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February 12, 2020

Mr. Dan Brown
Polo Brown Company
514 Pike Avenue
Canon City, CO 81212

RE: Willow Springs Ranch
Traffic Impact Study
Monument, Colorado
LSC #194550

Dear Mr. Brown:

In response to your request, LSC Transportation Consultants, Inc. has prepared this traffic impact analysis for the proposed Willow Springs Ranch development located in Monument, Colorado. As shown in Figure 1, the site is located south of the south terminus of Synthes Avenue, east and southeast of the south terminus of Mitchell Avenue, west of the Union Pacific Railroad tracks, and north of Baptist Road/Forest Lakes Drive. The development is planned to include approximately 400 single-family homes.

REPORT CONTENTS

The report contains the following:

- An inventory of existing roadway and traffic conditions on the adjacent and nearby roadway system, including surface conditions, functional classification, widths, pavement markings, traffic control signs, posted speed limits, intersection and access spacing, roadway and intersection alignments, roadway grades, and auxiliary turn lanes.
- Weekday peak-hour turning movement traffic counts at the following intersections:
  - Baptist Road/Old Denver Road
  - Forest Lakes Drive and a private drive just west of Hay Creek Road
  - Mitchell Avenue/2nd Street
  - Mitchell Avenue/Synthes Avenue
- Estimated current average weekday traffic (AWT) volumes on the study area streets including Old Denver Road and Baptist Road
- Projections of 20-year background traffic volumes on the study area streets and intersections based on information available regarding approved or planned nearby developments. Background traffic would be estimated both with and without a bridge over Monument Creek in the development.

- The proposed site land use
- Estimates of average weekday and weekday peak-hour trip generation for the proposed development
- Estimated directional distribution of site-generated vehicle-trips on the area street and roadway network with and without a bridge over Monument Creek (and the planned Collector street connection between Forest Lakes Drive and Synthes Avenue) within the development
- Projected site-generated and resulting total short-term and long-term peak-hour intersection traffic volumes at the study intersections:
    - Baptist Road/Old Denver Road
    - Mitchell Avenue/2nd Street
    - Mitchell Avenue/Synthes Avenue
    - Forest Lakes Drive/Private Driveway/Future north-south collector
    - Forest Lakes Drive/Site Access Points
- Level of service analysis at the study area intersections for existing, short- and long-term background and total traffic scenarios
- Vehicle queuing analysis at the study area intersections as necessary
- Short- and long-term projected intersection analysis to determine intersection traffic control, auxiliary right-/left-turn lane needs, and other recommendations.

OTHER TRAFFIC IMPACT STUDIES USED IN THE PREPARATION OF THIS REPORT

The following traffic studies and reports were used in the preparation of this report:

- Forest Lakes Phase 2, February 2019
- Nexus Industrial, November 2017
- Wagons West, June 2017
- Pilot Travel Center, April 2017
- Baptist Road West Traffic Report, August 2013

CORRIDOR PRESERVATION

The El Paso County 2016 Major Transportation Corridor Plan Update (MTCP) shows Baptist Road as a two-lane collector adjacent to the site. No planned improvements are shown to the roadway in the MTCP. Copies of Map 14 2040 Roadway Plan (Classification and Lanes) and Map 17 2060 Corridor Preservation Plan from the MTCP with the site location identified are included in the appendix.

LAND USE AND PROPOSED ACCESS PLAN

The proposed project is planned to include approximately 400 single-family homes. As shown in Figure 2 the site is divided into a northern section with 281 homes and a southern section with 119 homes. Initially there will only be an emergency connection between the northern section

and southern section. Therefore, they will operate as independent developments with respect to vehicular traffic.

The southern section will have three full movement access points to Forest Lakes Drive. The southeast access point will align with Pelican Bay Drive and the northwest will align with Cattail Drive. The middle site access to Forest Lakes Drive will be located about 660 feet east of Cattail Drive. The northern section will have access via a north/south collector that will be an extension of Synthes Avenue. The collector will have five full movement, four-legged intersections and five T-intersections.

Ultimately, the collector that extends from Synthes Avenue will be extended further south and have a bridge constructed over Monument Creek. The intersection of the collector and Forest Lakes Drive will align with an existing private drive just west of Hay Creek Road.

AREA ROADWAYS AND EXISTING TRAFFIC

Area Roadways

The roads adjacent to the site are shown in Figure 1 and are listed below, followed by a brief description. Figure 3a shows the existing traffic controls and lane geometry for the intersections in the vicinity of the site.

- **Mitchell Avenue** is a paved two-lane road extending from North Monument Lake Road to approximately a half mile south of Synthes Ave. In the vicinity of the site, the posted speed limit on Mitchell Avenue is 30 miles per hour (mph). Mitchell Avenue is shown as a Collector on the MTCP.
- **2nd Street** is a paved two-lane Town of Monument street that extends east from Mitchell Road to State Highway 105. In the vicinity of the site, the posted speed limit on 2nd Street is 25 mph. 2nd Street crosses the BNSF Railroad tracks with an at-grade crossing approximately 170 feet east of Mitchell Avenue. The crossing has bells, flashers, and crossing gates.
- **Baptist Road** is a paved two-lane road extending east from Forest Lakes Drive. The roadway widens to four-lanes east of the roundabout at Old Denver Highway. Baptist Road is classified as a collector in the MTCP. Baptist Road provides access to I-25 and has a posted limit of 35 mph west of Old Denver Road and 40 mph east of Old Denver Road.
- **Forest Lakes Drive** is a two-lane collector that serves the Forest Lakes development. The road extends west as a continuation of Baptist Road into the Forest Lakes Development. The posted speed limit on Forest Lakes Drive is 35 mph.
- **Old Denver Road** is a Minor Arterial that extends north from Baptist Road to Santa Fe Avenue and then continues north as Beacon Lite Road. Old Denver Road has one through lane in each direction and the section north of Baptist Road has a posted speed limit of 40 mph.

EXISTING TRAFFIC CONDITIONS

Figure 3 shows the existing morning and afternoon peak-hour traffic volumes at the intersection of Mitchell Avenue/ 2nd Street, Mitchell Avenue/Synthes Avenue, and Baptist Road/Old Denver Road and an existing private driveway on Forest Lakes Drive located just west of Hay Creek Road. The traffic volumes are based on the manual peak-hour counts conducted by LSC in June 2019. The traffic count reports are attached. Figure 3 also shows the estimated average weekday (AWT) traffic volumes on key street segments in the vicinity of the site. The AWT volumes are estimates by LSC based on the peak hour turning movement counts.

EXISTING LEVELS OF SERVICE

Level of service (LOS) is a quantitative measure of the level of congestion or delay at an intersection. Level of service is indicated on a scale from "A" to "F." LOS A is indicative of very little congestion or delay. LOS F is indicative of a high level of congestion or delay. LOS A represents control delay of less than 10 seconds for unsignalized intersections. LOS F represents control delay of more than 50 seconds for unsignalized intersections. Table 1 shows the level of service delay ranges.

Table 1
Intersection Levels of Service Delay Ranges

Level of Service	Unsignalized Intersections Average Control Delay (seconds per vehicle)(1)
A	10.0 sec or less
B	10.1-15.0 sec
C	15.1-25.0 sec
D	25.1-35.0 sec
E	35.1-50.0 sec
F	50.1 sec or more

(1) For unsignalized intersections if V/C ratio is greater than 1.0 the level of service is LOS F regardless of the projected average controldelay per vehicle.

The intersections of Mitchell Avenue/2nd Street, Mitchell Avenue/Synthes Avenue, and Baptist Road/OId Denver and the existing private driveway on Forest Lakes located just west of Hay Creek Road have been analyzed to determine the current levels of service based on the unsignalized method of analysis procedures outlined in the *Highway Capacity Manual, 6th Edition* by the Transportation Research Board. Figure 3 shows the results of the analysis.

All of the movements at the intersections of Mitchell Avenue/2nd Street, Mitchell Avenue/Synthes Avenue, and Baptist Road/Old Denver Road and the private drive are currently operating at LOS B or better during the peak hours. The level of service reports are attached.

TRIP GENERATION

Estimates of the traffic volumes expected to be generated by the site have been made using the nationally published trip generation rates found in *Trip Generation, 10th Edition, 2017* by the Institute of Transportation Engineers (ITE). Table 2 shows the results of the trip generation estimates.

The site could be expected to generate about 3,776 new vehicle-trips on the average weekday, with about half entering and half exiting in a 24-hour period. During the morning peak hour, which generally occurs for one hour between 6:30 and 8:30 a.m., about 74 vehicles would enter and 222 vehicles would exit the site. During the afternoon peak hour, which generally occurs for one hour between 4:30 and 6:30 p.m., about 249 vehicles would enter and 147 vehicles would exit the site.

TRIP DISTRIBUTION AND ASSIGNMENT

The directional distribution of the site-generated traffic volumes on the adjacent roadways is one of the most important factors in determining the development's traffic impacts. The specific distribution estimates for the site-generated traffic volumes are shown in Figures 4 and 5. The estimates are based on the following factors: the location of the site with respect to regional employment, commercial, and activity centers; the location of the site with respect to the Town of Monument and the City of Colorado Springs metropolitan area; the land use proposed for the site; the proposed access system for the site; the roadway system serving the site; the projected development of nearby parcels; and the existing traffic patterns as indicated by the traffic counts.

Figure 4 shows the distribution estimate for the short-term condition which assumes the north-south collector road through the site has been constructed south from Synthes Avenue through the northern portion of the site only and a short section has been constructed north from Forest Lakes Drive to the access point for the southern portion of the site with no bridge over Monument Creek between the two portions of the site. Figure 4 shows separate distribution estimates for the homes within the northern and southern portions of the site. Figure 5 shows the distribution estimate for the long-term condition with the collector fully constructed from Forest Lakes Drive to Synthes Avenue.

When the distribution percentages (from Figures 4 and 5) are applied to the trip generation estimates (from Table 2), the site-generated traffic volumes on the adjacent roadways can be determined. Figures 6 and 7 show the projected site-generated traffic volumes for the short-term and long-term conditions, respectively.

FUTURE TRAFFIC

Short-Term Background Traffic

Background traffic is the traffic estimated to be on the adjacent roadways without consideration of the proposed development. Background traffic includes the through traffic volumes and the traffic generated by nearby developments, but assumes zero traffic generated by the site. The short-term background traffic volumes are shown in Figure 8a. The short-term background traffic volumes are based on the existing traffic volumes shown in Figure 3 plus estimates of additional traffic estimated to be generated by the buildout of approved developments within the vicinity of the site including buildout of Forest Lakes Filings 1, 2, 3 and 4 and Forest Lakes Phase 2. The short-term background traffic estimates assume no connection between Synthes Avenue and Forest Lakes Drive.

Figure 8b shows the lane geometry, traffic control, and level of service at the key intersections based on the short-term background volumes.

Short-Term Total Traffic

Figures 9a show the sum of the short-term background traffic volumes (from Figures 8a) plus the short-term site-generated traffic volumes without the north-south collector connection (from Figure 6). The short-term total traffic volumes identify the development's short-term impacts without a collector connection between Synthes Avenue and Forest Lakes Drive.

Figure 9b shows the lane geometry, traffic control, and level of service at the key intersections based on the short-term total volumes.

2040 Background Traffic

The background traffic volumes for the year 2040 are shown in Figures 10a. The 2040 background traffic volume estimates were based on the current traffic conditions, the expected development in the surrounding area, the Baptist Road West Traffic Report by Felsburg Holt & Ullevig dated August 2013, and other traffic studies completed in the area by LSC. The 2040 background/baseline traffic assumes buildout of Forest Lakes Phases I, II and III including an elementary school to be located just west of the site. The 2040 background traffic volumes also assume the proposed north-south collector through the site has been fully constructed. Half of the existing traffic volumes on Mitchell Road just south of 2nd Street (and on 2nd Street just east of Mitchell Avenue) were assumed to be rerouted with this new street connection.

Figure 10b shows the lane geometry, traffic control, and level of service at the key intersections based on the 2040 background volumes.

2040 Total Traffic

The total traffic volumes for the year 2040 are shown in Figures 11a. The 2040 total traffic volumes are the sum of the long-term site-generated traffic volumes with the collector connection (from Figure 7) plus the 2040 background traffic volumes (from Figure 10a).
Figure 11b shows the lane geometry, traffic control, and level of service at the key intersections based on the 2040 total volumes.

PROJECTED LEVELS OF SERVICE

The intersections of Mitchell Avenue/2nd Street, Mitchell Avenue/Synthes Avenue, Baptist Road/OId Denver, Forest Lakes and the new north-south collector and the site access points to Forest Lakes Drive have been analyzed to determine the projected future levels of service for the short-term and 2040 traffic volumes based on the unsignalized method of analysis procedures from the *Highway Capacity Manual, 6th Edition* by the Transportation Research Board. Figures 8b, 9b, 10b and 11b show the level of service analysis. The laneage and traffic control assumed in the analysis is depicted on the figures. The level of service reports are attached.

All movements at the all-way stop-sign-controlled intersections of Mitchell/2nd and Mitchel/Synthes are projected to operate at level of service C or better during the morning and afternoon peak hours based on the projected short-term which assume full buildout of Willow Springs Ranch and an emergency only connection between the northern and southern portion of the site. All movements at these intersections are projected to operate at LOS B or better based on the projected 2040 total traffic peak hour volumes which assume the proposed north-south collector through the site has been complete.

In the short-term, a short segment of the north-south collector is planned to be constructed from Forest Lakes Drive at the location of the private drive just west of Hay Creek Drive to the first Willow Springs access point. All movements at this intersection are projected to operate at LOS B or better during the peak hours based on the projected short-term total traffic volumes which assume an emergency only connection between the northern and southern portions of the site. By 2040 it was assumed that the proposed north-south collector would be fully constructed from Synthes Avenue to Forest Lakes Drive. The intersection of this collector and Forest Lakes is projected to operate at LOS F during the peak hour based on the projected 2040 total traffic volumes if it remains a two-way, stop sign-controlled intersection. If this intersection were to be converted to all-way, stop-sign control, all movements are projected to operate at LOS D or better.

The three proposed full-movement site access points to Forest Lakes Drive are projected to operate at LOS D or better for all movements as two-way stop sign-controlled based on the projected short-term and 2040 total traffic volumes.

The intersection of Baptist Road/Old Denver Road is a one-lane, modern roundabout. It is our understanding that this roundabout was designed to be expandable to a two-lane roundabout, if needed. All movements at this intersection are projected to operate at LOS C or better during the peak hours, based on the projected short-term and 2040 total traffic volumes as a one-lane roundabout. The 2040 analysis assumes the addition of a westbound right-turn "bypass" lane.

TRAFFIC SIGNAL WARRANT ANALYSIS

The intersection of the north-south collector and Forest Lakes Drive was analyzed to determine if either the Eight-Hour or Four-Hour Vehicular Volume Traffic Signal Warrant thresholds would be reached or exceeded based on the projected 2040 Background and Total peak-hour traffic volumes. This analysis using the peak hours is intended to provide an indication that a warrant may be met or is close to being met. In order for an Eight-Hour Traffic Signal Warrant to be satisfied, the volume threshold would need to be met for six additional hours of the day. In order for a Four-Hour Traffic Signal Warrant to be satisfied, the volume threshold would need to be met for two additional hours of the day. For example, the four-hour warrant would be satisfied with the volume thresholds met for one hour in the morning, two hours (instead of the one-hour peak) during the afternoon peak period, and an hour during the mid-afternoon. The results of the analysis are shown in Table 3.

As shown in Table 3 the thresholds for both an Eight-hour and Four-Hour Vehicular Volume Traffic Signal Warrant are projected to be met during both the morning and afternoon peak hours, based on the projected 2040 total traffic volumes, but not the 2040 background volumes.

The satisfaction of warrants does not indicate that a signal must be installed. The decision to require a signal to be installed rests with the El Paso County.

CONCLUSIONS AND RECOMMENDATIONS

Trip Generation

The site could be expected to generate about 3,776 new vehicle-trips on the average weekday, with about half entering and half exiting in a 24-hour period. During the morning peak hour, about 74 vehicles would enter and 222 vehicles would exit the site. During the afternoon peak hour, about 249 vehicles would enter and 147 vehicles would exit the site.

PROJECTED LEVELS OF SERVICE

All of the intersections studied are projected to operate at satisfactory levels of service based on the projected traffic volumes and the shown lane configurations and traffic controls.

ROADWAY IMPROVEMENTS

A list of all improvements in the vicinity of the site is presented in Table 4.

The *El Paso County Engineering Criteria Manual (ECM)* for Collectors was used to determine the turn-lane thresholds for the proposed access points to Forest Lakes Drive and the proposed intersection of the new north-south collector and Forest Lakes Drive. The *El Paso County ECM* criterion is 25 vehicles per hour (vph) for a left-tum deceleration lane and 50 vph for a right-tum deceleration lane.

Forest Lakes Drive currently has one through lane plus a center two-way left-turn lane adjacent to the site, except for the west leg of the intersection of the future north-south collector and Forest Lakes Drive. There is an existing raised median and crosswalk on this leg. The projected left-turn volume for this movement is projected to be less than 25 miles per hour and the median will help provide a safer crossing for pedestrians at this location, therefore an eastbound left-turn lane is not recommended on Forest Lakes Avenue approaching the new north-south collector.

Based on the projected 2040 total traffic volumes, right-turn deceleration lanes would not be required on Forest Lakes Drive approaching the three proposed full-movement access points. A westbound right-turn deceleration lane would also not be required on Forest Lakes Drive approaching the future north-south collector intersection based on the projected short-term total traffic volumes, but would be required based on the projected 2040 background and total traffic volumes. It is anticipated that this improvement will be needed once the north-south collector is completely constructed from Synthes Avenue to Forest Lakes . Based on the criteria contained in the ECM, this lane should be 155 feet long plus a 160-foot taper.

The south access on the Collector (just north of Baptist Road) will likely need to be restricted to right-in/right-out turning movements given the short spacing from Baptist Road.

* * * * *

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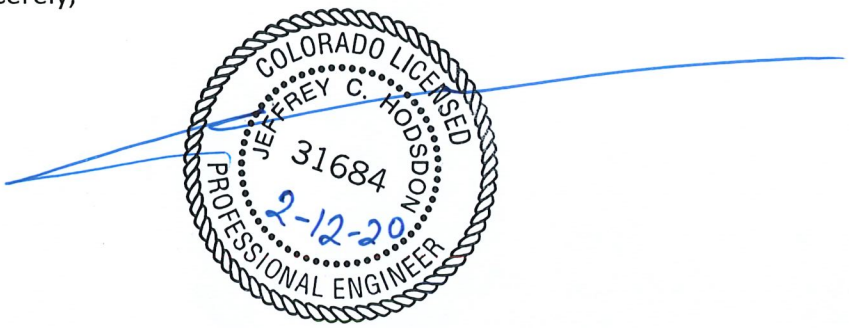
Please contact me if you have any questions regarding this report.

Sincerely,



LSC TRANSPORTATION CONSULTANTS, INC.

By _____
Jeffrey C. Hodsdon, P.E.
Principal

CRG:KDF:jas

Enclosures: Tables 2-4
Figures 1-13
Traffic Count Reports
Level of Service Reports
Appendix Tables 1-4
MTCP Maps

Tables and Figures

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Table 2
Trip Generation Estimate
Willow Springs Ranch

Land Use Code	Land Use Description	Trip Generation Units	Trip Generation Rates [1] Average Weekday Traffic	Morning Peak Hour In	Morning Peak Hour Out	Afternoon Peak Hour In	Afternoon Peak Hour Out	Total Trips Generated Average Weekday Traffic	Morning Peak Hour In	Morning Peak Hour Out	Afternoon Peak Hour In	Afternoon Peak Hour Out
Proposed Land Use												
North Site												
210	Single-Family Detached Housing	281 DU [2]	9.44	0.19	0.56	0.62	0.37	2,653	52	156	175	103
South Site												
210	Single-Family Detached Housing	119 DU	9.44	0.19	0.56	0.62	0.37	1,123	22	66	74	44
	Total	**400 DU**						**3,776**	**74**	**222**	**249**	**147**

Notes:

(1) Source: "Trip Generation, 10th Edition, 2017" by the Institute of Transportation Engineers (ITE)

(2) DU = dwelling unit

Source: LSC Transportation Consultants, Inc.

