISTING CHANNELS EXHIBIT

HILGARTWILSON

ENGINEER | PLAN | SURVEY | MANAGE

2141 E. HIGHLAND AVE., STE. 250 | P: 602.490.0535 / F: 602.368.2436
 PHOENIX, AZ 85016 www.hilgartwilson.com

REV.:	

U:\2020\2232\MIDWAY\2232-01 - Final Plans\15 - Drainage\Master Drainage Report - Midway Phase 1\2232-01 - Existing Channels Exhibit.dwg 2/17/2021 3:40 PM



APPENDIX B

PRELIMINARY HYDROLOGIC CALCULATIONS

```

1*****
*
* FLOOD HYDROGRAPH PACKAGE (HEC-1)
* JUN 1998
* VERSION 4.1
*
* RUN DATE 23JUL20 TIME 09:04:07
*
*****

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*****
*
* U.S. ARMY CORPS OF ENGINEERS
* HYDROLOGIC ENGINEERING CENTER
* 609 SECOND STREET
* DAVIS, CALIFORNIA 95616
* (916) 756-1104
*
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X X XXXXXXX XXXXX X
X X X X X XX
X X X X X
XXXXXX XXXX X XXXXX X
X X X X X
X X X X X
X X XXXXXXX XXXXX XXX

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THIS PROGRAM REPLACES ALL PREVIOUS VERSIONS OF HEC-1 KNOWN AS HEC1 (JAN 73), HEC1GS, HEC1DB, AND HEC1KW.

THE DEFINITIONS OF VARIABLES -RTIMP- AND -RTIOR- HAVE CHANGED FROM THOSE USED WITH THE 1973-STYLE INPUT STRUCTURE. THE DEFINITION OF -AMSKK- ON RM-CARD WAS CHANGED WITH REVISIONS DATED 28 SEP 81. THIS IS THE FORTRAN77 VERSION NEW OPTIONS: DAMBREAK OUTFLOW SUBMERGENCE , SINGLE EVENT DAMAGE CALCULATION, DSS:WRITE STAGE FREQUENCY, DSS:READ TIME SERIES AT DESIRED CALCULATION INTERVAL LOSS RATE:GREEN AND AMPT INFILTRATION KINEMATIC WAVE: NEW FINITE DIFFERENCE ALGORITHM

```

LINE ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10
1 ID Flood Control District of Maricopa County
2 ID 2232 EXISTING_02 - Midway Maricopa, Existing Conditions Model
3 ID 100 YEAR
4 ID 24 Hour Storm
5 ID Unit Hydrograph: Clark
6 ID Storm: Multiple
7 ID 07/23/2020
*DIAGRAM
8 IT 5 1JAN99 0 2000
9 IO 5
10 IN 15
*
11 JD 3.630 0.0001
12 PC 0.000 0.002 0.005 0.008 0.011 0.014 0.017 0.020 0.023 0.026
13 PC 0.029 0.032 0.035 0.038 0.041 0.044 0.048 0.052 0.056 0.060
14 PC 0.064 0.068 0.072 0.076 0.080 0.085 0.090 0.095 0.100 0.105
15 PC 0.110 0.115 0.120 0.126 0.133 0.140 0.147 0.155 0.163 0.172
16 PC 0.181 0.191 0.203 0.218 0.236 0.257 0.283 0.387 0.663 0.707
17 PC 0.735 0.758 0.776 0.791 0.804 0.815 0.825 0.834 0.842 0.849
18 PC 0.856 0.863 0.869 0.875 0.881 0.887 0.893 0.898 0.903 0.908
19 PC 0.913 0.918 0.922 0.926 0.930 0.934 0.938 0.942 0.946 0.950
20 PC 0.953 0.956 0.959 0.962 0.965 0.968 0.971 0.974 0.977 0.980
21 PC 0.983 0.986 0.989 0.992 0.995 0.998 1.000
22 JD 3.449 10.0
23 JD 3.267 30.0
*
24 KK OF-E1 BASIN
25 BA 0.121
26 LG 0.50 0.26 3.75 0.85 0
27 UC 0.586 0.459
28 UA 0 5.0 16.0 30.0 65.0 77.0 84.0 90.0 94.0 97.0
29 UA 100
*
30 KK R-E1 ROUTE
31 RS 1 FLOW
32 RC 0.032 0.032 0.032 2711 0.0070 1342.00
33 RX 162.20 164.20 167.20 174.70 193.40 200.50 218.10 220.00
34 RY 1338.0 1338.00 1338.00 1334.00 1334.00 1338.00 1340.00 1340.00
*
35 KK OF-E2 BASIN
36 BA 0.488
37 LG 0.50 0.26 3.68 0.87 0
38 UC 0.826 0.545
39 UA 0 5.0 16.0 30.0 65.0 77.0 84.0 90.0 94.0 97.0
40 UA 100
*