Table 3

Willow Springs Ranch

Traffic Signal Warrant Analysis of Collector/Forest Lakes Drive

Hour	Traffic Volumes			Warrant Analysis[1]										
				Warrant 1, Eight Hour Vehicular Volume Evaluation								Warrant 2, Four Hour Vehicular Volume Evaluation		
				Warrant Thresholds				Warrant Threshold Met?					Warrant Threshold Met?	
		Minor		Condition A		Condition B		North Leg		South Leg		Warrant Threshold Minor Minimum	North Leg	South Leg
	Major[2]	North[3]	South[4]	Major	Minor	Major	Minor	A	B	A	B			
2040 Background Traffic														
AM Peak	823	116	15	500	150	900	100	No	No	No	No	143	No	- - -
PM Peak	689	204	2	750	75	900	100	No	No	No	No	184	**Yes**	- - -
2040 Total Traffic														
AM Peak	924	259	15	500	150	900	100	**Yes**	**Yes**	No	No	115	**Yes**	No
PM Peak	921	298	2	750	75	900	100	**Yes**	**Yes**	No	No	115	**Yes**	No
58% of the AM Peak	537	151	9	500	150	900	100	**Yes**	No	No	No	- - -	- - -	- - -
81% of the PM Peak	750	243	2	750	75	900	100	**Yes**	No	No	No	- - -	- - -	- - -
74% of the AM Peak	680	190	11	500	150	900	100	**Yes**	No	No	No	188	**Yes**	- - -
82% PM Peak	755	244	2	750	75	900	100	**Yes**	No	No	No	164	**Yes**	- - -

Notes:

(1) Thresholds are based on one lane on the major approach and one lane on the minor approach

(2) The major street traffic includes all eastbound and westbound movements (left, through and right) on Forest Lakes Drive

(3) The north leg minor street traffic includes all southbound left-turning, through, and right-turning traffic

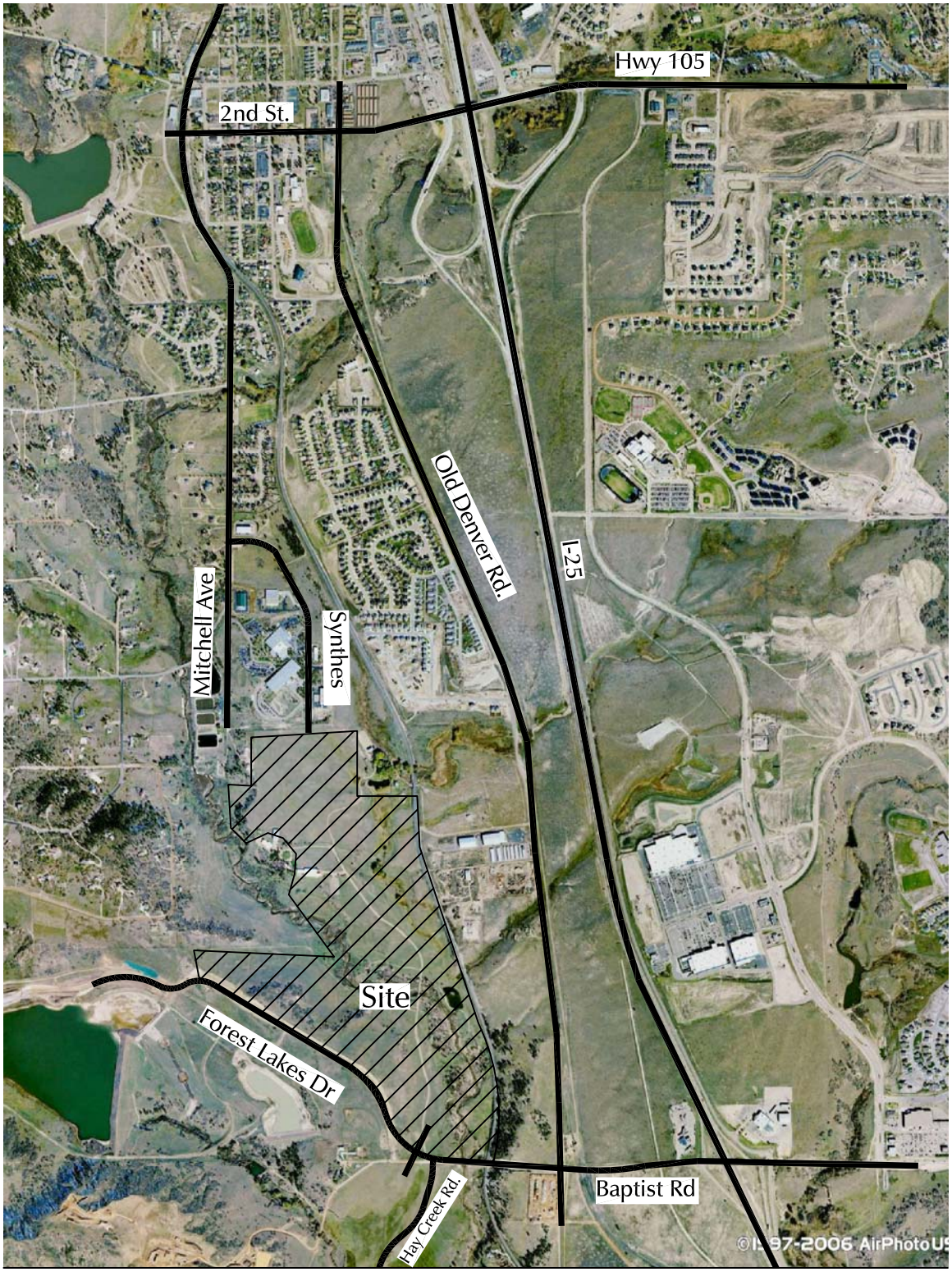
(3) The south leg minor street traffic includes all northbound left-turning, through, and right-turning traffic

Source: LSC Transportation Consultants, Inc.

Table 4
Willow Springs Ranch
Roadway Improvements

Improvement	Timing	Responsibility
Construct the north-south collector from Synthes Avenue to the southernmost access point of the north portion of the site	Short-Term	Willow Springs Ranch
Construct the north-south collector from Forest Lakes Drive to the access point for the south portion of the site	Short-Term	Willow Springs Ranch
Construct an emergency only connection between the two segments of the north-south collector	Short-Term	Willow Springs Ranch
Construct the north-south as a collector between the north portion of the site and the south portion of the site including a bridge across the creek	Long-Term	Willow Springs Ranch
Construct a westbound right-turn deceleration lane on Forest Lakes Drive approaching the north-south collector	With the completion of the north-south collector between Synthes Avenue and Forest Lakes Drive	Willow Springs Ranch
Construct a westbound right-turn bypass lane at the intersection of Baptist/Old Denver	Long-Term (likely needed with development of the parcels located northeast of the intersection of Baptist/Old Denver)	Others

Source: LSC Transportation Consultants, Inc.



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Not to scale

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Figure 1

Vicinity

Willow Springs Ranch (LSC# 194550)

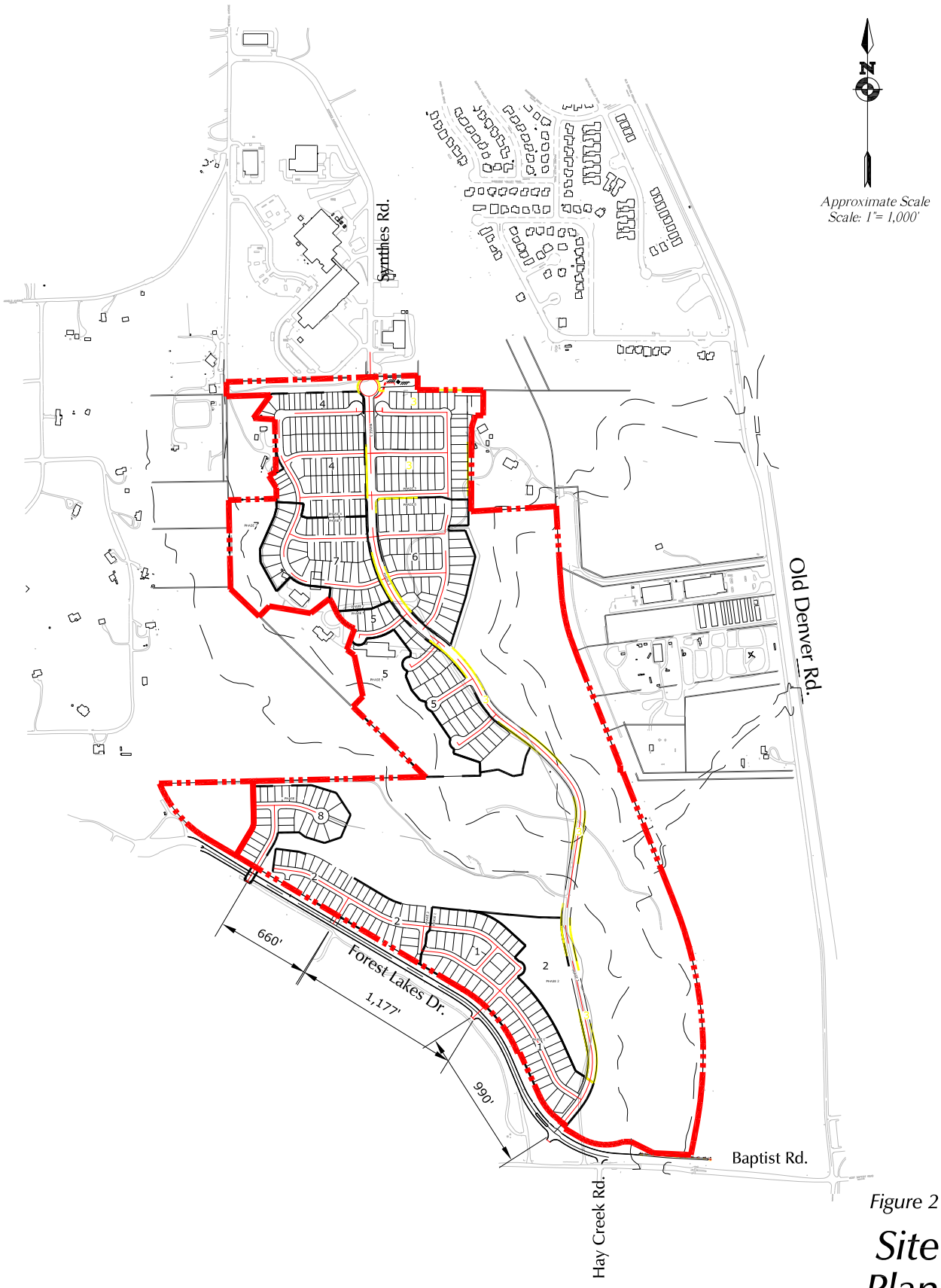

Figure 2

Site Plan

Willow Springs Ranch (LSC# 194550)

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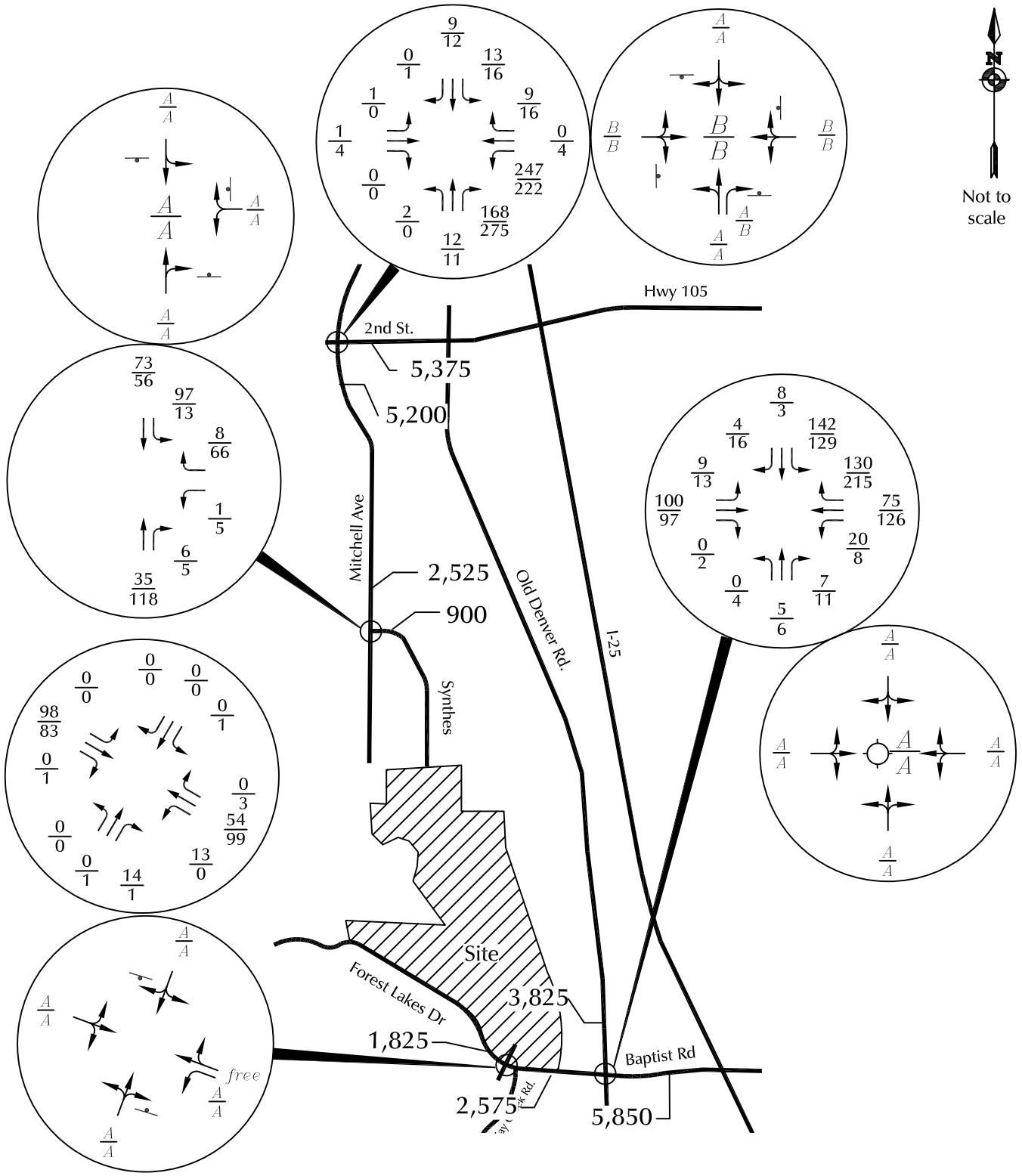

LEGEND: $\frac{XX}{XX}$ = $\frac{\text{AM Peak-Hour Traffic (veh/hr)}}{\text{PM Peak-Hour Traffic (veh/hr)}}$ XXX = Average Weekday Daily Traffic (vehicles/day)

$\frac{A}{B}$ = $\frac{\text{AM Individual Movement Peak-Hour Level of Service}}{\text{PM Individual Movement Peak-Hour Level of Service}}$ = Roundabout = Stop Sign

$\frac{C}{D}$ = $\frac{\text{AM Entire Intersection Peak-Hour Level of Service}}{\text{PM Entire Intersection Peak-Hour Level of Service}}$

Figure 3

Existing Traffic Conditions

Willow Springs Ranch (LSC# 194550)

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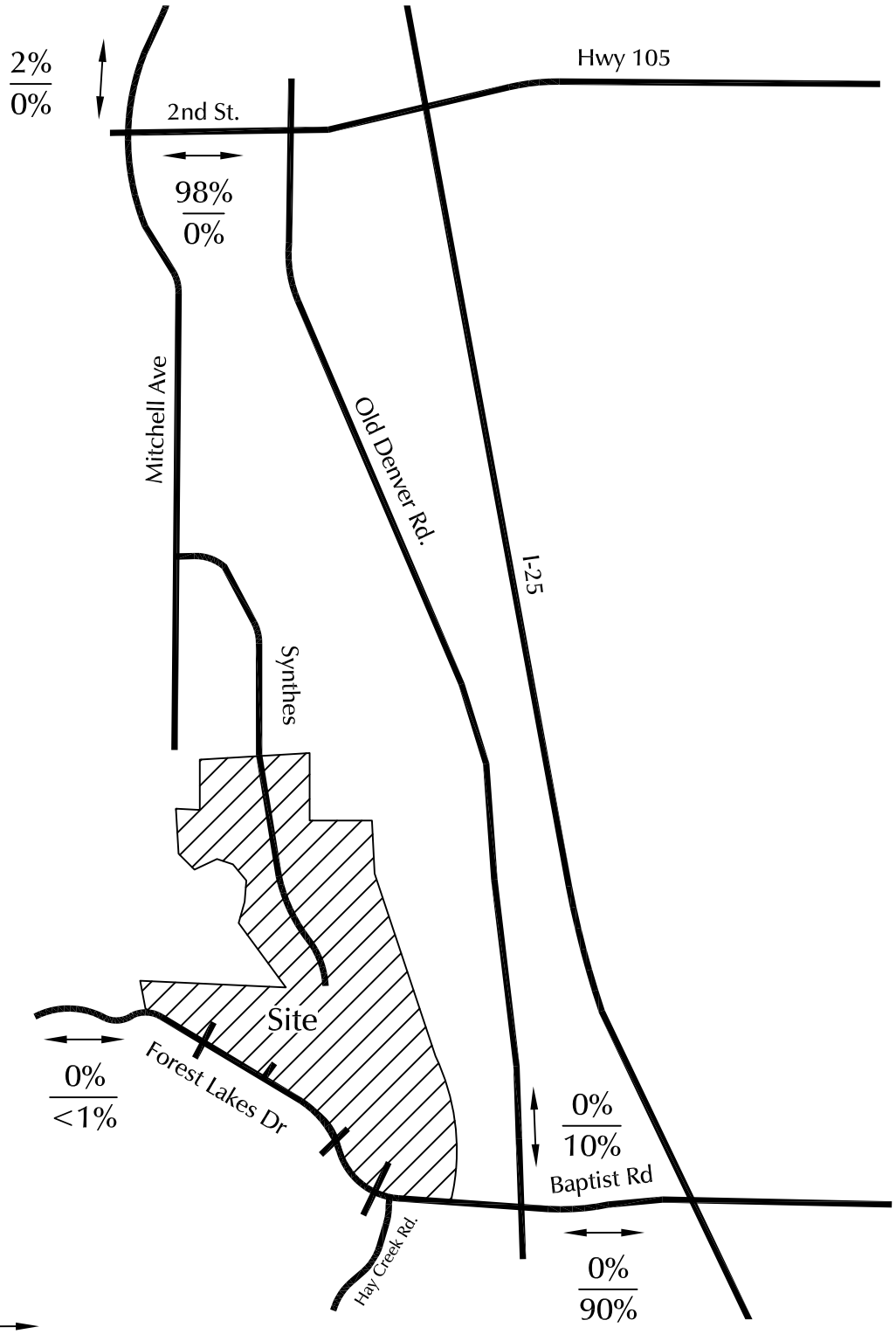

LEGEND:

$\frac{XX\%}{XX\%}$ = Directional distribution of north parcels (site-generated traffic) / Directional distribution of south parcels (site-generated traffic)

Figure 4

Short-Term Directional Distribution prior to Collector Connection

Willow Springs Ranch (LSC# 194550)

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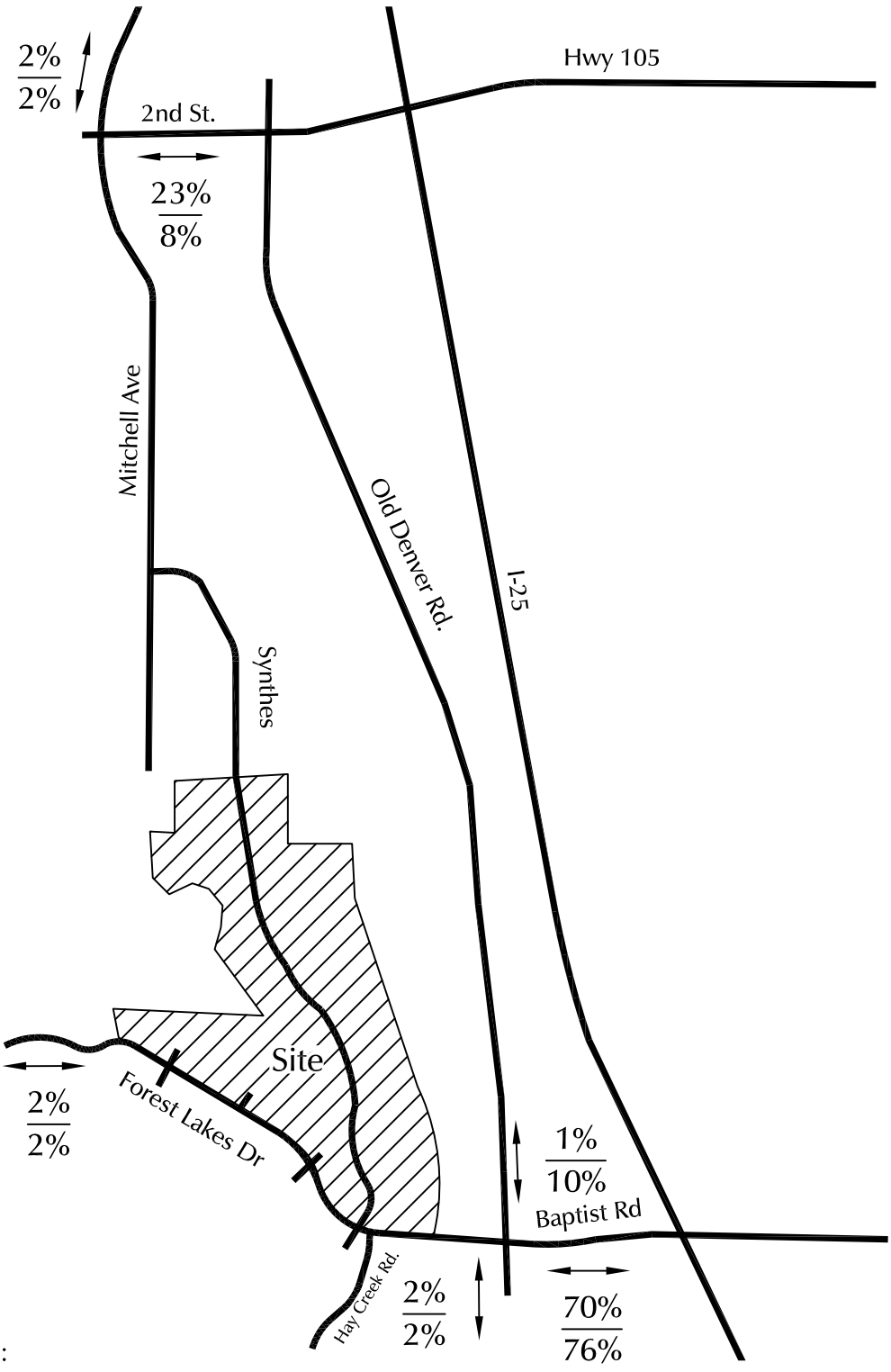

LEGEND:

$\frac{XX\%}{XX\%}$ = Directional distribution of north parcels (site-generated traffic) / Directional distribution of south parcels (site-generated traffic)