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LINE ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

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101	BA	0.589									
102	LG	0.50	0.27	3.14	1.26	0					
103	UC	0.881	0.530								
104	UA	0	5.0	16.0	30.0	65.0	77.0	84.0	90.0	94.0	97.0
105	UA	100									
	*										
106	KK	R-W1	ROUTE								
107	RS	1	FLOW								
108	RC	0.032	0.032	0.032	7945	0.0050	1300.00				
109	RX	135.00	145.00	148.20	153.30	161.30	166.40	170.00	175.00		
110	RY	1294.0	1294.00	1294.00	1290.00	1290.00	1294.00	1294.00	1294.00	1294.00	
	*										

1

HEC-1 INPUT

PAGE 4

LINE ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

111	KK	OF-W2	BASIN								
112	BA	1.249									
113	LG	0.50	0.26	3.62	0.92	0					
114	UC	1.125	0.718								
115	UA	0	5.0	16.0	30.0	65.0	77.0	84.0	90.0	94.0	97.0
116	UA	100									
	*										

117	KK	CP-W1	COMBINE								
118	HC	2									
	*										

119	KK	R-W2	ROUTE								
120	RS	1	FLOW								
121	RC	0.032	0.032	0.032	6190	0.0050	1270.00				
122	RX	230.00	240.00	251.30	252.90	254.30	256.10	265.00	270.00		
123	RY	1268.0	1268.00	1268.00	1262.00	1262.00	1268.00	1268.00	1268.00		
	*										

124	KK	OF-W3	BASIN								
125	BA	1.114									
126	LG	0.50	0.27	3.27	1.16	0					
127	UC	1.134	0.618								
128	UA	0	5.0	16.0	30.0	65.0	77.0	84.0	90.0	94.0	97.0
129	UA	100									
	*										

130	KK	CP-W2	COMBINE								
131	HC	2									
	*										

132	KK	R-W3	ROUTE								
133	RS	1	FLOW								
134	RC	0.032	0.032	0.032	2730	0.0050	1260.00				
135	RX	90.00	94.10	102.60	112.90	117.30	125.50	127.70	130.00		
136	RY	1254.4	1254.39	1254.00	1248.00	1248.00	1254.00	1254.20	1254.20		
	*										

137	KK	OF-W4	BASIN								
138	BA	0.514									
139	LG	0.50	0.27	3.12	1.28	0					
140	UC	1.233	0.898								
141	UA	0	5.0	16.0	30.0	65.0	77.0	84.0	90.0	94.0	97.0
142	UA	100									
	*										

143	KK	CP-W3	COMBINE								
144	HC	2									
	*										

1

HEC-1 INPUT

PAGE 5

LINE ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

145	KK	R-W4	ROUTE								
146	RS	1	FLOW								
147	RC	0.032	0.032	0.032	2570	0.0050	1260.00				
148	RX	90.00	94.10	102.60	112.90	117.30	125.50	127.70	130.00		
149	RY	1254.4	1254.39	1254.00	1248.00	1248.00	1254.00	1254.20	1254.20		
	*										

150	KK	OF-N1	BASIN								
151	BA	0.132									
152	LG	0.10	0.35	3.83	0.63	5					
153	UC	0.591	0.370								
154	UA	0	3.0	5.0	8.0	12.0	20.0	43.0	75.0	90.0	96.0
155	UA	100									
	*										