Figure 5

2040 Directional Distribution with Collector Connection

Willow Springs Ranch (LSC# 194550)

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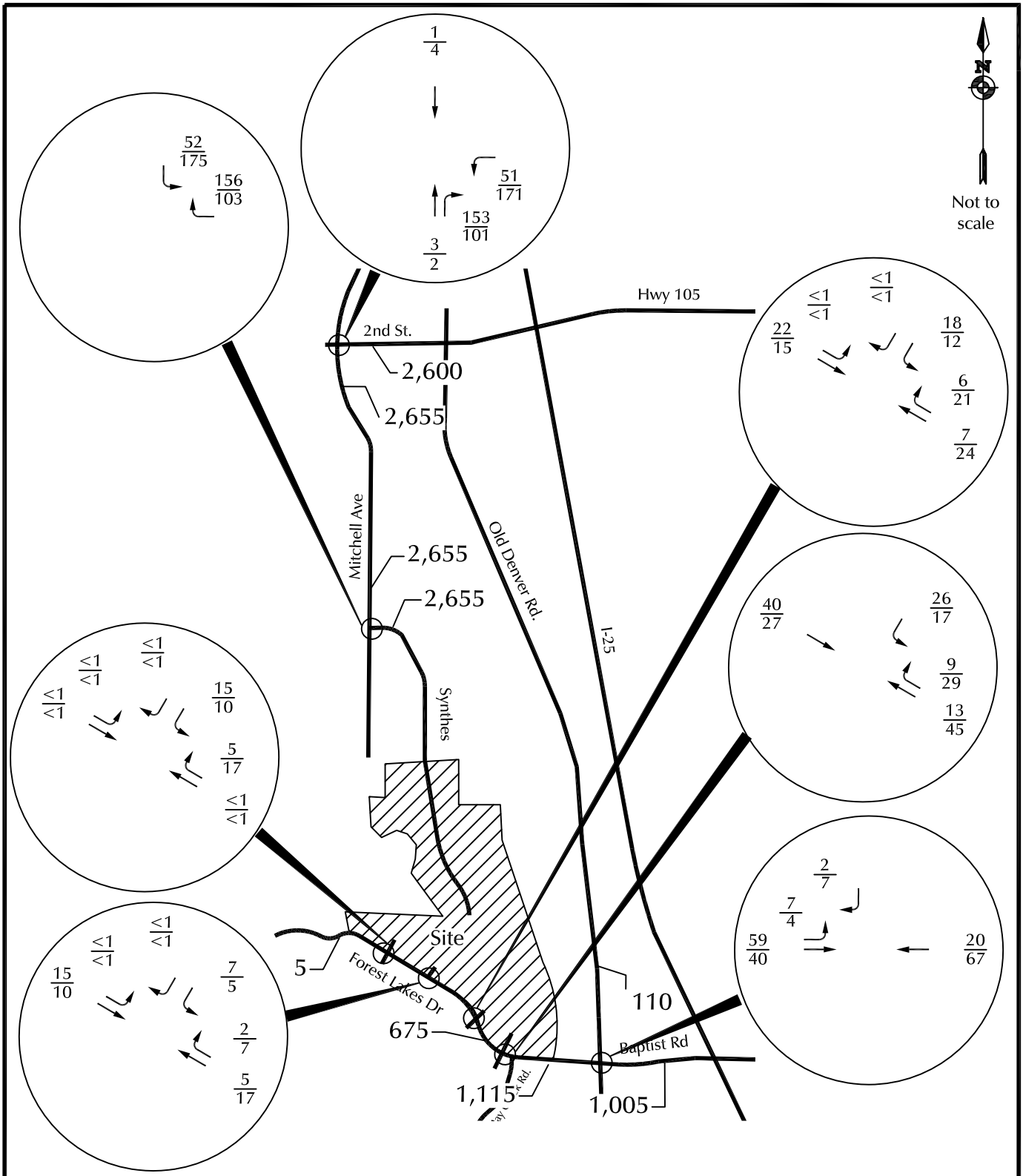

LEGEND:

$$\frac{XX}{XX} = \frac{\text{AM Peak–Hour Traffic (veh/hr)}}{\text{PM Peak–Hour Traffic (veh/hr)}}$$

XXX = Average Weekday Daily Traffic (vehicles per day)

Figure 6

Short-Term Site-Generated Traffic prior to Collector Connection

Willow Springs Ranch (LSC# 194550)

LSC TRANSPORTATION CONSULTANTS, INC.

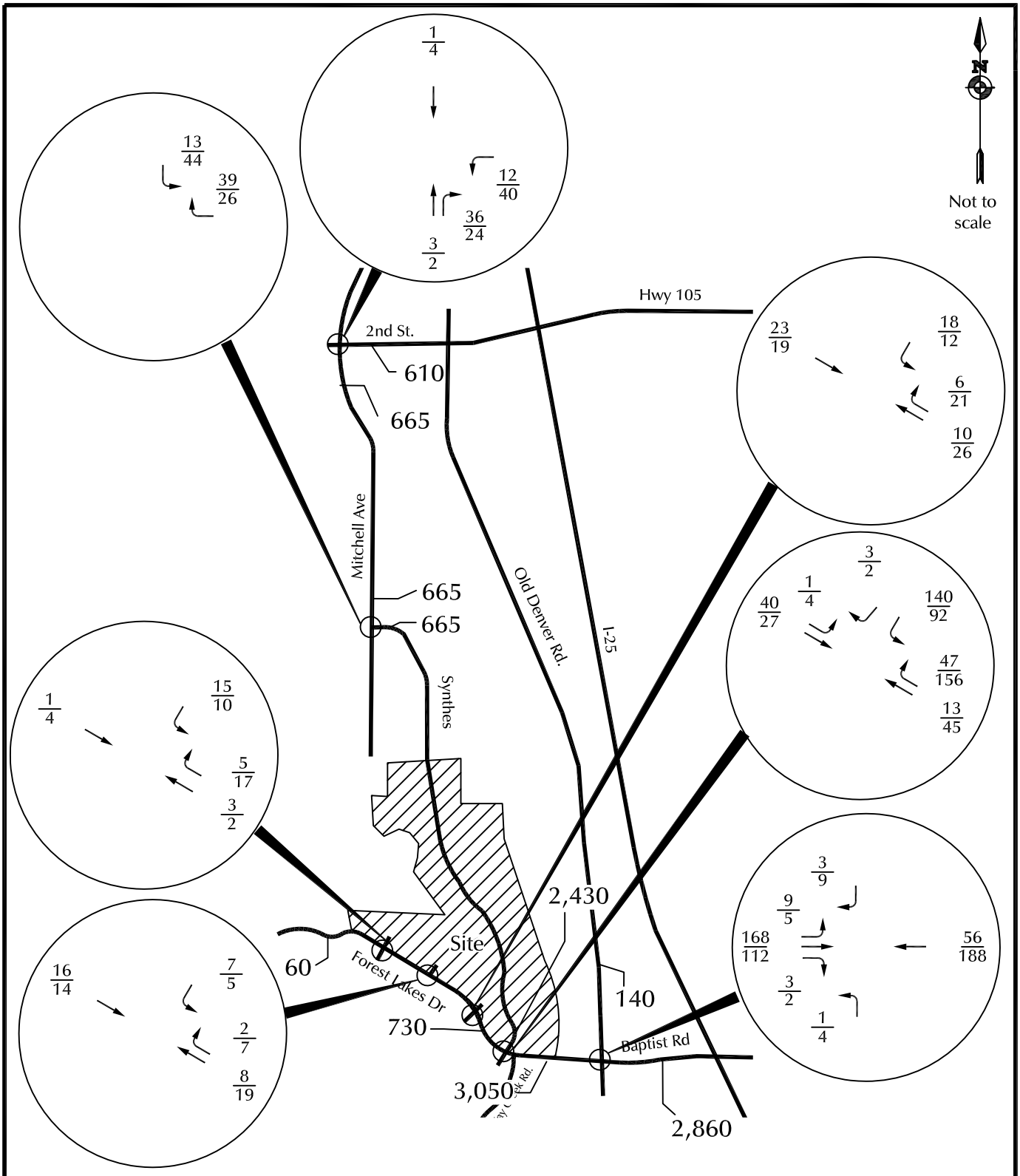

Figure 7

Long-Term Site-Generated Traffic with Collector Connection

Willow Springs Ranch (LSC# 194550)

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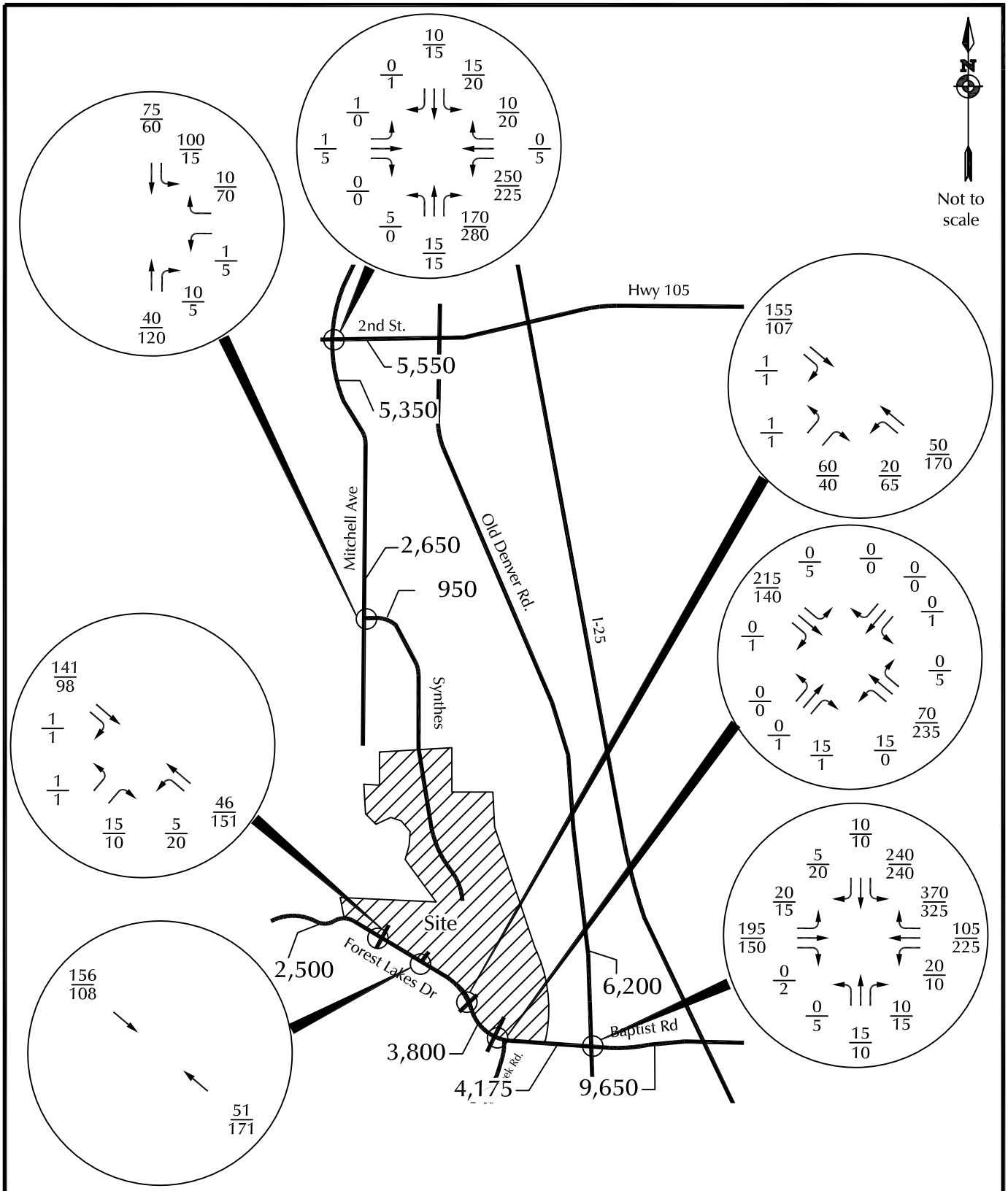


LEGEND:

$\frac{XX}{XX} = \frac{\text{AM Peak-Hour Traffic (veh/hr)}}{\text{PM Peak-Hour Traffic (veh/hr)}}$

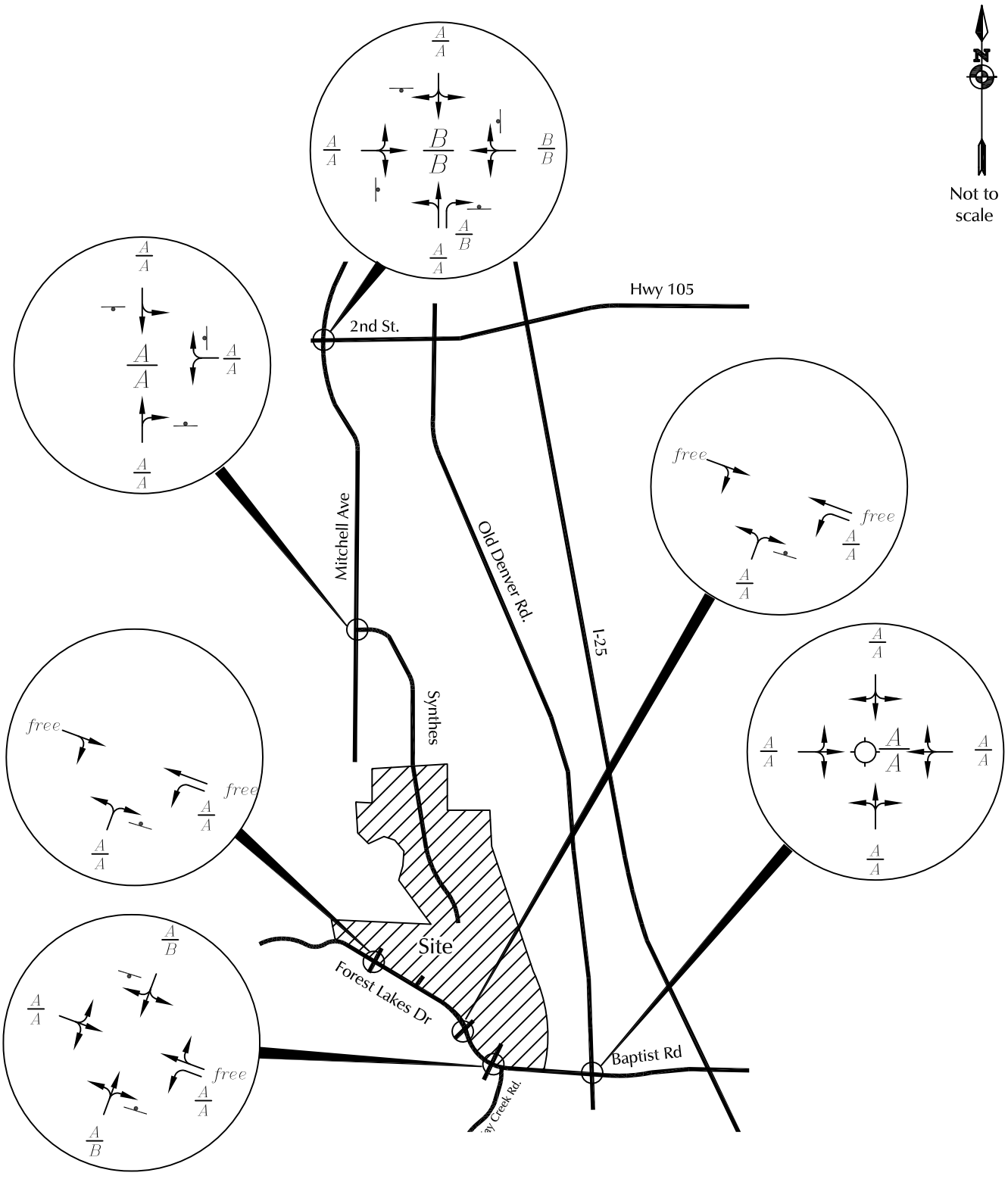
XXX = Average Weekday Daily Traffic (vehicles per day)

Figure 8a

Short-Term Background Traffic

Willow Springs Ranch (LSC# 194550)

LSC TRANSPORTATION CONSULTANTS, INC.



LEGEND:

$\frac{A}{B}$ = AM Individual Movement Peak–Hour Level of Service / PM Individual Movement Peak–Hour Level of Service

$\frac{C}{D}$ = AM Entire Intersection Peak–Hour Level of Service / PM Entire Intersection Peak–Hour Level of Service

= Roundabout

= Stop Sign

Figure 8b

Short-Term Background Lane Geometry, Traffic Control, and Level of Service

Willow Springs Ranch (LSC# 194550)

LSC TRANSPORTATION CONSULTANTS, INC.

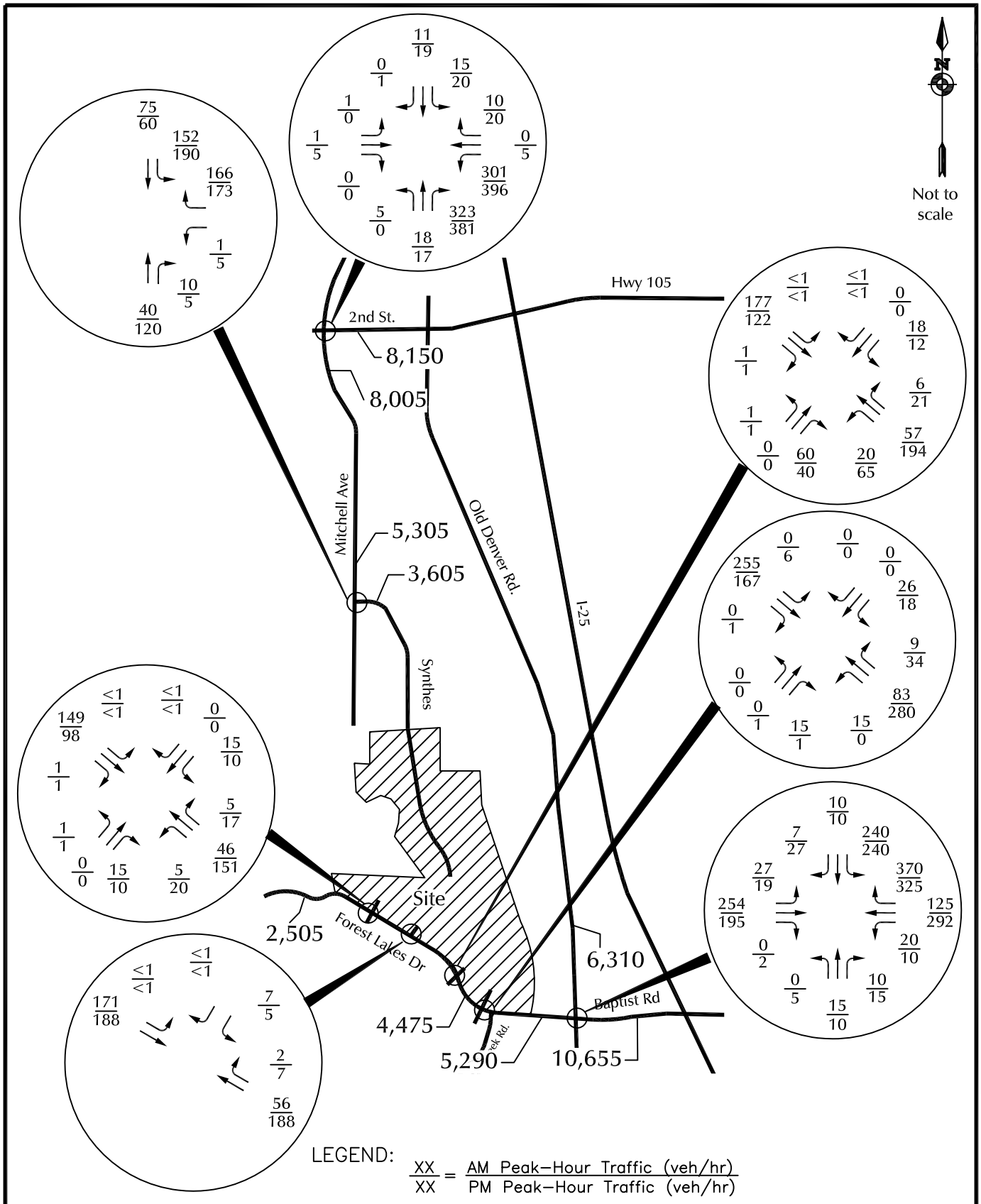
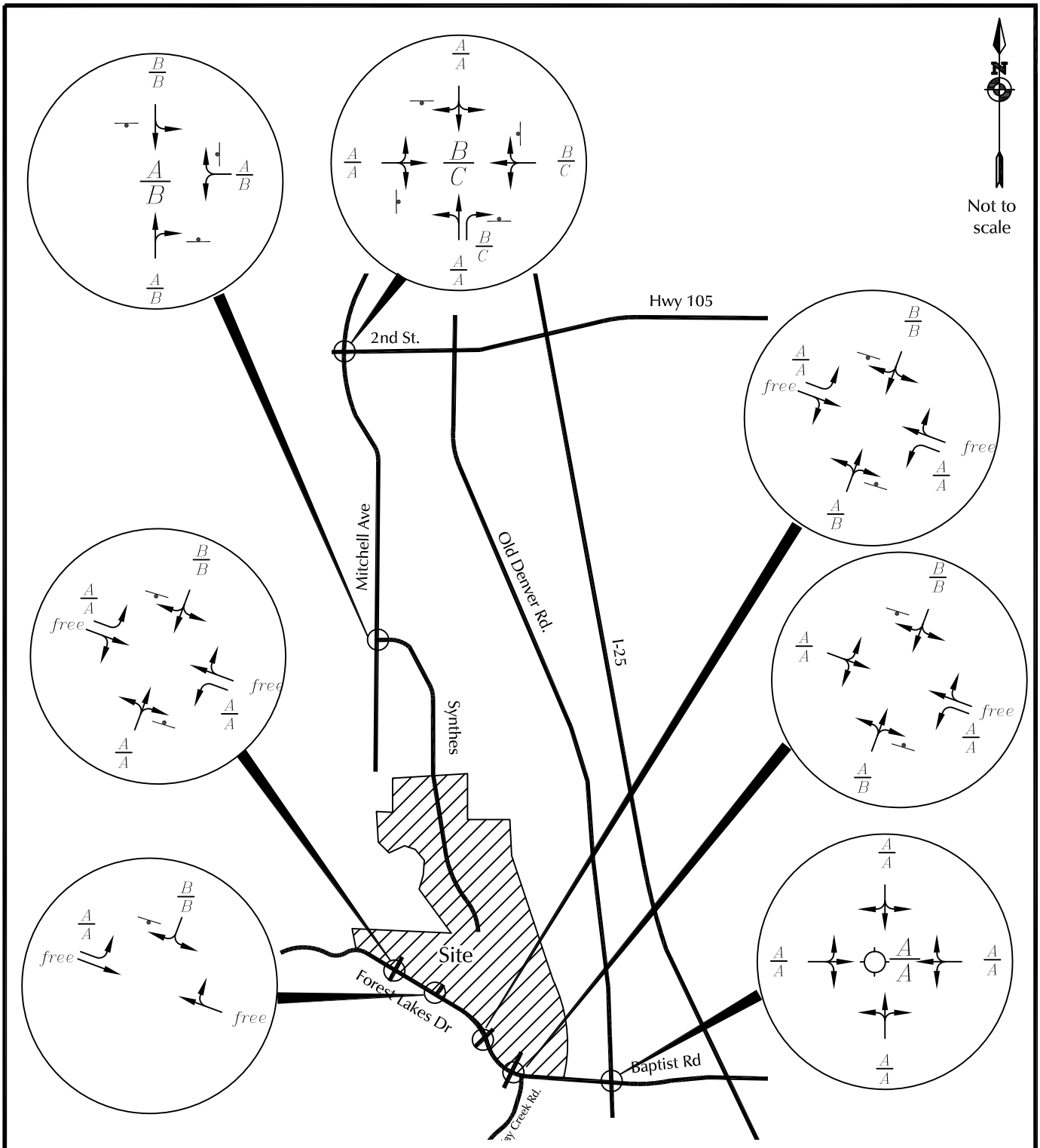


Figure 9a

Short-Term Total Traffic

Willow Springs Ranch (LSC# 194550)

LSC TRANSPORTATION CONSULTANTS, INC.



LEGEND:

$\frac{A}{B}$ = AM Individual Movement Peak–Hour Level of Service / PM Individual Movement Peak–Hour Level of Service

$\frac{C}{D}$ = AM Entire Intersection Peak–Hour Level of Service / PM Entire Intersection Peak–Hour Level of Service

= Roundabout

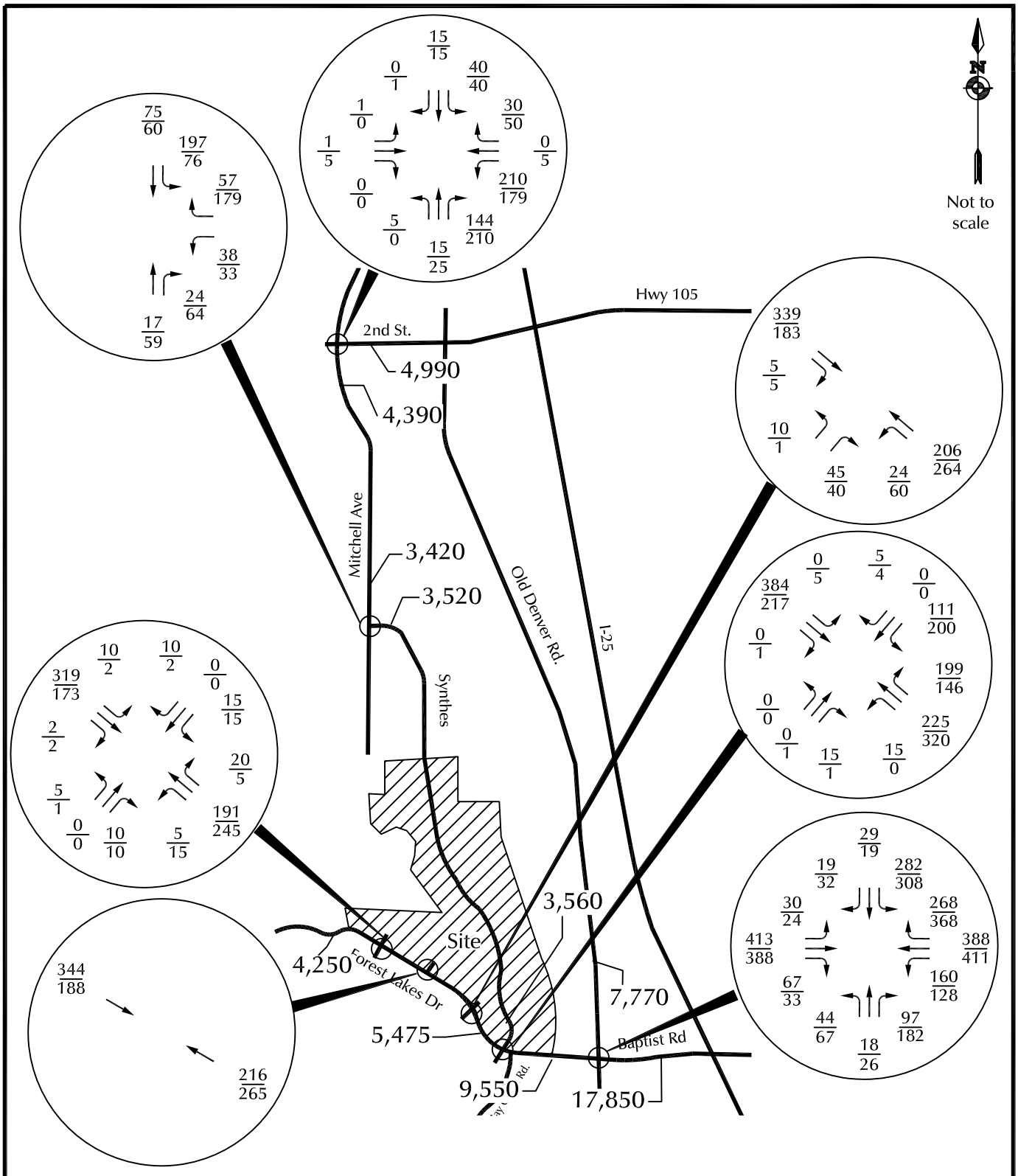
= Stop Sign

Figure 9b

Short-Term Total Lane Geometry, Traffic Control, and Level of Service

Willow Springs Ranch (LSC# 194550)

LSC TRANSPORTATION CONSULTANTS, INC.



LEGEND:

$$\frac{XX}{XX} = \frac{\text{AM Peak-Hour Traffic (veh/hr)}}{\text{PM Peak-Hour Traffic (veh/hr)}}$$

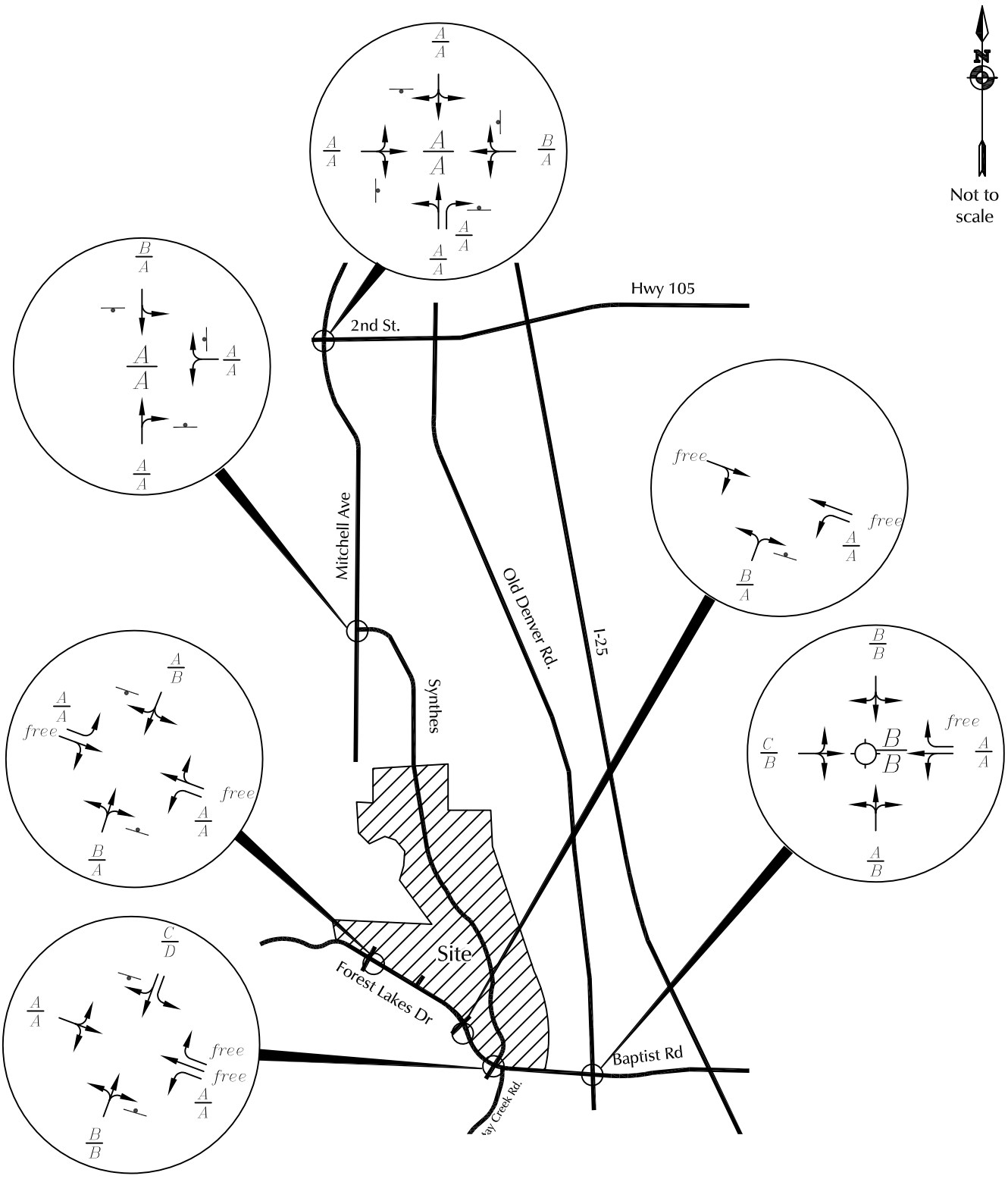
XXX = Average Weekday Daily Traffic (vehicles per day)

TRANSPORTATION CONSULTANTS, INC.

Figure 10a

2040 Background Traffic

Willow Springs Ranch (LSC# 194550)



LEGEND:

$\frac{A}{B}$ = AM Individual Movement Peak–Hour Level of Service / PM Individual Movement Peak–Hour Level of Service

$\frac{C}{D}$ = AM Entire Intersection Peak–Hour Level of Service / PM Entire Intersection Peak–Hour Level of Service

= Roundabout

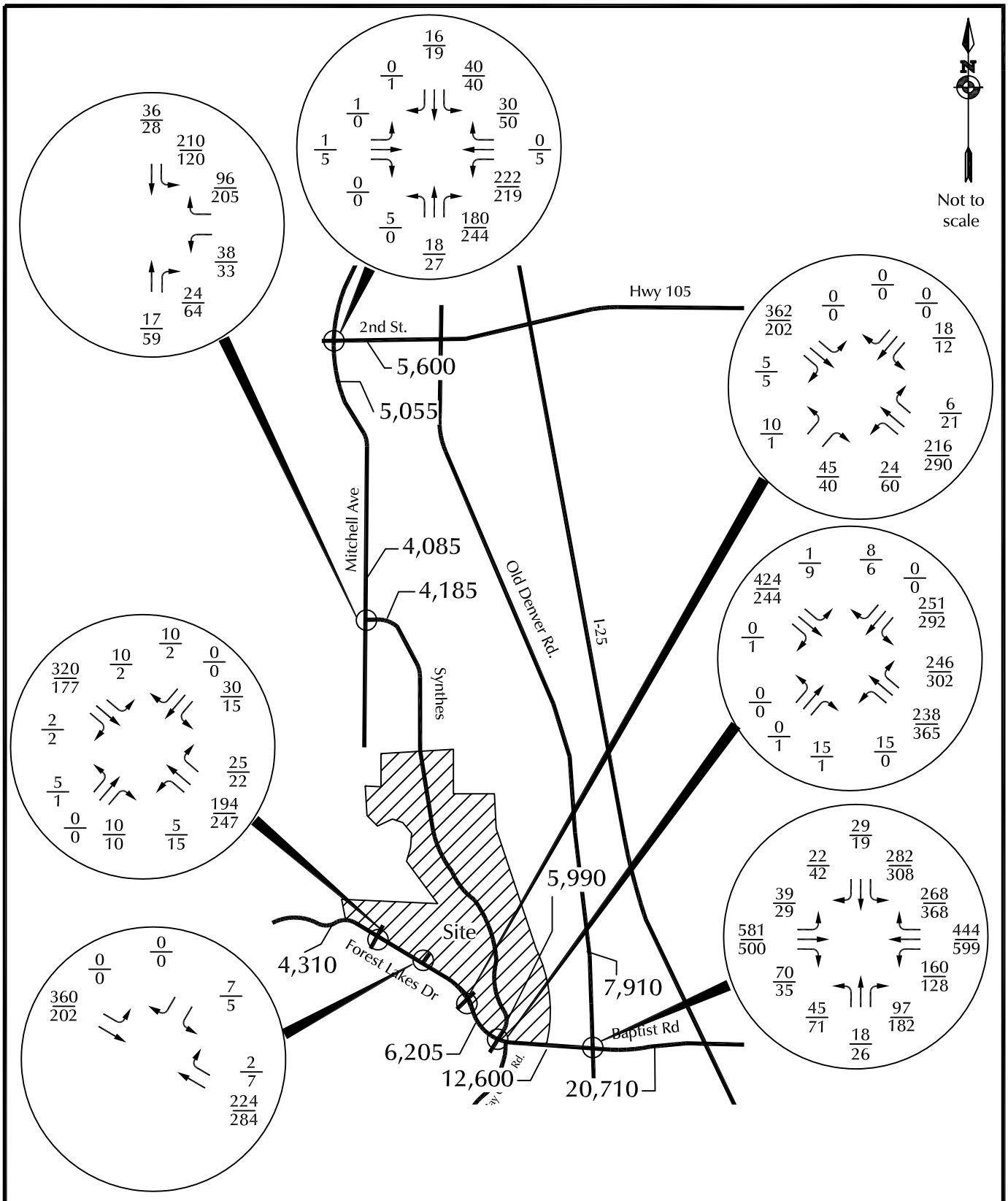
= Stop Sign

Figure 10b

2040 Background Lane Geometry, Traffic Control, and Level of Service

Willow Springs Ranch (LSC# 194550)

LSC TRANSPORTATION CONSULTANTS, INC.



LEGEND: $\frac{XX}{XX}$ = $\frac{\text{AM Peak-Hour Traffic (veh/hr)}}{\text{PM Peak-Hour Traffic (veh/hr)}}$

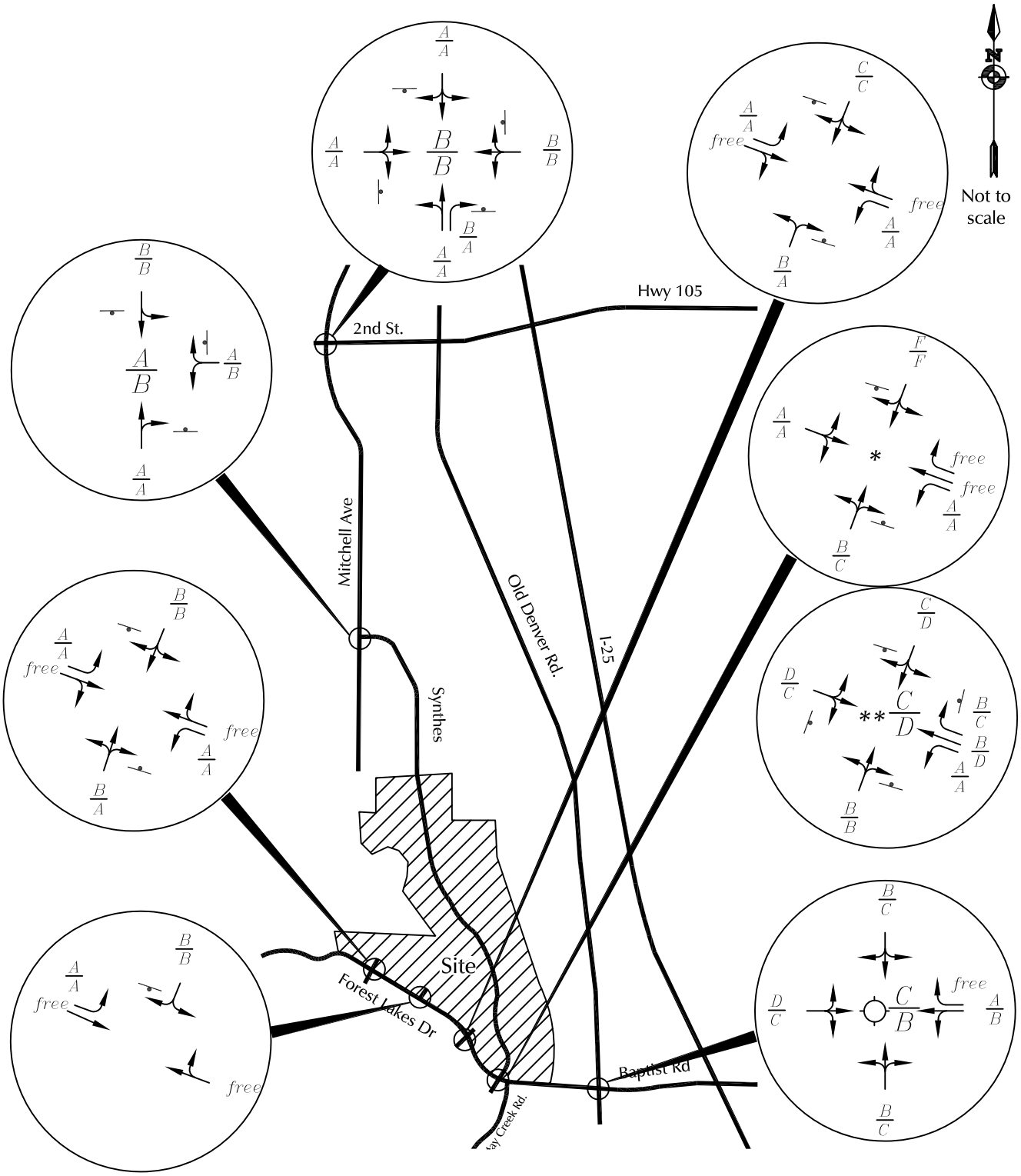
XXX = Average Weekday Daily Traffic (vehicles per day)

LSC TRANSPORTATION CONSULTANTS, INC.

Figure 11a

2040 Total Traffic

Willow Springs Ranch (LSC# 194550)



LEGEND: $\frac{A}{B}$ = AM Individual Movement Peak–Hour Level of Service / PM Individual Movement Peak–Hour Level of Service

$\frac{C}{D}$ = AM Entire Intersection Peak–Hour Level of Service / PM Entire Intersection Peak–Hour Level of Service

= Roundabout

= Stop Sign

* – Two–way stop sign control

** – Four–way stop sign control

Figure 11b

2040 Total Lane Geometry, Traffic Control, and Level of Service

Willow Springs Ranch (LSC# 194550)

LSC TRANSPORTATION CONSULTANTS, INC.

Traffic Counts

TRANSPORTATION
CONSULTANTS, INC.

COUNTER MEASURES INC.