156	KK	R-N1	ROUTE								
157	RS	1	FLOW								
158	RC	0.032	0.032	0.032	3910	0.0050	1330.00				
159	RX	40.00	45.00	51.00	76.20	94.40	108.30	115.00	120.00		
160	RY	1328.0	1328.00	1328.00	1322.00	1322.00	1328.00	1328.00	1328.00		

```

*
161 KK OF-N2 BASIN
162 BA 0.306
163 LG 0.50 0.26 3.75 0.83 0
164 UC 0.807 0.573
165 UA 0 5.0 16.0 30.0 65.0 77.0 84.0 90.0 94.0 97.0
166 UA 100
*

167 KK CP-N1 COMBINE
168 HC 2
*

169 KK R-N2 ROUTE
170 RS 1 FLOW
171 RC 0.032 0.032 0.032 1285 0.0050 1315.00
172 RX 20.00 25.00 33.10 52.00 61.00 74.50 80.00 85.00
173 RY 1312.0 1312.00 1312.00 1308.00 1308.00 1312.00 1312.00 1312.00
*

174 KK OF-N3 BASIN
175 BA 0.525
176 LG 0.44 0.27 3.62 0.88 1
177 UC 0.988 0.646
178 UA 0 5.0 16.0 30.0 65.0 77.0 84.0 90.0 94.0 97.0
179 UA 100
*

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1

HEC-1 INPUT

PAGE 6

LINE ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

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180 KK CP-N2 COMBINE
181 HC 2
*

182 KK R-N3 ROUTE
183 RS 1 FLOW
184 RC 0.032 0.032 0.032 4405 0.0050 1310.00
185 RX 165.00 170.00 173.70 196.10 203.10 227.50 230.00 235.00
186 RY 1304.0 1304.00 1304.00 1298.00 1298.00 1304.00 1304.00 1304.00
*

187 KK OF-N4 BASIN
188 BA 1.107
189 LG 0.36 0.30 3.05 1.26 2
190 UC 1.005 0.483
191 UA 0 5.0 16.0 30.0 65.0 77.0 84.0 90.0 94.0 97.0
192 UA 100
*

193 KK OF-N5 BASIN
194 BA 0.466
195 LG 0.30 0.31 3.01 1.24 2
196 UC 1.241 1.280
197 UA 0 5.0 16.0 30.0 65.0 77.0 84.0 90.0 94.0 97.0
198 UA 100
*

199 KK CP-N3 COMBINE
200 HC 3
*

201 KK R-N4 ROUTE
202 RS 1 FLOW
203 RC 0.032 0.032 0.032 2625 0.0050 1300.00
204 RX 35.00 40.00 44.80 76.10 144.80 158.50 165.00 170.00
205 RY 1292.2 1292.20 1292.16 1287.00 1287.00 1292.34 1292.40 1292.40
*

206 KK OF-N6 BASIN
207 BA 0.253
208 LG 0.50 0.27 3.14 1.25 0
209 UC 0.906 0.679
210 UA 0 5.0 16.0 30.0 65.0 77.0 84.0 90.0 94.0 97.0
211 UA 100
*

212 KK R-N5 ROUTE
213 RS 1 FLOW
214 RC 0.032 0.032 0.032 2575 0.0050 1290.00
215 RX 65.00 70.00 74.80 113.30 149.00 159.50 165.00 170.00
216 RY 1284.0 1284.00 1284.00 1278.00 1278.00 1282.40 1282.50 1282.50
*

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1

HEC-1 INPUT

PAGE 7

LINE ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