1889 YORK STREET
DENVER.COLORADO
303-333-7409

N/S STREET: MITCHELL AVE
E/W STREET: 2ND AVE
CITY: MONUMENT
COUNTY: EL PASO

File Name : MITCH2ND
Site Code : 00000022
Start Date : 6/20/2019
Page No : 1

Groups Printed- VEHICLES

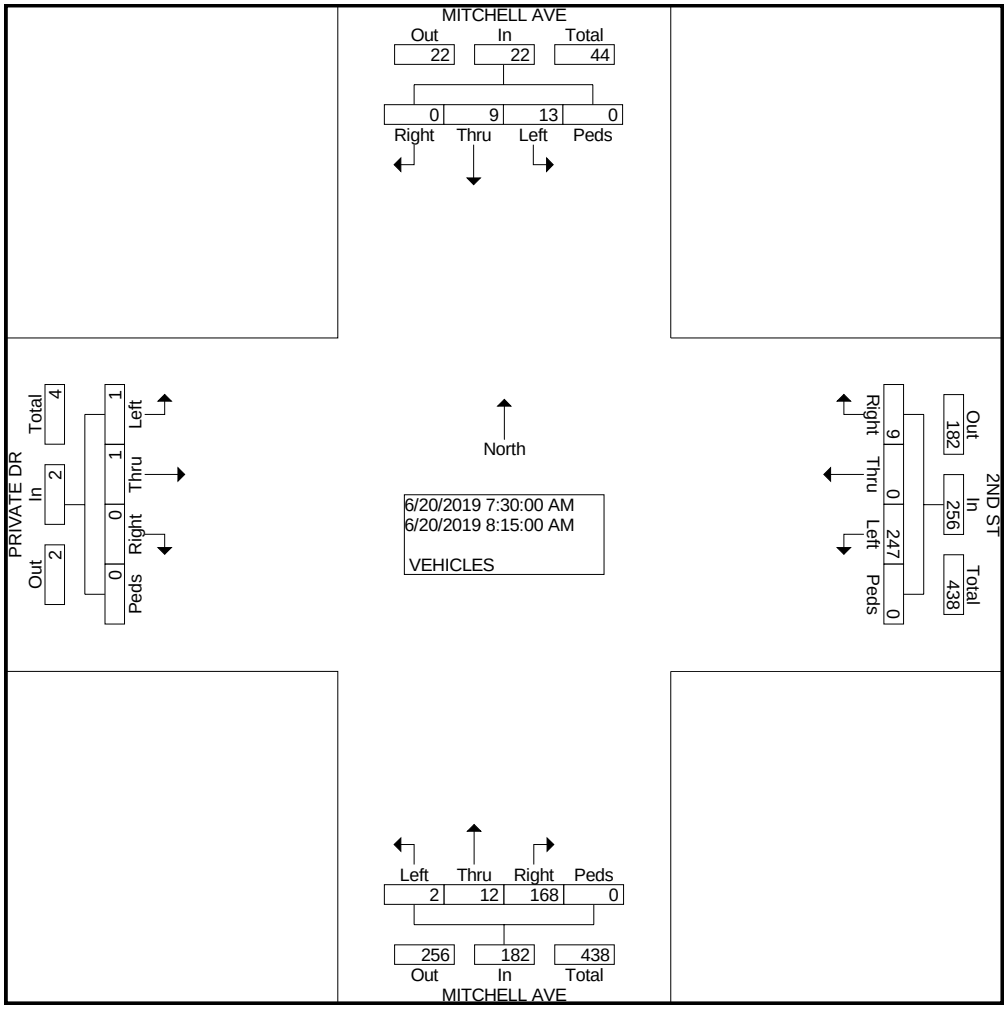
	MITCHELL AVE Southbound				2ND ST Westbound				MITCHELL AVE Northbound				PRIVATE DR Eastbound				
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Int. Total
Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
06:30 AM	5	1	0	0	36	0	1	0	0	2	35	0	0	0	0	0	80
06:45 AM	5	4	0	0	47	0	4	0	0	1	38	0	0	0	0	0	99
Total	10	5	0	0	83	0	5	0	0	3	73	0	0	0	0	0	179
07:00 AM	4	1	0	0	43	0	3	0	0	4	42	0	0	0	0	0	97
07:15 AM	3	2	0	0	49	0	2	0	0	5	40	0	0	0	0	0	101
07:30 AM	3	0	0	0	64	0	3	0	0	2	46	0	0	0	0	0	118
07:45 AM	3	5	0	0	79	0	1	0	1	5	49	0	0	0	0	0	143
Total	13	8	0	0	235	0	9	0	1	16	177	0	0	0	0	0	459
08:00 AM	3	1	0	0	47	0	1	0	1	3	37	0	1	1	0	0	95
08:15 AM	4	3	0	0	57	0	4	0	0	2	36	0	0	0	0	0	106
Total	7	4	0	0	104	0	5	0	1	5	73	0	1	1	0	0	201
04:00 PM	5	2	0	0	49	0	6	0	0	3	84	0	0	0	0	0	149
04:15 PM	5	5	0	0	44	0	7	0	0	4	49	0	0	0	0	0	114
04:30 PM	6	3	0	0	58	0	3	0	0	3	78	1	0	0	0	0	152
04:45 PM	1	0	1	0	65	1	5	0	0	1	62	0	0	2	0	0	138
Total	17	10	1	0	216	1	21	0	0	11	273	1	0	2	0	0	553
05:00 PM	8	4	0	0	51	1	6	0	0	4	67	0	0	2	0	0	143
05:15 PM	1	5	0	0	48	2	2	0	0	3	68	0	0	0	0	0	129
05:30 PM	1	3	0	0	55	0	5	0	0	6	53	0	0	0	0	0	123
05:45 PM	6	3	0	0	58	0	9	0	0	2	37	0	0	0	0	0	115
Total	16	15	0	0	212	3	22	0	0	15	225	0	0	2	0	0	510
Grand Total	63	42	1	0	850	4	62	0	2	50	821	1	1	5	0	0	1902
Apprch %	59.4	39.6	0.9	0.0	92.8	0.4	6.8	0.0	0.2	5.7	93.9	0.1	16.7	83.3	0.0	0.0	
Total %	3.3	2.2	0.1	0.0	44.7	0.2	3.3	0.0	0.1	2.6	43.2	0.1	0.1	0.3	0.0	0.0	

COUNTER MEASURES INC.
1889 YORK STREET
DENVER.COLORADO
303-333-7409

N/S STREET: MITCHELL AVE
E/W STREET: 2ND AVE
CITY: MONUMENT
COUNTY: EL PASO

File Name : MITCH2ND
Site Code : 00000022
Start Date : 6/20/2019
Page No : 2

	MITCHELL AVE Southbound					2ND ST Westbound					MITCHELL AVE Northbound					PRIVATE DR Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour From 06:30 AM to 08:30 AM - Peak 1 of 1																					
Intersection	07:30 AM																				
Volume	13	9	0	0	22	247	0	9	0	256	2	12	168	0	182	1	1	0	0	2	462
Percent	59.1	40.9	0.0	0.0		96.5	0.0	3.5	0.0		1.1	6.6	92.3	0.0		50.0	50.0	0.0	0.0		
07:45 Volume	3	5	0	0	8	79	0	1	0	80	1	5	49	0	55	0	0	0	0	0	143
Peak Factor																					0.808
High Int.	07:45 AM					07:45 AM					07:45 AM					08:00 AM					
Volume	3	5	0	0	8	79	0	1	0	80	1	5	49	0	55	1	1	0	0	2	
Peak Factor					0.688					0.800					0.827					0.250	

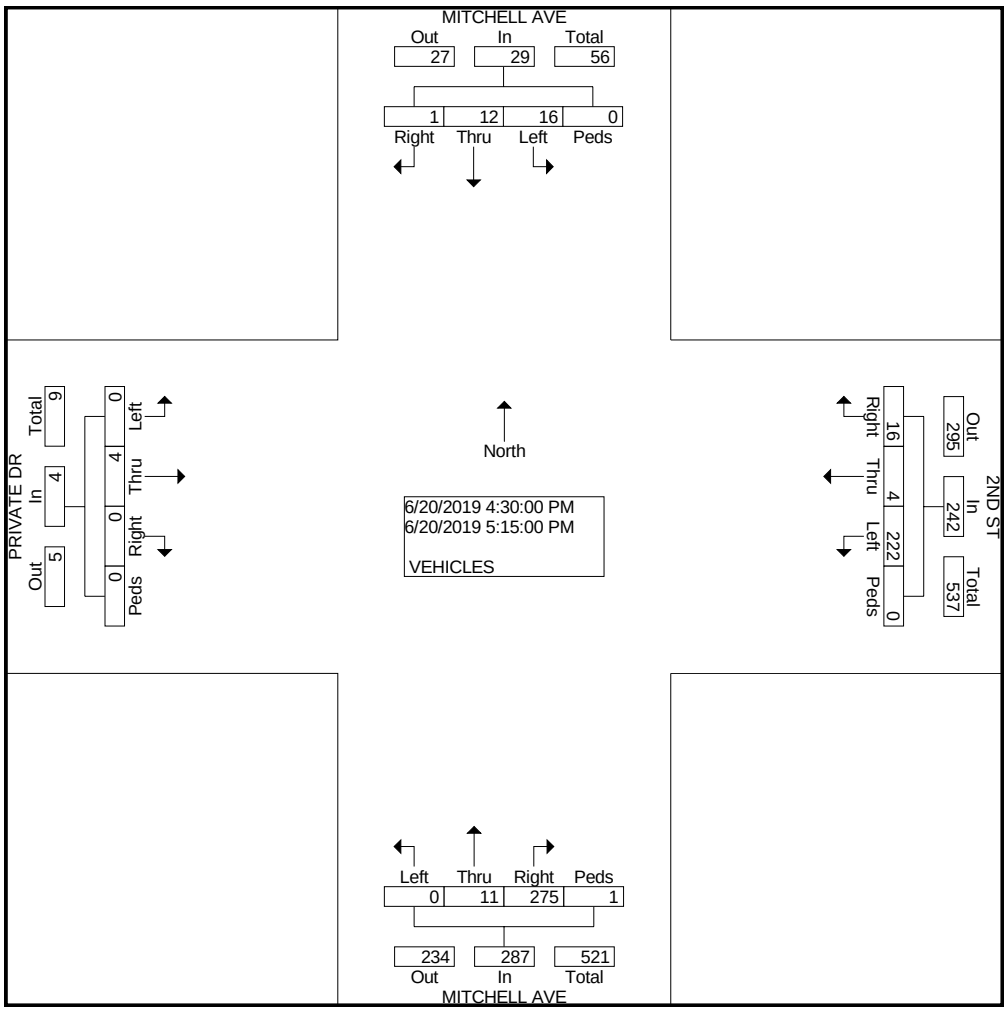


COUNTER MEASURES INC.
1889 YORK STREET
DENVER.COLORADO
303-333-7409

N/S STREET: MITCHELL AVE
E/W STREET: 2ND AVE
CITY: MONUMENT
COUNTY: EL PASO

File Name : MITCH2ND
Site Code : 00000022
Start Date : 6/20/2019
Page No : 2

	MITCHELL AVE Southbound					2ND ST Westbound					MITCHELL AVE Northbound					PRIVATE DR Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Intersection	04:30 PM																				
Volume	16	12	1	0	29	222	4	16	0	242	0	11	275	1	287	0	4	0	0	4	562
Percent	55.2	41.4	3.4	0.0		91.7	1.7	6.6	0.0		0.0	3.8	95.8	0.3		0.0	100.0	0.0	0.0		
04:30 Volume	6	3	0	0	9	58	0	3	0	61	0	3	78	1	82	0	0	0	0	0	152
Peak Factor																					0.924
High Int.	05:00 PM					04:45 PM					04:30 PM					04:45 PM					
Volume	8	4	0	0	12	65	1	5	0	71	0	3	78	1	82	0	2	0	0	2	
Peak Factor					0.604					0.852					0.875					0.500	



COUNTER MEASURES INC.

1889 YORK STREET
DENVER.COLORADO
303-333-7409

N/S STREET: MITCHELL AVE
E/W STREET: SYNTHES AVE
CITY: MONUMENT
COUNTY: EL PASO

File Name : BASIC MITCHSYNTH
Site Code : 00000025
Start Date : 6/20/2019
Page No : 1

Groups Printed- VEHICLES

	MITCHELL AVE Southbound				SYNTHES AVE Westbound				MITCHELL AVE Northbound				Eastbound				
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Int. Total
Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
06:30 AM	13	10	0	0	0	0	3	0	0	11	0	0	0	0	0	0	37
06:45 AM	24	17	0	0	0	0	2	0	0	6	1	0	0	0	0	0	50
Total	37	27	0	0	0	0	5	0	0	17	1	0	0	0	0	0	87
07:00 AM	14	12	0	0	0	0	3	0	0	5	0	0	0	0	0	0	34
07:15 AM	15	15	0	0	0	0	2	0	0	14	1	0	0	0	0	0	47
07:30 AM	19	21	0	0	0	0	0	0	0	8	1	0	0	0	0	0	49
07:45 AM	37	21	0	0	0	0	4	0	0	8	2	0	0	0	0	0	72
Total	85	69	0	0	0	0	9	0	0	35	4	0	0	0	0	0	202
08:00 AM	26	16	0	0	1	0	2	0	0	5	2	0	0	0	0	0	52
08:15 AM	17	13	0	0	1	0	5	0	0	6	3	0	0	0	0	0	45
Total	43	29	0	0	2	0	7	0	0	11	5	0	0	0	0	0	97
04:00 PM	5	12	0	0	2	0	14	0	0	57	1	0	0	0	0	0	91
04:15 PM	4	19	0	0	1	0	15	0	0	15	3	0	0	0	0	0	57
04:30 PM	3	9	0	0	0	0	20	0	0	31	1	0	0	0	0	0	64
04:45 PM	1	16	0	0	2	0	17	0	0	15	0	0	0	0	0	0	51
Total	13	56	0	0	5	0	66	0	0	118	5	0	0	0	0	0	263
05:00 PM	2	4	0	0	0	0	25	0	0	19	2	0	0	0	0	0	52
05:15 PM	0	8	0	0	0	0	12	0	0	14	1	0	0	0	0	0	35
05:30 PM	2	7	0	0	1	0	7	1	0	21	0	0	0	0	0	0	39
05:45 PM	2	13	0	0	0	0	10	0	0	6	0	0	0	0	0	0	31
Total	6	32	0	0	1	0	54	1	0	60	3	0	0	0	0	0	157
Grand Total	184	213	0	0	8	0	141	1	0	241	18	0	0	0	0	0	806
Apprch %	46.3	53.7	0.0	0.0	5.3	0.0	94.0	0.7	0.0	93.1	6.9	0.0	0.0	0.0	0.0	0.0	
Total %	22.8	26.4	0.0	0.0	1.0	0.0	17.5	0.1	0.0	29.9	2.2	0.0	0.0	0.0	0.0	0.0	

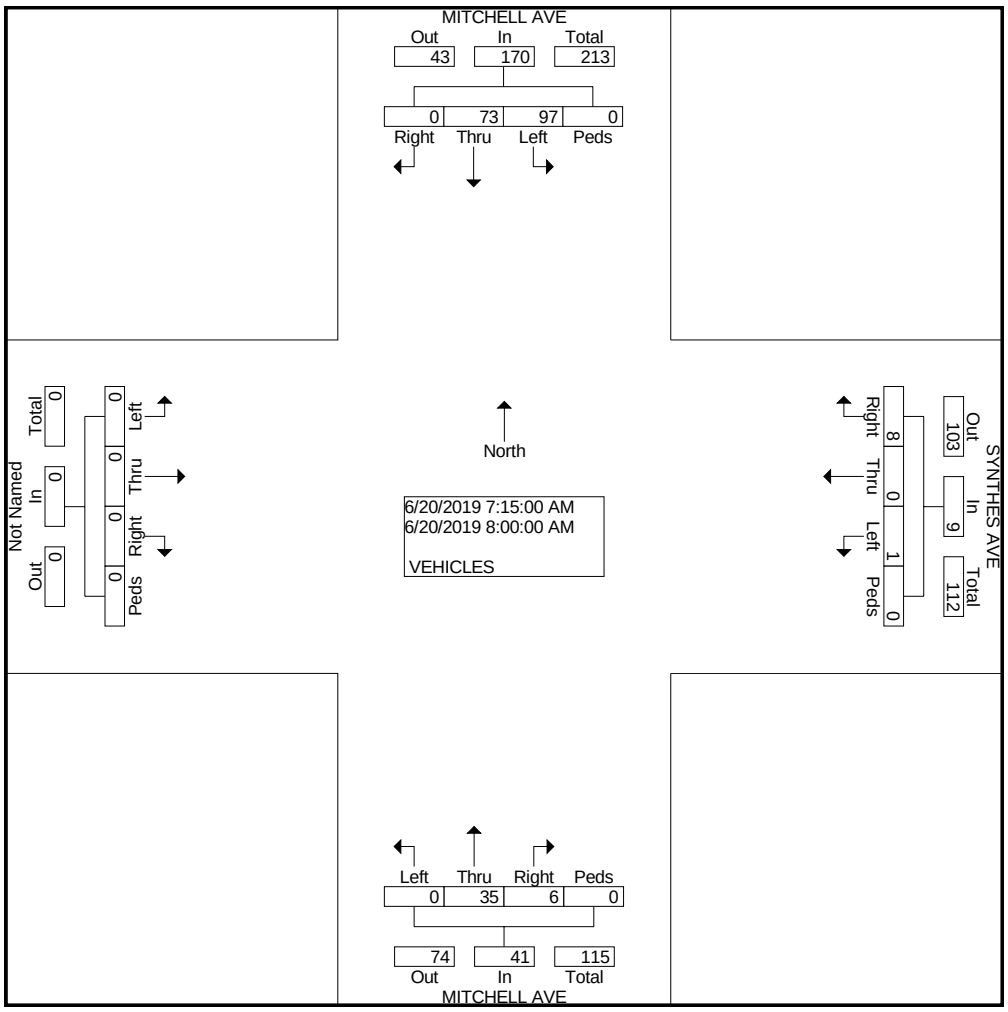
COUNTER MEASURES INC.

1889 YORK STREET
DENVER.COLORADO
303-333-7409

N/S STREET: MITCHELL AVE
E/W STREET: SYNTHES AVE
CITY: MONUMENT
COUNTY: EL PASO

File Name : BASIC MITCHSYNTH
Site Code : 00000025
Start Date : 6/20/2019

	MITCHELL AVE Southbound					SYNTHES AVE Westbound					MITCHELL AVE Northbound					Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour From 06:30 AM to 08:30 AM - Peak 1 of 1																					
Intersection	07:15 AM																				
Volume	97	73	0	0	170	1	0	8	0	9	0	35	6	0	41	0	0	0	0	0	220
Percent	57.1	42.9	0.0	0.0		11.1	0.0	88.9	0.0		0.0	85.4	14.6	0.0		0.0	0.0	0.0	0.0		
07:45 Volume	37	21	0	0	58	0	0	4	0	4	0	8	2	0	10	0	0	0	0	0	72
Peak Factor																					0.764
High Int.	07:45 AM					07:45 AM					07:15 AM					6:15:00 AM					
Volume	37	21	0	0	58	0	0	4	0	4	0	14	1	0	15						
Peak Factor					0.733					0.563					0.683						



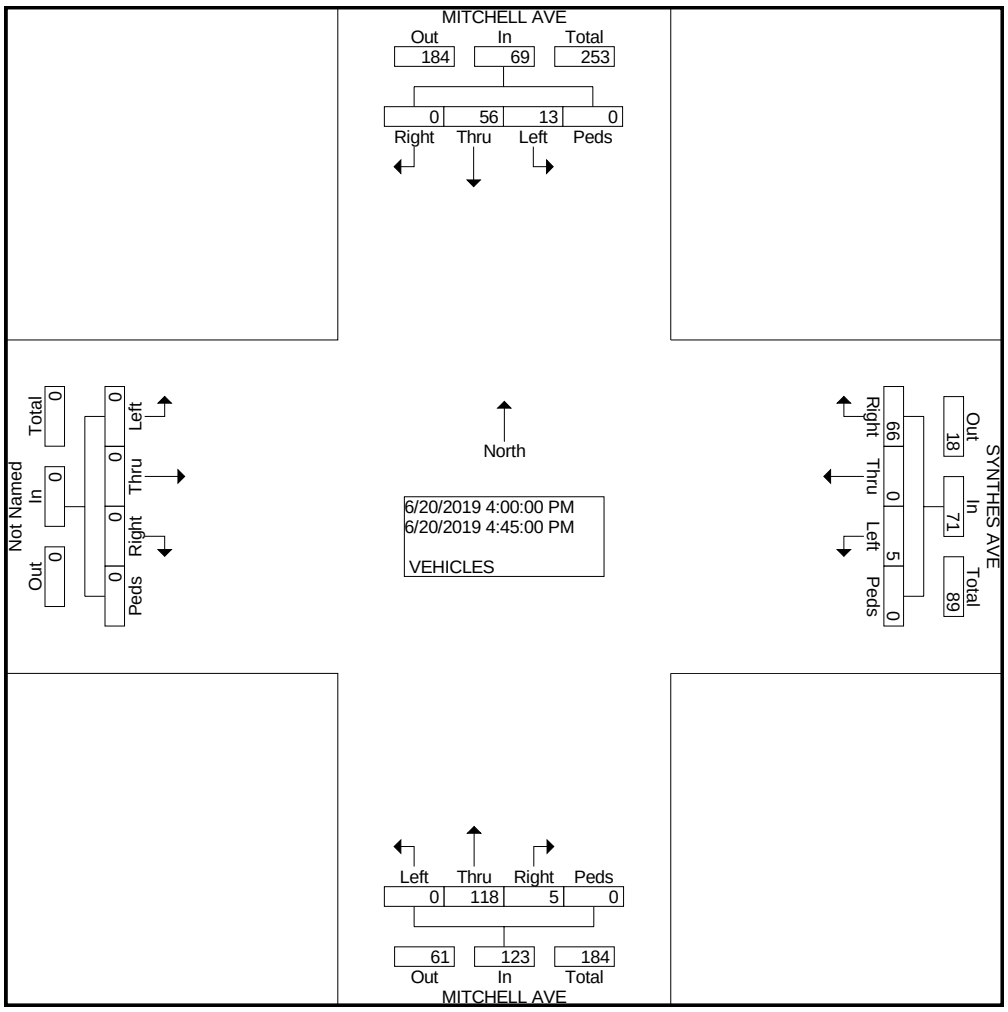
COUNTER MEASURES INC.

1889 YORK STREET
DENVER.COLORADO
303-333-7409

N/S STREET: MITCHELL AVE
E/W STREET: SYNTHES AVE
CITY: MONUMENT
COUNTY: EL PASO

File Name : BASIC MITCHSYNTH
Site Code : 00000025
Start Date : 6/20/2019

	MITCHELL AVE Southbound					SYNTHES AVE Westbound					MITCHELL AVE Northbound					Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Intersection	04:00 PM																				
Volume	13	56	0	0	69	5	0	66	0	71	0	118	5	0	123	0	0	0	0	0	263
Percent	18.8	81.2	0.0	0.0		7.0	0.0	93.0	0.0		0.0	95.9	4.1	0.0		0.0	0.0	0.0	0.0		
04:00 Volume	5	12	0	0	17	2	0	14	0	16	0	57	1	0	58	0	0	0	0	0	91
Peak Factor																					0.723
High Int.	04:15 PM					04:30 PM					04:00 PM										
Volume	4	19	0	0	23	0	0	20	0	20	0	57	1	0	58						
Peak Factor					0.750					0.888					0.530						



COUNTER MEASURES INC.

1889 YORK STREET
DENVER.COLORADO
303-333-7409

N/S STREET: PRIVATE DRIVE
E/W STREET: FOREST LAKES DR/BAPTIST RD
CITY: MONUMENT
COUNTY: EL PASO

File Name : PRIVBAPTIST
Site Code : 00000013
Start Date : 6/20/2019
Page No : 1

Groups Printed- VEHICLES

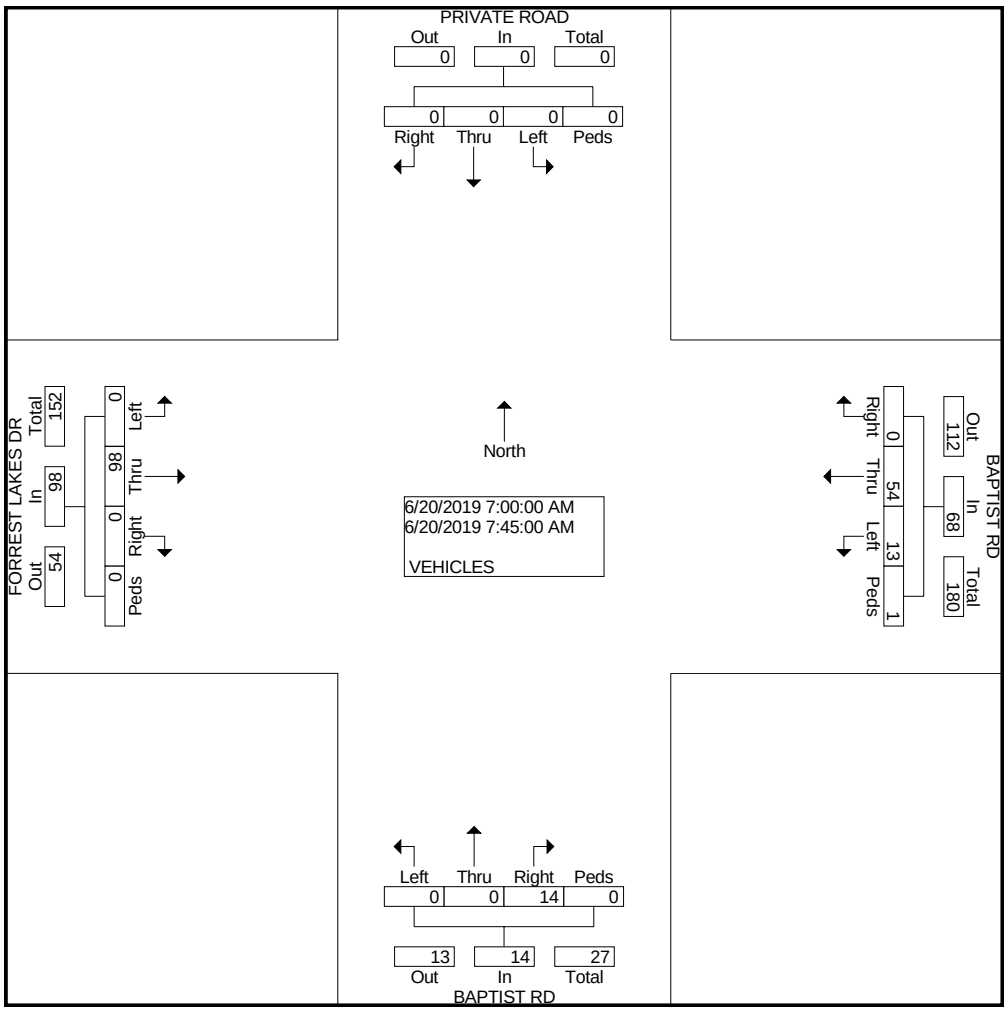
	PRIVATE ROAD Southbound				BAPTIST RD Westbound				BAPTIST RD Northbound				FORREST LAKES DR Eastbound				
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Int. Total
Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
06:30 AM	0	0	0	0	2	5	0	0	0	0	0	0	0	26	0	0	33
06:45 AM	1	0	0	1	6	10	0	0	0	0	0	0	0	21	0	0	39
Total	1	0	0	1	8	15	0	0	0	0	0	0	0	47	0	0	72
07:00 AM	0	0	0	0	7	19	0	0	0	0	0	0	0	24	0	0	50
07:15 AM	0	0	0	0	3	17	0	0	0	0	5	0	0	21	0	0	46
07:30 AM	0	0	0	0	1	8	0	0	0	0	3	0	0	24	0	0	36
07:45 AM	0	0	0	0	2	10	0	1	0	0	6	0	0	29	0	0	48
Total	0	0	0	0	13	54	0	1	0	0	14	0	0	98	0	0	180
08:00 AM	0	0	0	0	5	10	1	1	1	0	4	0	0	23	0	0	45
08:15 AM	0	0	0	0	2	10	0	0	0	0	3	0	0	9	0	0	24
Total	0	0	0	0	7	20	1	1	1	0	7	0	0	32	0	0	69
04:00 PM	0	0	0	0	0	23	3	0	0	1	1	0	0	25	1	0	54
04:15 PM	1	0	0	0	0	31	0	0	0	0	0	0	0	24	0	0	56
04:30 PM	0	0	0	0	0	19	0	1	0	0	0	0	0	19	0	0	39
04:45 PM	0	0	0	0	0	26	0	0	0	0	0	0	0	15	0	0	41
Total	1	0	0	0	0	99	3	1	0	1	1	0	0	83	1	0	190
05:00 PM	0	0	0	0	0	23	0	0	0	0	0	0	0	15	0	0	38
05:15 PM	0	0	0	0	0	35	1	1	0	0	1	0	0	28	0	0	66
05:45 PM	0	0	0	1	0	31	0	2	0	0	0	0	0	20	0	0	54
Total	0	0	0	1	0	89	1	3	0	0	1	0	0	63	0	0	158
Grand Total	2	0	0	2	28	277	5	6	1	1	23	0	0	323	1	0	669
Apprch %	50.0	0.0	0.0	50.0	8.9	87.7	1.6	1.9	4.0	4.0	92.0	0.0	0.0	99.7	0.3	0.0	
Total %	0.3	0.0	0.0	0.3	4.2	41.4	0.7	0.9	0.1	0.1	3.4	0.0	0.0	48.3	0.1	0.0	

COUNTER MEASURES INC.
1889 YORK STREET
DENVER.COLORADO
303-333-7409

N/S STREET: PRIVATE DRIVE
E/W STREET: FOREST LAKES DR/BAPTIST RD
CITY: MONUMENT
COUNTY: EL PASO

File Name : PRIVBAPTIST
Site Code : 00000013
Start Date : 6/20/2019

	PRIVATE ROAD Southbound					BAPTIST RD Westbound					BAPTIST RD Northbound					FORREST LAKES DR Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour From 07:00 AM to 07:45 AM - Peak 1 of 1																					
Intersection	07:00 AM																				
Volume	0	0	0	0	0	13	54	0	1	68	0	0	14	0	14	0	98	0	0	98	180
Percent	0.0	0.0	0.0	0.0		19.1	79.4	0.0	1.5		0.0	0.0	100.0	0.0		0.0	100.0	0.0	0.0		
07:00 Volume	0	0	0	0	0	7	19	0	0	26	0	0	0	0	0	0	24	0	0	24	50
Peak Factor																					0.900
High Int.						07:00 AM					07:45 AM					07:45 AM					
Volume	0	0	0	0	0	7	19	0	0	26	0	0	6	0	6	0	29	0	0	29	
Peak Factor										0.654					0.583					0.845	



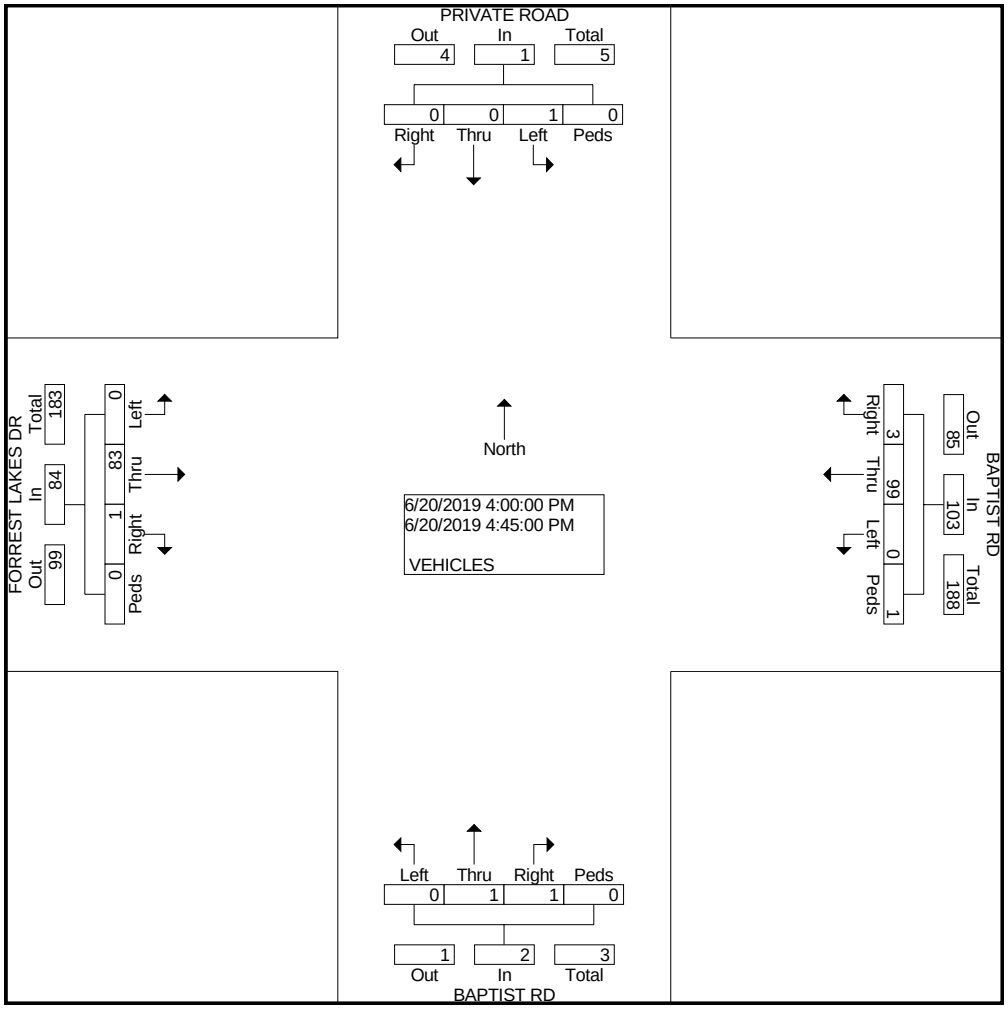
COUNTER MEASURES INC.

1889 YORK STREET
DENVER.COLORADO
303-333-7409

N/S STREET: PRIVATE DRIVE
E/W STREET: FOREST LAKES DR/BAPTIST RD
CITY: MONUMENT
COUNTY: EL PASO

File Name : PRIVBAPTIST
Site Code : 00000013
Start Date : 6/20/2019
Page No : 2

	PRIVATE ROAD Southbound					BAPTIST RD Westbound					BAPTIST RD Northbound					FORREST LAKES DR Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour From 04:00 PM to 04:45 PM - Peak 1 of 1																					
Intersection	04:00 PM																				
Volume	1	0	0	0	1	0	99	3	1	103	0	1	1	0	2	0	83	1	0	84	190
Percent	100.0	0.0	0.0	0.0		0.0	96.1	2.9	1.0		0.0	50.0	50.0	0.0		0.0	98.8	1.2	0.0		
04:15 Volume	1	0	0	0	1	0	31	0	0	31	0	0	0	0	0	0	24	0	0	24	56
Peak Factor																					0.848
High Int.	04:15 PM					04:15 PM					04:00 PM					04:00 PM					
Volume	1	0	0	0	1	0	31	0	0	31	0	1	1	0	2	0	25	1	0	26	
Peak Factor					0.250					0.831					0.250					0.808	



LSC Transportation Consultants, Inc.

545 E Pikes Peak Ave, Suite 210
Colorado Springs, CO 80905
719-633-2868

File Name : Old Denver Hwy - Baptist Rd AM
Site Code : 00194530
Start Date : 6/5/2019
Page No : 1

Groups Printed- Unshifted

	Old Denver Hwy Southbound					Baptist Rd Westbound					Woodcarver Rd Northbound					Baptist Rd Eastbound					
Start Time	**Left**	**Through**	**Right**	**Peds**	**App. Total**	**Left**	**Through**	**Right**	**Peds**	**App. Total**	**Left**	**Through**	**Right**	**Peds**	**App. Total**	**Left**	**Through**	**Right**	**Peds**	**App. Total**	**Int. Total**
06:30 AM	14	0	0	0	14	1	7	14	0	22	0	0	0	0	0	1	16	0	0	17	53
06:45 AM	22	0	0	0	22	6	17	22	0	45	0	0	0	0	0	3	33	0	0	36	103
Total	36	0	0	0	36	7	24	36	0	67	0	0	0	0	0	4	49	0	0	53	156
07:00 AM	23	0	1	0	24	1	10	14	0	25	0	0	1	0	1	2	25	0	0	27	77
07:15 AM	31	1	0	0	32	3	12	23	0	38	0	0	1	0	1	1	27	0	0	28	99
07:30 AM	38	1	1	0	40	4	18	28	0	50	0	1	2	0	3	3	28	0	0	31	124
07:45 AM	33	4	2	0	39	4	17	51	0	72	0	2	0	0	2	2	20	0	0	22	135
Total	125	6	4	0	135	12	57	116	0	185	0	3	4	0	7	8	100	0	0	108	435
08:00 AM	29	1	1	0	31	7	18	17	0	42	0	1	4	0	5	1	32	0	0	33	111
08:15 AM	42	2	0	0	44	5	22	34	2	63	0	1	1	0	2	3	20	0	0	23	132
Grand Total	232	9	5	0	246	31	121	203	2	357	0	5	9	0	14	16	201	0	0	217	834
Apprch %	94.3	3.7	2	0		8.7	33.9	56.9	0.6		0	35.7	64.3	0		7.4	92.6	0	0		
Total %	27.8	1.1	0.6	0	29.5	3.7	14.5	24.3	0.2	42.8	0	0.6	1.1	0	1.7	1.9	24.1	0	0	26	

LSC Transportation Consultants, Inc.
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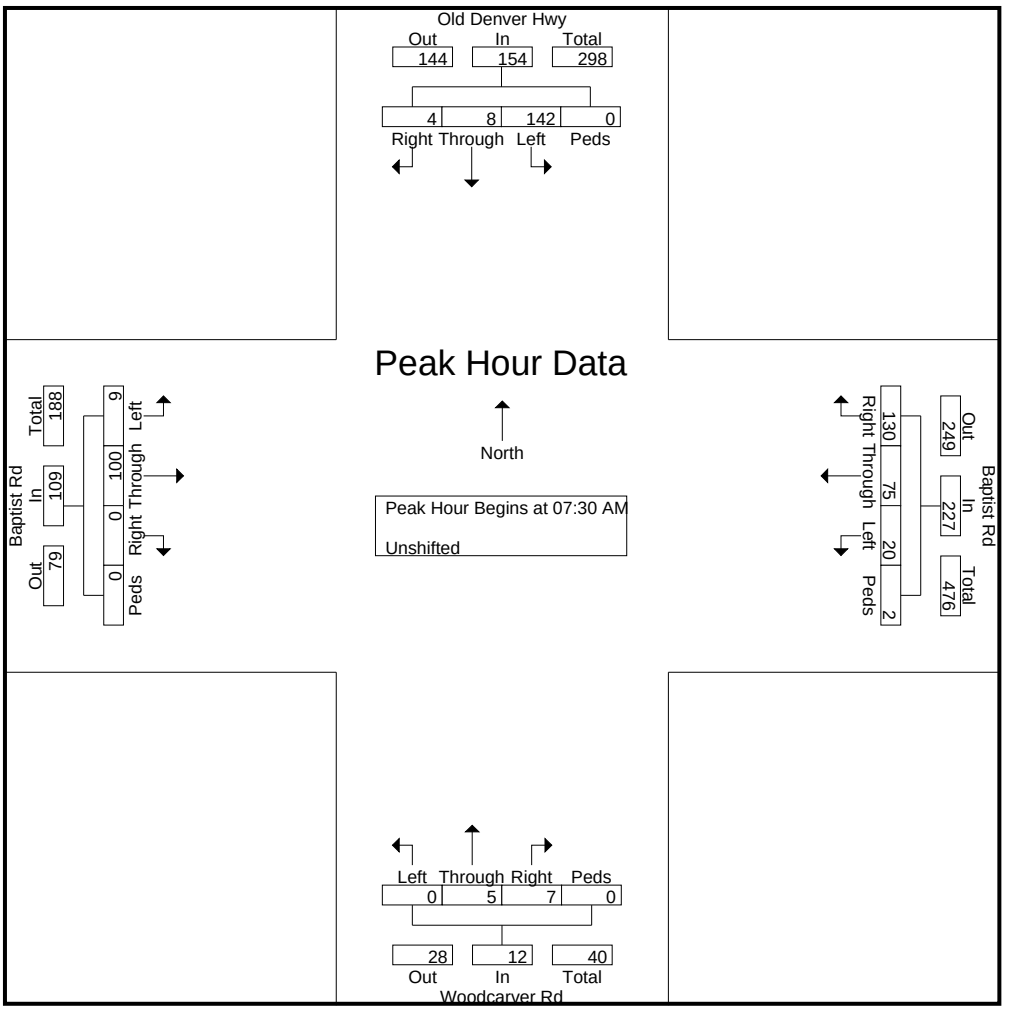
719-633-2868

File Name : Old Denver Hwy - Baptist Rd AM
Site Code : 00194530
Start Date : 6/5/2019
Page No : 2

	Old Denver Hwy Southbound					Baptist Rd Westbound					Woodcarver Rd Northbound					Baptist Rd Eastbound					
Start Time	**Left**	Through	**Right**	**Peds**	App. Total	**Left**	Through	**Right**	**Peds**	App. Total	**Left**	Through	**Right**	**Peds**	App. Total	**Left**	Through	**Right**	**Peds**	App. Total	Int. Total
Peak Hour Analysis From 06:30 AM to 08:15 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30 AM																					
07:30 AM	38	1	1	0	40	4	18	28	0	50	0	1	2	0	3	**3**	28	0	0	31	124
07:45 AM	33	**4**	**2**	0	39	4	17	**51**	0	**72**	0	**2**	0	0	2	2	20	0	0	22	**135**
08:00 AM	29	1	1	0	31	**7**	18	17	0	42	0	1	**4**	0	**5**	1	**32**	0	0	**33**	111
08:15 AM	**42**	2	0	0	**44**	5	**22**	34	**2**	63	0	1	1	0	2	3	20	0	0	23	132
Total Volume	142	8	4	0	154	20	75	130	2	227	0	5	7	0	12	9	100	0	0	109	502
% App. Total	92.2	5.2	2.6	0		8.8	33	57.3	0.9		0	41.7	58.3	0		8.3	91.7	0	0		
PHF	.845	.500	.500	.000	.875	.714	.852	.637	.250	.788	.000	.625	.438	.000	.600	.750	.781	.000	.000	.826	.930



LSC Transportation Consultants, Inc.