```

217 KK OF-N7 BASIN
218 BA 0.244

```


280	KK	OF-N12	BASIN									
281	BA	0.799										
282	LG	0.50	0.27	3.29	1.14	0						
283	UC	1.077	0.678									
284	UA	0	5.0	16.0	30.0	65.0	77.0	84.0	90.0	94.0	97.0	
285	UA	100										
	*											

286	KK	CP-N8	COMBINE									
287	HC	2										
	*											

1

HEC-1 INPUT

PAGE 9

LINE ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

288	KK	R-N11	ROUTE									
289	RS	1	FLOW									
290	RC	0.032	0.032	0.032	5300	0.0050	1270.00					
291	RX	95.00	100.00	102.80	111.30	114.00	118.90	120.00	125.00			
292	RY	1268.0	1268.00	1268.00	1262.00	1262.00	1268.00	1268.00	1268.00			
	*											

293	KK	OF-N13	BASIN									
294	BA	0.499										
295	LG	0.50	0.27	3.32	1.12	0						
296	UC	1.172	0.804									
297	UA	0	5.0	16.0	30.0	65.0	77.0	84.0	90.0	94.0	97.0	
298	UA	100										
	*											

299	KK	CP-N9	COMBINE									
300	HC	3										
	*											

301	KK	R-N12	ROUTE									
302	RS	1	FLOW									
303	RC	0.032	0.032	0.032	5315	0.0050	1255.00					
304	RX	110.00	115.00	117.30	126.90	161.30	178.20	180.00	185.00			
305	RY	1250.0	1250.00	1250.00	1242.00	1242.00	1251.80	1252.00	1252.00			
	*											

306	KK	OF-N14	BASIN									
307	BA	0.486										
308	LG	0.50	0.26	3.75	0.84	0						
309	UC	1.198	0.878									
310	UA	0	5.0	16.0	30.0	65.0	77.0	84.0	90.0	94.0	97.0	
311	UA	100										
	*											

312	KK	CP-NW	COMBINE									
313	HC	3										
	*											

314	KK	R-NW	ROUTE									
315	RS	1	FLOW									
316	RC	0.032	0.032	0.032	5430	0.0050	1242.00					
317	RX	60.00	65.00	70.70	109.80	150.90	159.00	165.00	170.00			
318	RY	1240.0	1240.00	1240.00	1232.00	1232.00	1238.00	1238.00	1238.00			
	*											

319	KK	PRJCT	BASIN									
320	BA	1.076										
321	LG	0.50	0.25	5.58	0.34	0						
322	UC	1.127	0.623									
323	UA	0	5.0	16.0	30.0	65.0	77.0	84.0	90.0	94.0	97.0	
324	UA	100										
	*											

1

HEC-1 INPUT

PAGE 10

LINE ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

325	KK	CP-NWE	COMBINE									
326	HC	3										
	*											
327	ZZ											

SCHEMATIC DIAGRAM OF STREAM NETWORK

INPUT	(V) ROUTING	(--->) DIVERSION OR PUMP FLOW
LINE		
NO.	(.) CONNECTOR	(<---) RETURN OF DIVERTED OR PUMPED FLOW
24	OF-E1	
	V	
	V	
30	R-E1	
	.	
	.	
35	OF-E2	

174	.	.	.	OF-N3

180	.	.	CP-N2.....	.
	.	.	V	.
	.	.	V	.
182	.	.	R-N3	.

187	.	.	.	OF-N4

193	.	.	.	OF-N5

199	.	.	CP-N3.....	.
	.	.	V	.
	.	.	V	.
201	.	.	R-N4	.

206	.	.	.	OF-N6
	.	.	.	V
	.	.	.	V
212	.	.	R-N5	.

217	.	.	.	OF-N7

223	.	.	CP-N4.....	.
	.	.	V	.
	.	.	V	.
225	.	.	R-N6	.

230	.	.	.	OF-N8
	.	.	.	V
	.	.	.	V
236	.	.	R-N7	.

241	.	.	.	OF-N9

247	.	.	CP-N5.....	.
	.	.	V	.
	.	.	V	.
249	.	.	R-N8	.

254	.	.	.	OF-N10

260	.	.	CP-N6.....	.
	.	.	V	.
	.	.	V	.
262	.	.	R-N9	.

267	.	.	.	OF-N11

273	.	.	CP-N7.....	.
	.	.	V	.
	.	.	V	.
275	.	.	R-N10	.

280	.	.	.	OF-N12

286	.	.	CP-N8.....	.
	.	.	V	.
	.	.	V	.
288	.	.	R-N11	.

293	.	.	.	OF-N13

299	.	.	CP-N9.....	.
	.	.	V	.
	.	.	V	.
301	.	.	R-N12	.

306	.	.	.	OF-N14

312	.	.	CP-NW.....	.
	.	.	V	.

+		R-E2	197.	12.58	36.	9.	3.	0.61