545 E Pikes Peak Ave, Suite 210
Colorado Springs, CO 80905
719-633-2868

File Name : Old Denver Hwy - Baptist Rd PM
Site Code : 00194530
Start Date : 6/5/2019
Page No : 1

Groups Printed- Unshifted

	Old Denver Hwy Southbound					Baptist Rd Westbound					Woodcarver Rd Northbound					Babtist Rd Eastbound					
Start Time	**Left**	**Through**	**Right**	**Peds**	**App. Total**	**Left**	**Through**	**Right**	**Peds**	**App. Total**	**Left**	**Through**	**Right**	**Peds**	**App. Total**	**Left**	**Through**	**Right**	**Peds**	**App. Total**	**Int. Total**
04:00 PM	35	0	1	0	36	2	30	33	0	65	0	2	6	0	8	2	13	1	0	16	125
04:15 PM	25	2	4	2	33	3	33	48	2	86	0	1	1	0	2	5	35	0	0	40	161
04:30 PM	36	1	3	0	40	3	30	54	0	87	0	2	6	0	8	5	13	0	0	18	153
04:45 PM	28	0	4	0	32	1	29	62	1	93	0	1	1	0	2	3	17	1	0	21	148
Total	124	3	12	2	141	9	122	197	3	331	0	6	14	0	20	15	78	2	0	95	587
05:00 PM	40	0	5	0	45	1	34	51	1	87	4	2	3	0	9	0	32	1	0	33	174
05:15 PM	30	0	2	0	32	4	27	50	1	82	1	0	1	0	2	5	30	0	0	35	151
05:30 PM	33	1	3	0	37	3	34	55	2	94	1	0	3	0	4	2	16	0	0	18	153
05:45 PM	25	0	3	0	28	1	37	48	0	86	0	0	3	0	3	6	17	0	0	23	140
Total	128	1	13	0	142	9	132	204	4	349	6	2	10	0	18	13	95	1	0	109	618
Grand Total	252	4	25	2	283	18	254	401	7	680	6	8	24	0	38	28	173	3	0	204	1205
Apprch %	89	1.4	8.8	0.7		2.6	37.4	59	1		15.8	21.1	63.2	0		13.7	84.8	1.5	0		
Total %	20.9	0.3	2.1	0.2	23.5	1.5	21.1	33.3	0.6	56.4	0.5	0.7	2	0	3.2	2.3	14.4	0.2	0	16.9	

LSC Transportation Consultants, Inc.
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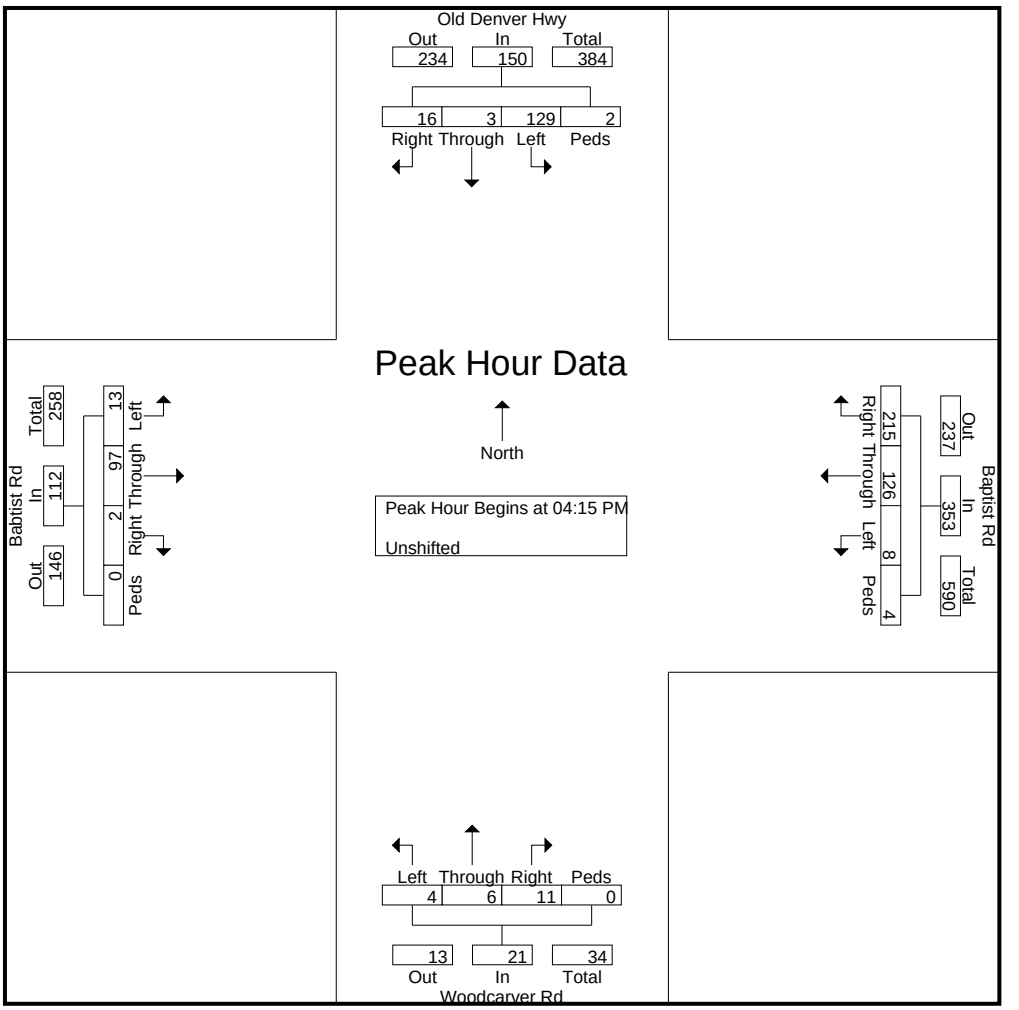
719-633-2868

File Name : Old Denver Hwy - Baptist Rd PM
Site Code : 00194530
Start Date : 6/5/2019
Page No : 2

	Old Denver Hwy Southbound					Baptist Rd Westbound					Woodcarver Rd Northbound					Babtist Rd Eastbound					
Start Time	**Left**	Through	**Right**	**Peds**	App. Total	**Left**	Through	**Right**	**Peds**	App. Total	**Left**	Through	**Right**	**Peds**	App. Total	**Left**	Through	**Right**	**Peds**	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:15 PM																					
04:15 PM	25	**2**	4	**2**	33	**3**	33	48	**2**	86	0	1	1	0	2	**5**	**35**	0	0	**40**	161
04:30 PM	36	1	3	0	40	3	30	54	0	87	0	**2**	**6**	0	8	5	13	0	0	18	153
04:45 PM	28	0	4	0	32	1	29	**62**	1	**93**	0	1	1	0	2	3	17	**1**	0	21	148
05:00 PM	**40**	0	**5**	0	**45**	1	**34**	51	1	87	**4**	2	3	0	**9**	0	32	1	0	33	**174**
Total Volume	129	3	16	2	150	8	126	215	4	353	4	6	11	0	21	13	97	2	0	112	636
% App. Total	86	2	10.7	1.3		2.3	35.7	60.9	1.1		19	28.6	52.4	0		11.6	86.6	1.8	0		
PHF	.806	.375	.800	.250	.833	.667	.926	.867	.500	.949	.250	.750	.458	.000	.583	.650	.693	.500	.000	.700	.914



Levels of Service

TRANSPORTATION
CONSULTANTS, INC.

Intersection	
Intersection Delay, s/veh	10.2
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	1	0	247	4	9	2	12	168	13	9	0
Future Vol, veh/h	1	1	0	247	4	9	2	12	168	13	9	0
Peak Hour Factor	0.81	0.81	0.81	0.80	0.80	0.80	0.83	0.83	0.83	0.69	0.69	0.69
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	1	0	309	5	11	2	14	202	19	13	0
Number of Lanes	0	1	0	0	1	0	0	1	1	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	1	1	1
HCM Control Delay	8.1	11.2	9	8.5
HCM LOS	A	B	A	A

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1
Vol Left, %	14%	0%	50%	95%	59%
Vol Thru, %	86%	0%	50%	2%	41%
Vol Right, %	0%	100%	0%	3%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	14	168	2	260	22
LT Vol	2	0	1	247	13
Through Vol	12	0	1	4	9
RT Vol	0	168	0	9	0
Lane Flow Rate	17	202	2	325	32
Geometry Grp	7	7	2	2	5
Degree of Util (X)	0.026	0.263	0.003	0.424	0.046
Departure Headway (Hd)	5.453	4.676	5.031	4.7	5.236
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	656	767	708	764	682
Service Time	3.186	2.408	3.084	2.734	3.283
HCM Lane V/C Ratio	0.026	0.263	0.003	0.425	0.047
HCM Control Delay	8.3	9.1	8.1	11.2	8.5
HCM Lane LOS	A	A	A	B	A
HCM 95th-tile Q	0.1	1.1	0	2.1	0.1

Intersection	
Intersection Delay, s/veh	8.3
Intersection LOS	A

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	1	8	35	6	97	73
Future Vol, veh/h	1	8	35	6	97	73
Peak Hour Factor	0.56	0.56	0.76	0.76	0.73	0.73
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	2	14	46	8	133	100
Number of Lanes	1	0	1	0	0	1

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	1	1	0
HCM Control Delay	7.1	7.4	8.6
HCM LOS	A	A	A

Lane	NBLn1	WBLn1	SBLn1
Vol Left, %	0%	11%	57%
Vol Thru, %	85%	0%	43%
Vol Right, %	15%	89%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	41	9	170
LT Vol	0	1	97
Through Vol	35	0	73
RT Vol	6	8	0
Lane Flow Rate	54	16	233
Geometry Grp	1	1	1
Degree of Util (X)	0.061	0.018	0.266
Departure Headway (Hd)	4.047	4.048	4.116
Convergence, Y/N	Yes	Yes	Yes
Cap	878	890	873
Service Time	2.105	2.048	2.135
HCM Lane V/C Ratio	0.062	0.018	0.267
HCM Control Delay	7.4	7.1	8.6
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.2	0.1	1.1

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕		↰	↱			↕			↕	
Traffic Vol, veh/h	0	98	0	13	54	0	0	0	14	0	0	0
Future Vol, veh/h	0	98	0	13	54	0	0	0	14	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	200	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	65	65	65	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	109	0	20	83	0	0	0	16	0	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	83	0	0	109	0	0	232	232	109	240	232	83
Stage 1	-	-	-	-	-	-	109	109	-	123	123	-
Stage 2	-	-	-	-	-	-	123	123	-	117	109	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1514	-	-	1481	-	-	723	668	945	714	668	976
Stage 1	-	-	-	-	-	-	896	805	-	881	794	-
Stage 2	-	-	-	-	-	-	881	794	-	888	805	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1514	-	-	1481	-	-	716	659	945	695	659	976
Mov Cap-2 Maneuver	-	-	-	-	-	-	716	659	-	695	659	-
Stage 1	-	-	-	-	-	-	896	805	-	881	783	-
Stage 2	-	-	-	-	-	-	869	783	-	873	805	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	1.4	8.9	0
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	945	1514	-	-	1481	-	-	-
HCM Lane V/C Ratio	0.016	-	-	-	0.014	-	-	-
HCM Control Delay (s)	8.9	0	-	-	7.5	-	-	0
HCM Lane LOS	A	A	-	-	A	-	-	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	-

Intersection	
Intersection Delay, s/veh	4.3
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	118	289	13	155
Demand Flow Rate, veh/h	120	295	13	158
Vehicles Circulating, veh/h	181	15	266	125
Vehicles Exiting, veh/h	102	264	35	185
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	4.1	4.5	3.6	4.1
Approach LOS	A	A	A	A

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	120	295	13	158
Cap Entry Lane, veh/h	1147	1359	1052	1215
Entry HV Adj Factor	0.982	0.980	0.992	0.980
Flow Entry, veh/h	118	289	13	155
Cap Entry, veh/h	1127	1332	1044	1190
V/C Ratio	0.105	0.217	0.012	0.130
Control Delay, s/veh	4.1	4.5	3.6	4.1
LOS	A	A	A	A
95th %tile Queue, veh	0	1	0	0

Intersection	
Intersection Delay, s/veh	10.1
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	4	0	222	4	16	0	11	275	16	12	1
Future Vol, veh/h	0	4	0	222	4	16	0	11	275	16	12	1
Peak Hour Factor	0.92	0.92	0.92	0.99	0.99	0.99	0.88	0.88	0.88	0.81	0.81	0.81
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	4	0	224	4	16	0	13	313	20	15	1
Number of Lanes	0	1	0	0	1	0	0	1	1	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	1	1	1
HCM Control Delay	8.2	10.4	10	8.5
HCM LOS	A	B	A	A

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	0%	0%	92%	55%
Vol Thru, %	100%	0%	100%	2%	41%
Vol Right, %	0%	100%	0%	7%	3%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	11	275	4	242	29
LT Vol	0	0	0	222	16
Through Vol	11	0	4	4	12
RT Vol	0	275	0	16	1
Lane Flow Rate	12	312	4	244	36
Geometry Grp	7	7	2	2	5
Degree of Util (X)	0.018	0.391	0.006	0.333	0.051
Departure Headway (Hd)	5.21	4.506	5.09	4.907	5.136
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	687	797	699	731	695
Service Time	2.941	2.236	3.15	2.949	3.185
HCM Lane V/C Ratio	0.017	0.391	0.006	0.334	0.052
HCM Control Delay	8	10.1	8.2	10.4	8.5
HCM Lane LOS	A	B	A	B	A
HCM 95th-tile Q	0.1	1.9	0	1.5	0.2

Intersection	
Intersection Delay, s/veh	8.3
Intersection LOS	A

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	5	66	118	5	13	56
Future Vol, veh/h	5	66	118	5	13	56
Peak Hour Factor	0.72	0.72	0.53	0.53	0.72	0.72
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	7	92	223	9	18	78
Number of Lanes	1	0	1	0	0	1

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	1	1	0
HCM Control Delay	7.6	8.8	8
HCM LOS	A	A	A

Lane	NBLn1	WBLn1	SBLn1
Vol Left, %	0%	7%	19%
Vol Thru, %	96%	0%	81%
Vol Right, %	4%	93%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	123	71	69
LT Vol	0	5	13
Through Vol	118	0	56
RT Vol	5	66	0
Lane Flow Rate	232	99	96
Geometry Grp	1	1	1
Degree of Util (X)	0.268	0.113	0.118
Departure Headway (Hd)	4.157	4.114	4.431
Convergence, Y/N	Yes	Yes	Yes
Cap	854	876	814
Service Time	2.236	2.12	2.431
HCM Lane V/C Ratio	0.272	0.113	0.118
HCM Control Delay	8.8	7.6	8
HCM Lane LOS	A	A	A
HCM 95th-tile Q	1.1	0.4	0.4

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕		↰	↱			↕			↕	
Traffic Vol, veh/h	0	83	1	0	99	3	0	1	1	1	0	0
Future Vol, veh/h	0	83	1	0	99	3	0	1	1	1	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	200	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	83	83	83	85	85	85	25	25	25
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	94	1	0	119	4	0	1	1	4	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	123	0	0	95	0	0	216	218	95	217	216	121
Stage 1	-	-	-	-	-	-	95	95	-	121	121	-
Stage 2	-	-	-	-	-	-	121	123	-	96	95	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1464	-	-	1499	-	-	740	680	962	739	682	930
Stage 1	-	-	-	-	-	-	912	816	-	883	796	-
Stage 2	-	-	-	-	-	-	883	794	-	911	816	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1464	-	-	1499	-	-	740	680	962	737	682	930
Mov Cap-2 Maneuver	-	-	-	-	-	-	740	680	-	737	682	-
Stage 1	-	-	-	-	-	-	912	816	-	883	796	-
Stage 2	-	-	-	-	-	-	883	794	-	909	816	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	9.5	9.9
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	797	1464	-	-	1499	-	-	737
HCM Lane V/C Ratio	0.003	-	-	-	-	-	-	0.005
HCM Control Delay (s)	9.5	0	-	-	0	-	-	9.9
HCM Lane LOS	A	A	-	-	A	-	-	A
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0

Intersection	
Intersection Delay, s/veh	4.8
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	131	383	36	181
Demand Flow Rate, veh/h	133	391	36	184
Vehicles Circulating, veh/h	173	32	291	157
Vehicles Exiting, veh/h	168	295	15	266
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	4.2	5.3	3.8	4.5
Approach LOS	A	A	A	A

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	133	391	36	184
Cap Entry Lane, veh/h	1157	1336	1026	1176
Entry HV Adj Factor	0.983	0.980	0.995	0.983
Flow Entry, veh/h	131	383	36	181
Cap Entry, veh/h	1137	1309	1020	1156
V/C Ratio	0.115	0.293	0.035	0.157
Control Delay, s/veh	4.2	5.3	3.8	4.5
LOS	A	A	A	A
95th %tile Queue, veh	0	1	0	1

Intersection	
Intersection Delay, s/veh	10.2
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	1	0	250	0	10	5	15	170	15	10	0
Future Vol, veh/h	1	1	0	250	0	10	5	15	170	15	10	0
Peak Hour Factor	0.81	0.81	0.81	0.80	0.80	0.80	0.83	0.83	0.83	0.69	0.69	0.69
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	1	0	313	0	13	6	18	205	22	14	0
Number of Lanes	0	1	0	0	1	0	0	1	1	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	1	1	1
HCM Control Delay	8.1	11.3	9	8.6
HCM LOS	A	B	A	A

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1
Vol Left, %	25%	0%	50%	96%	60%
Vol Thru, %	75%	0%	50%	0%	40%
Vol Right, %	0%	100%	0%	4%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	20	170	2	260	25
LT Vol	5	0	1	250	15
Through Vol	15	0	1	0	10
RT Vol	0	170	0	10	0
Lane Flow Rate	24	205	2	325	36
Geometry Grp	7	7	2	2	5
Degree of Util (X)	0.037	0.267	0.003	0.427	0.053
Departure Headway (Hd)	5.517	4.686	5.071	4.733	5.253
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	649	766	702	761	679
Service Time	3.252	2.42	3.127	2.769	3.303
HCM Lane V/C Ratio	0.037	0.268	0.003	0.427	0.053
HCM Control Delay	8.5	9.1	8.1	11.3	8.6
HCM Lane LOS	A	A	A	B	A
HCM 95th-tile Q	0.1	1.1	0	2.2	0.2

Intersection	
Intersection Delay, s/veh	8.3
Intersection LOS	A

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	1	10	40	10	100	75
Future Vol, veh/h	1	10	40	10	100	75
Peak Hour Factor	0.56	0.56	0.76	0.76	0.73	0.73
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	2	18	53	13	137	103
Number of Lanes	1	0	1	0	0	1

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	1	1	0
HCM Control Delay	7.2	7.4	8.7
HCM LOS	A	A	A

Lane	NBLn1	WBLn1	SBLn1
Vol Left, %	0%	9%	57%
Vol Thru, %	80%	0%	43%
Vol Right, %	20%	91%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	50	11	175
LT Vol	0	1	100
Through Vol	40	0	75
RT Vol	10	10	0
Lane Flow Rate	66	20	240
Geometry Grp	1	1	1
Degree of Util (X)	0.074	0.022	0.275
Departure Headway (Hd)	4.026	4.072	4.131
Convergence, Y/N	Yes	Yes	Yes
Cap	882	884	870
Service Time	2.089	2.072	2.154
HCM Lane V/C Ratio	0.075	0.023	0.276
HCM Control Delay	7.4	7.2	8.7
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.2	0.1	1.1

Intersection	
Int Delay, s/veh	0.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	141	1	5	46	1	15
Future Vol, veh/h	141	1	5	46	1	15
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	100	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	65	65	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	157	1	8	71	1	18

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	158	0	245	158
Stage 1	-	-	-	-	158	-
Stage 2	-	-	-	-	87	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1422	-	743	887
Stage 1	-	-	-	-	871	-
Stage 2	-	-	-	-	936	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1422	-	739	887
Mov Cap-2 Maneuver	-	-	-	-	744	-
Stage 1	-	-	-	-	866	-
Stage 2	-	-	-	-	936	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.7	9.2
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	876	-	-	1422	-
HCM Lane V/C Ratio	0.021	-	-	0.005	-
HCM Control Delay (s)	9.2	-	-	7.5	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection	
Int Delay, s/veh	2.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	155	1	20	50	1	60
Future Vol, veh/h	155	1	20	50	1	60
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	100	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	65	65	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	172	1	31	77	1	71

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	173	0	312	173
Stage 1	-	-	-	-	173	-
Stage 2	-	-	-	-	139	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1404	-	681	871
Stage 1	-	-	-	-	857	-
Stage 2	-	-	-	-	888	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1404	-	666	871
Mov Cap-2 Maneuver	-	-	-	-	691	-
Stage 1	-	-	-	-	838	-
Stage 2	-	-	-	-	888	-

Approach	EB	WB	NB
HCM Control Delay, s	0	2.2	9.5
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	867	-	-	1404	-
HCM Lane V/C Ratio	0.083	-	-	0.022	-
HCM Control Delay (s)	9.5	-	-	7.6	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0.3	-	-	0.1	-

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕		↰	↑			↕			↕	
Traffic Vol, veh/h	0	215	0	15	70	0	0	0	15	0	0	0
Future Vol, veh/h	0	215	0	15	70	0	0	0	15	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	200	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	65	65	65	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	239	0	23	108	0	0	0	17	0	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	108	0	0	239	0	0	393	393	239	402	393	108
Stage 1	-	-	-	-	-	-	239	239	-	154	154	-
Stage 2	-	-	-	-	-	-	154	154	-	248	239	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1483	-	-	1328	-	-	566	543	800	559	543	946
Stage 1	-	-	-	-	-	-	764	708	-	848	770	-
Stage 2	-	-	-	-	-	-	848	770	-	756	708	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1483	-	-	1328	-	-	559	534	800	540	534	946
Mov Cap-2 Maneuver	-	-	-	-	-	-	559	534	-	540	534	-
Stage 1	-	-	-	-	-	-	764	708	-	848	757	-
Stage 2	-	-	-	-	-	-	833	757	-	740	708	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	1.4	9.6	0
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	800	1483	-	-	1328	-	-	-
HCM Lane V/C Ratio	0.021	-	-	-	0.017	-	-	-
HCM Control Delay (s)	9.6	0	-	-	7.8	-	-	0
HCM Lane LOS	A	A	-	-	A	-	-	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0.1	-	-	-

Intersection	
Intersection Delay, s/veh	6.7
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	232	635	27	257
Demand Flow Rate, veh/h	236	648	27	262
Vehicles Circulating, veh/h	284	38	483	165
Vehicles Exiting, veh/h	143	472	37	521
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	5.7	7.8	4.6	5.2
Approach LOS	A	A	A	A

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	236	648	27	262
Cap Entry Lane, veh/h	1033	1327	843	1166
Entry HV Adj Factor	0.982	0.980	0.988	0.980
Flow Entry, veh/h	232	635	27	257
Cap Entry, veh/h	1014	1301	833	1143
V/C Ratio	0.228	0.488	0.032	0.225
Control Delay, s/veh	5.7	7.8	4.6	5.2
LOS	A	A	A	A
95th %tile Queue, veh	1	3	0	1

Intersection	
Intersection Delay, s/veh	10.2
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	5	0	225	5	20	0	15	280	20	15	1
Future Vol, veh/h	0	5	0	225	5	20	0	15	280	20	15	1
Peak Hour Factor	0.92	0.92	0.92	0.99	0.99	0.99	0.88	0.88	0.88	0.81	0.81	0.81
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	5	0	227	5	20	0	17	318	25	19	1
Number of Lanes	0	1	0	0	1	0	0	1	1	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	1	1	1
HCM Control Delay	8.3	10.6	10.2	8.6
HCM LOS	A	B	B	A