+	HYDROGRAPH AT	OF-E3	136.	12.33	23.	6.	2.	0.40
+	2 COMBINED AT	CP-E2	317.	12.50	58.	14.	5.	1.01
+	ROUTED TO	R-E3	261.	12.75	58.	14.	5.	1.01
+	HYDROGRAPH AT	OF-E4	249.	12.50	52.	13.	4.	1.09
+	2 COMBINED AT	CP-E3	479.	12.67	109.	27.	9.	2.10
+	ROUTED TO	R-E4	450.	12.83	108.	27.	9.	2.10
+	HYDROGRAPH AT	OF-E5	167.	12.42	32.	8.	3.	0.74
+	2 COMBINED AT	CP-E4	576.	12.83	139.	35.	12.	2.83
+	ROUTED TO	R-E5	543.	13.00	139.	35.	12.	2.83
+	HYDROGRAPH AT	OF-E6	265.	12.50	50.	12.	4.	0.89
+	2 COMBINED AT	CP-E5	719.	12.92	187.	47.	16.	3.73
+	ROUTED TO	R-E6	643.	13.17	186.	47.	16.	3.73
+	HYDROGRAPH AT	OF-W1	157.	12.33	26.	6.	2.	0.59
+	ROUTED TO	R-W1	107.	12.83	26.	6.	2.	0.59
+	HYDROGRAPH AT	OF-W2	329.	12.50	70.	18.	6.	1.25
+	2 COMBINED AT	CP-W1	414.	12.58	95.	24.	8.	1.84
+	ROUTED TO	R-W2	346.	13.00	95.	24.	8.	1.84
+	HYDROGRAPH AT	OF-W3	269.	12.50	52.	13.	4.	1.11
+	2 COMBINED AT	CP-W2	546.	12.83	146.	37.	12.	2.95
+	ROUTED TO	R-W3	539.	12.92	146.	37.	12.	2.95
+	HYDROGRAPH AT	OF-W4	87.	12.58	22.	6.	2.	0.51
+	2 COMBINED AT	CP-W3	613.	12.92	167.	42.	14.	3.47
+	ROUTED TO	R-W4	607.	13.00	167.	42.	14.	3.47
+	HYDROGRAPH AT	OF-N1	91.	12.42	11.	3.	1.	0.13
+	ROUTED TO	R-N1	60.	12.67	11.	3.	1.	0.13
+	HYDROGRAPH AT	OF-N2	112.	12.33	19.	5.	2.	0.31
+	2 COMBINED AT	CP-N1	156.	12.50	29.	7.	2.	0.44
+	ROUTED TO	R-N2	154.	12.58	29.	7.	2.	0.44
+	HYDROGRAPH AT	OF-N3	165.	12.42	32.	8.	3.	0.52
+	2 COMBINED AT	CP-N2	309.	12.50	61.	16.	5.	0.96

+	ROUTED TO	R-N3	274.	12.75	61.	16.	5.	0.96
+	HYDROGRAPH AT	OF-N4	323.	12.42	54.	14.	5.	1.11
+	HYDROGRAPH AT	OF-N5	69.	12.67	23.	6.	2.	0.47
+	3 COMBINED AT	CP-N3	599.	12.58	136.	35.	12.	2.54
+	ROUTED TO	R-N4	580.	12.75	136.	35.	12.	2.54
+	HYDROGRAPH AT	OF-N6	59.	12.42	11.	3.	1.	0.25
+	ROUTED TO	R-N5	46.	12.75	11.	3.	1.	0.25
+	HYDROGRAPH AT	OF-N7	89.	12.25	11.	3.	1.	0.24
+	3 COMBINED AT	CP-N4	664.	12.67	158.	41.	14.	3.03
+	ROUTED TO	R-N6	654.	12.83	158.	41.	14.	3.03
+	HYDROGRAPH AT	OF-N8	85.	12.33	8.	2.	1.	0.12
+	ROUTED TO	R-N7	77.	12.42	8.	2.	1.	0.12
+	HYDROGRAPH AT	OF-N9	80.	12.25	10.	3.	1.	0.17
+	2 COMBINED AT	CP-N5	153.	12.33	18.	4.	1.	0.29
+	ROUTED TO	R-N8	132.	12.50	18.	4.	1.	0.29
+	HYDROGRAPH AT	OF-N10	168.	12.33	28.	7.	2.	0.47
+	2 COMBINED AT	CP-N6	291.	12.42	46.	11.	4.	0.76
+	ROUTED TO	R-N9	245.	12.67	46.	11.	4.	0.76
+	HYDROGRAPH AT	OF-N11	406.	12.42	76.	19.	6.	1.28
+	2 COMBINED AT	CP-N7	616.	12.58	121.	30.	10.	2.05
+	ROUTED TO	R-N10	565.	12.75	121.	30.	10.	2.05
+	HYDROGRAPH AT	OF-N12	187.	12.50	38.	10.	3.	0.80
+	2 COMBINED AT	CP-N8	726.	12.67	159.	40.	13.	2.84
+	ROUTED TO	R-N11	685.	12.92	158.	40.	13.	2.84
+	HYDROGRAPH AT	OF-N13	104.	12.50	24.	6.	2.	0.50
+	3 COMBINED AT	CP-N9	1409.	12.83	337.	86.	29.	6.38
+	ROUTED TO	R-N12	1347.	13.00	336.	86.	29.	6.38
+	HYDROGRAPH AT	OF-N14	116.	12.50	29.	7.	2.	0.49
+	3 COMBINED AT	CP-NW	2021.	13.00	526.	133.	44.	10.33
+	ROUTED TO	R-NW	1931.	13.17	523.	133.	44.	10.33
+	HYDROGRAPH AT	PRJCT	481.	12.50	95.	24.	8.	1.08

+ 3 COMBINED AT CP-NWE 2659. 13.17 761. 194. 65. 15.13

*** NORMAL END OF HEC-1 ***



APPENDIX C

PRELIMINARY RETENTION & DEWATERING CALCULATIONS