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	0%	0%	90%	56%
Vol Thru, %	100%	0%	100%	2%	42%
Vol Right, %	0%	100%	0%	8%	3%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	15	280	5	250	36
LT Vol	0	0	0	225	20
Through Vol	15	0	5	5	15
RT Vol	0	280	0	20	1
Lane Flow Rate	17	318	5	253	44
Geometry Grp	7	7	2	2	5
Degree of Util (X)	0.025	0.401	0.008	0.347	0.064
Departure Headway (Hd)	5.244	4.539	5.152	4.941	5.18
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	682	792	690	725	688
Service Time	2.983	2.278	3.22	2.987	3.238
HCM Lane V/C Ratio	0.025	0.402	0.007	0.349	0.064
HCM Control Delay	8.1	10.3	8.3	10.6	8.6
HCM Lane LOS	A	B	A	B	A
HCM 95th-tile Q	0.1	1.9	0	1.6	0.2

Intersection	
Intersection Delay, s/veh	8.4
Intersection LOS	A

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	5	70	120	5	15	60
Future Vol, veh/h	5	70	120	5	15	60
Peak Hour Factor	0.72	0.72	0.53	0.53	0.72	0.72
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	7	97	226	9	21	83
Number of Lanes	1	0	1	0	0	1

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	1	1	0
HCM Control Delay	7.7	8.9	8.1
HCM LOS	A	A	A

Lane	NBLn1	WBLn1	SBLn1
Vol Left, %	0%	7%	20%
Vol Thru, %	96%	0%	80%
Vol Right, %	4%	93%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	125	75	75
LT Vol	0	5	15
Through Vol	120	0	60
RT Vol	5	70	0
Lane Flow Rate	236	104	104
Geometry Grp	1	1	1
Degree of Util (X)	0.274	0.12	0.129
Departure Headway (Hd)	4.175	4.142	4.443
Convergence, Y/N	Yes	Yes	Yes
Cap	849	870	810
Service Time	2.261	2.147	2.453
HCM Lane V/C Ratio	0.278	0.12	0.128
HCM Control Delay	8.9	7.7	8.1
HCM Lane LOS	A	A	A
HCM 95th-tile Q	1.1	0.4	0.4

Intersection	
Int Delay, s/veh	0.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	98	1	20	151	1	10
Future Vol, veh/h	98	1	20	151	1	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	100	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	88	88	83	83	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	111	1	24	182	1	12

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	112	0	342	112
Stage 1	-	-	-	-	112	-
Stage 2	-	-	-	-	230	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1478	-	654	941
Stage 1	-	-	-	-	913	-
Stage 2	-	-	-	-	808	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1478	-	644	941
Mov Cap-2 Maneuver	-	-	-	-	670	-
Stage 1	-	-	-	-	898	-
Stage 2	-	-	-	-	808	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.9	9
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	908	-	-	1478	-
HCM Lane V/C Ratio	0.014	-	-	0.016	-
HCM Control Delay (s)	9	-	-	7.5	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	-

Intersection	
Int Delay, s/veh	2.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	107	1	65	170	1	40
Future Vol, veh/h	107	1	65	170	1	40
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	100	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	88	88	83	83	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	122	1	78	205	1	47

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	123	0	484	123
Stage 1	-	-	-	-	123	-
Stage 2	-	-	-	-	361	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1464	-	542	928
Stage 1	-	-	-	-	902	-
Stage 2	-	-	-	-	705	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1464	-	513	928
Mov Cap-2 Maneuver	-	-	-	-	546	-
Stage 1	-	-	-	-	854	-
Stage 2	-	-	-	-	705	-

Approach	EB	WB	NB
HCM Control Delay, s	0	2.1	9.2
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	912	-	-	1464	-
HCM Lane V/C Ratio	0.053	-	-	0.053	-
HCM Control Delay (s)	9.2	-	-	7.6	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0.2	-	-	0.2	-

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕		↰	↱			↕			↕	
Traffic Vol, veh/h	6	140	1	0	235	5	0	1	1	1	0	0
Future Vol, veh/h	6	140	1	0	235	5	0	1	1	1	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	200	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	83	83	83	85	85	85	25	25	25
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	7	159	1	0	283	6	0	1	1	4	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	289	0	0	160	0	0	460	463	160	461	460	286
Stage 1	-	-	-	-	-	-	174	174	-	286	286	-
Stage 2	-	-	-	-	-	-	286	289	-	175	174	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1273	-	-	1419	-	-	512	496	885	511	498	753
Stage 1	-	-	-	-	-	-	828	755	-	721	675	-
Stage 2	-	-	-	-	-	-	721	673	-	827	755	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1273	-	-	1419	-	-	509	493	885	507	495	753
Mov Cap-2 Maneuver	-	-	-	-	-	-	509	493	-	507	495	-
Stage 1	-	-	-	-	-	-	823	750	-	717	675	-
Stage 2	-	-	-	-	-	-	721	673	-	820	750	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	0	10.7	12.2
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	633	1273	-	-	1419	-	-	507
HCM Lane V/C Ratio	0.004	0.005	-	-	-	-	-	0.008
HCM Control Delay (s)	10.7	7.8	0	-	0	-	-	12.2
HCM Lane LOS	B	A	A	-	A	-	-	B
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0

Intersection	
Intersection Delay, s/veh	7.0
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	202	615	52	329
Demand Flow Rate, veh/h	206	627	53	335
Vehicles Circulating, veh/h	322	44	503	272
Vehicles Exiting, veh/h	285	512	25	399
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	5.7	7.7	5.1	6.8
Approach LOS	A	A	A	A

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	206	627	53	335
Cap Entry Lane, veh/h	994	1319	826	1046
Entry HV Adj Factor	0.982	0.981	0.975	0.981
Flow Entry, veh/h	202	615	52	329
Cap Entry, veh/h	976	1294	805	1026
V/C Ratio	0.207	0.475	0.064	0.320
Control Delay, s/veh	5.7	7.7	5.1	6.8
LOS	A	A	A	A
95th %tile Queue, veh	1	3	0	1

Intersection	
Intersection Delay, s/veh	13.6
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	1	0	301	0	10	5	18	323	15	11	0
Future Vol, veh/h	1	1	0	301	0	10	5	18	323	15	11	0
Peak Hour Factor	0.81	0.81	0.81	0.80	0.80	0.80	0.83	0.83	0.83	0.69	0.69	0.69
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	1	0	376	0	13	6	22	389	22	16	0
Number of Lanes	0	1	0	0	1	0	0	1	1	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	1	1	1
HCM Control Delay	8.9	14.8	12.9	9.2
HCM LOS	A	B	B	A

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1
Vol Left, %	22%	0%	50%	97%	58%
Vol Thru, %	78%	0%	50%	0%	42%
Vol Right, %	0%	100%	0%	3%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	23	323	2	311	26
LT Vol	5	0	1	301	15
Through Vol	18	0	1	0	11
RT Vol	0	323	0	10	0
Lane Flow Rate	28	389	2	389	38
Geometry Grp	7	7	2	2	5
Degree of Util (X)	0.044	0.532	0.004	0.561	0.061
Departure Headway (Hd)	5.737	4.92	5.842	5.192	5.862
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	620	728	616	688	615
Service Time	3.514	2.697	3.845	3.28	3.862
HCM Lane V/C Ratio	0.045	0.534	0.003	0.565	0.062
HCM Control Delay	8.8	13.2	8.9	14.8	9.2
HCM Lane LOS	A	B	A	B	A
HCM 95th-tile Q	0.1	3.2	0	3.5	0.2

Intersection	
Intersection Delay, s/veh	9.6
Intersection LOS	A

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	1	166	40	10	152	75
Future Vol, veh/h	1	166	40	10	152	75
Peak Hour Factor	0.85	0.85	0.76	0.76	0.73	0.73
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	195	53	13	208	103
Number of Lanes	1	0	1	0	0	1

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	1	1	0
HCM Control Delay	8.5	8.1	10.6
HCM LOS	A	A	B

Lane	NBLn1	WBLn1	SBLn1
Vol Left, %	0%	1%	67%
Vol Thru, %	80%	0%	33%
Vol Right, %	20%	99%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	50	167	227
LT Vol	0	1	152
Through Vol	40	0	75
RT Vol	10	166	0
Lane Flow Rate	66	196	311
Geometry Grp	1	1	1
Degree of Util (X)	0.084	0.231	0.395
Departure Headway (Hd)	4.598	4.225	4.572
Convergence, Y/N	Yes	Yes	Yes
Cap	778	851	787
Service Time	2.637	2.247	2.603
HCM Lane V/C Ratio	0.085	0.23	0.395
HCM Control Delay	8.1	8.5	10.6
HCM Lane LOS	A	A	B
HCM 95th-tile Q	0.3	0.9	1.9

Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	141	1	5	46	5	1	0	15	15	0	0
Future Vol, veh/h	0	141	1	5	46	5	1	0	15	15	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	65	65	65	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	157	1	8	71	8	1	0	18	18	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	79	0	0	158	0	0	249	253	158	258	249	75
Stage 1	-	-	-	-	-	-	158	158	-	91	91	-
Stage 2	-	-	-	-	-	-	91	95	-	167	158	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1519	-	-	1422	-	-	705	650	887	695	654	986
Stage 1	-	-	-	-	-	-	844	767	-	916	820	-
Stage 2	-	-	-	-	-	-	916	816	-	835	767	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1519	-	-	1422	-	-	702	646	887	678	650	986
Mov Cap-2 Maneuver	-	-	-	-	-	-	702	646	-	678	650	-
Stage 1	-	-	-	-	-	-	844	767	-	916	815	-
Stage 2	-	-	-	-	-	-	911	811	-	818	767	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0.7	9.2	10.5
HCM LOS			A	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	873	1519	-	-	1422	-	-	678
HCM Lane V/C Ratio	0.022	-	-	-	0.005	-	-	0.026
HCM Control Delay (s)	9.2	0	-	-	7.5	-	-	10.5
HCM Lane LOS	A	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.1

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	171	56	2	7	0
Future Vol, veh/h	0	171	56	2	7	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	65	65	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	190	86	3	8	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	89	0	-	0	278	88
Stage 1	-	-	-	-	88	-
Stage 2	-	-	-	-	190	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1506	-	-	-	712	970
Stage 1	-	-	-	-	935	-
Stage 2	-	-	-	-	842	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1506	-	-	-	712	970
Mov Cap-2 Maneuver	-	-	-	-	725	-
Stage 1	-	-	-	-	935	-
Stage 2	-	-	-	-	842	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	10
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1506	-	-	-	725
HCM Lane V/C Ratio	-	-	-	-	0.011
HCM Control Delay (s)	0	-	-	-	10
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0

Intersection	
Int Delay, s/veh	2.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	177	1	20	57	6	1	0	60	18	0	0
Future Vol, veh/h	0	177	1	20	57	6	1	0	60	18	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	65	65	65	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	197	1	31	88	9	1	0	71	21	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	97	0	0	198	0	0	353	357	198	388	353	93
Stage 1	-	-	-	-	-	-	198	198	-	155	155	-
Stage 2	-	-	-	-	-	-	155	159	-	233	198	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1496	-	-	1375	-	-	602	569	843	571	572	964
Stage 1	-	-	-	-	-	-	804	737	-	847	769	-
Stage 2	-	-	-	-	-	-	847	766	-	770	737	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1496	-	-	1375	-	-	592	556	843	514	559	964
Mov Cap-2 Maneuver	-	-	-	-	-	-	592	556	-	514	559	-
Stage 1	-	-	-	-	-	-	804	737	-	847	751	-
Stage 2	-	-	-	-	-	-	828	748	-	706	737	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	1.9	9.7	12.3
HCM LOS			A	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	837	1496	-	-	1375	-	-	514
HCM Lane V/C Ratio	0.086	-	-	-	0.022	-	-	0.041
HCM Control Delay (s)	9.7	0	-	-	7.7	-	-	12.3
HCM Lane LOS	A	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.3	0	-	-	0.1	-	-	0.1

Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕		↰	↱			↕			↕	
Traffic Vol, veh/h	0	255	0	15	83	9	0	0	15	26	0	0
Future Vol, veh/h	0	255	0	15	83	9	0	0	15	26	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	200	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	65	65	65	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	283	0	23	128	14	0	0	17	29	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	142	0	0	283	0	0	464	471	283	473	464	135
Stage 1	-	-	-	-	-	-	283	283	-	181	181	-
Stage 2	-	-	-	-	-	-	181	188	-	292	283	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1441	-	-	1279	-	-	508	491	756	501	495	914
Stage 1	-	-	-	-	-	-	724	677	-	821	750	-
Stage 2	-	-	-	-	-	-	821	745	-	716	677	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1441	-	-	1279	-	-	501	482	756	483	486	914
Mov Cap-2 Maneuver	-	-	-	-	-	-	501	482	-	483	486	-
Stage 1	-	-	-	-	-	-	724	677	-	821	737	-
Stage 2	-	-	-	-	-	-	806	732	-	700	677	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	1.1	9.9	12.9
HCM LOS			A	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	756	1441	-	-	1279	-	-	483
HCM Lane V/C Ratio	0.022	-	-	-	0.018	-	-	0.06
HCM Control Delay (s)	9.9	0	-	-	7.9	-	-	12.9
HCM Lane LOS	A	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.1	0	-	-	0.1	-	-	0.2

Intersection	
Intersection Delay, s/veh	7.2
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	302	660	27	259
Demand Flow Rate, veh/h	308	673	27	264
Vehicles Circulating, veh/h	284	46	555	190
Vehicles Exiting, veh/h	170	536	37	529
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	6.6	8.2	5.0	5.4
Approach LOS	A	A	A	A

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	308	673	27	264
Cap Entry Lane, veh/h	1033	1317	783	1137
Entry HV Adj Factor	0.979	0.980	0.988	0.980
Flow Entry, veh/h	302	660	27	259
Cap Entry, veh/h	1011	1291	774	1114
V/C Ratio	0.298	0.511	0.034	0.232
Control Delay, s/veh	6.6	8.2	5.0	5.4
LOS	A	A	A	A
95th %tile Queue, veh	1	3	0	1

Intersection	
Intersection Delay, s/veh	16.3
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	5	0	396	5	20	0	17	381	20	19	1
Future Vol, veh/h	0	5	0	396	5	20	0	17	381	20	19	1
Peak Hour Factor	0.92	0.92	0.92	0.99	0.99	0.99	0.88	0.88	0.88	0.81	0.81	0.81
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	5	0	400	5	20	0	19	433	25	23	1
Number of Lanes	0	1	0	0	1	0	0	1	1	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	1	1	1
HCM Control Delay	9.1	17.7	15.7	9.7
HCM LOS	A	C	C	A

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	0%	0%	94%	50%
Vol Thru, %	100%	0%	100%	1%	47%
Vol Right, %	0%	100%	0%	5%	3%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	17	381	5	421	40
LT Vol	0	0	0	396	20
Through Vol	17	0	5	5	19
RT Vol	0	381	0	20	1
Lane Flow Rate	19	433	5	425	49
Geometry Grp	7	7	2	2	5
Degree of Util (X)	0.031	0.62	0.009	0.642	0.083
Departure Headway (Hd)	5.867	5.159	6.013	5.431	6.067
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	611	701	594	668	590
Service Time	3.597	2.889	4.06	3.456	4.112
HCM Lane V/C Ratio	0.031	0.618	0.008	0.636	0.083
HCM Control Delay	8.8	16	9.1	17.7	9.7
HCM Lane LOS	A	C	A	C	A
HCM 95th-tile Q	0.1	4.3	0	4.6	0.3

Intersection	
Intersection Delay, s/veh	11.2
Intersection LOS	B

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	5	173	120	5	190	60
Future Vol, veh/h	5	173	120	5	190	60
Peak Hour Factor	0.72	0.72	0.53	0.53	0.72	0.72
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	7	240	226	9	264	83
Number of Lanes	1	0	1	0	0	1

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	1	1	0
HCM Control Delay	10.1	10.4	12.6
HCM LOS	B	B	B

Lane	NBLn1	WBLn1	SBLn1
Vol Left, %	0%	3%	76%
Vol Thru, %	96%	0%	24%
Vol Right, %	4%	97%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	125	178	250
LT Vol	0	5	190
Through Vol	120	0	60
RT Vol	5	173	0
Lane Flow Rate	236	247	347
Geometry Grp	1	1	1
Degree of Util (X)	0.323	0.325	0.479
Departure Headway (Hd)	4.932	4.736	4.964
Convergence, Y/N	Yes	Yes	Yes
Cap	722	752	719
Service Time	3.016	2.81	3.042
HCM Lane V/C Ratio	0.327	0.328	0.483
HCM Control Delay	10.4	10.1	12.6
HCM Lane LOS	B	B	B
HCM 95th-tile Q	1.4	1.4	2.6

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	98	1	20	151	17	1	0	10	10	0	0
Future Vol, veh/h	0	98	1	20	151	17	1	0	10	10	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	83	83	83	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	111	1	24	182	20	1	0	12	12	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	202	0	0	112	0	0	352	362	112	358	352	192
Stage 1	-	-	-	-	-	-	112	112	-	240	240	-
Stage 2	-	-	-	-	-	-	240	250	-	118	112	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1370	-	-	1478	-	-	603	565	941	597	573	850
Stage 1	-	-	-	-	-	-	893	803	-	763	707	-
Stage 2	-	-	-	-	-	-	763	700	-	887	803	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1370	-	-	1478	-	-	596	556	941	582	564	850
Mov Cap-2 Maneuver	-	-	-	-	-	-	596	556	-	582	564	-
Stage 1	-	-	-	-	-	-	893	803	-	763	696	-
Stage 2	-	-	-	-	-	-	751	689	-	876	803	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0.8	9.1	11.3
HCM LOS			A	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	894	1370	-	-	1478	-	-	582
HCM Lane V/C Ratio	0.014	-	-	-	0.016	-	-	0.02
HCM Control Delay (s)	9.1	0	-	-	7.5	-	-	11.3
HCM Lane LOS	A	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0	0	-	-	0.1	-	-	0.1

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	118	188	7	5	0
Future Vol, veh/h	0	118	188	7	5	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	88	88	83	83	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	134	227	8	6	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	235	0	-	0	365	231
Stage 1	-	-	-	-	231	-
Stage 2	-	-	-	-	134	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1332	-	-	-	635	808
Stage 1	-	-	-	-	807	-
Stage 2	-	-	-	-	892	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1332	-	-	-	635	808
Mov Cap-2 Maneuver	-	-	-	-	674	-
Stage 1	-	-	-	-	807	-
Stage 2	-	-	-	-	892	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	10.4
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1332	-	-	-	674
HCM Lane V/C Ratio	-	-	-	-	0.009
HCM Control Delay (s)	0	-	-	-	10.4
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0

Intersection	
Int Delay, s/veh	2.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	122	1	65	194	21	1	0	40	12	0	0
Future Vol, veh/h	0	122	1	65	194	21	1	0	40	12	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	83	83	83	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	139	1	78	234	25	1	0	47	14	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	259	0	0	140	0	0	543	555	140	566	543	247
Stage 1	-	-	-	-	-	-	140	140	-	403	403	-
Stage 2	-	-	-	-	-	-	403	415	-	163	140	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1306	-	-	1443	-	-	451	440	908	435	447	792
Stage 1	-	-	-	-	-	-	863	781	-	624	600	-
Stage 2	-	-	-	-	-	-	624	592	-	839	781	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1306	-	-	1443	-	-	433	416	908	395	423	792
Mov Cap-2 Maneuver	-	-	-	-	-	-	433	416	-	395	423	-
Stage 1	-	-	-	-	-	-	863	781	-	624	568	-
Stage 2	-	-	-	-	-	-	590	560	-	796	781	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	1.8	9.3	14.5
HCM LOS			A	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	884	1306	-	-	1443	-	-	395
HCM Lane V/C Ratio	0.055	-	-	-	0.054	-	-	0.036
HCM Control Delay (s)	9.3	0	-	-	7.6	-	-	14.5
HCM Lane LOS	A	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.2	0	-	-	0.2	-	-	0.1

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕		↰	↱			↕			↕	
Traffic Vol, veh/h	6	167	1	0	280	34	0	1	1	18	0	0
Future Vol, veh/h	6	167	1	0	280	34	0	1	1	18	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	200	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	83	83	83	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	7	190	1	0	337	41	0	1	1	21	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	378	0	0	191	0	0	563	583	191	564	563	358
Stage 1	-	-	-	-	-	-	205	205	-	358	358	-
Stage 2	-	-	-	-	-	-	358	378	-	206	205	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1180	-	-	1383	-	-	437	424	851	436	435	686
Stage 1	-	-	-	-	-	-	797	732	-	660	628	-
Stage 2	-	-	-	-	-	-	660	615	-	796	732	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1180	-	-	1383	-	-	435	421	851	432	432	686
Mov Cap-2 Maneuver	-	-	-	-	-	-	435	421	-	432	432	-
Stage 1	-	-	-	-	-	-	791	727	-	655	628	-
Stage 2	-	-	-	-	-	-	660	615	-	788	727	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	0	11.4	13.8
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	563	1180	-	-	1383	-	-	432
HCM Lane V/C Ratio	0.004	0.006	-	-	-	-	-	0.049
HCM Control Delay (s)	11.4	8.1	0	-	0	-	-	13.8
HCM Lane LOS	B	A	A	-	A	-	-	B
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0.2

Intersection	
Intersection Delay, s/veh	7.8
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	253	689	52	338
Demand Flow Rate, veh/h	258	702	53	345
Vehicles Circulating, veh/h	322	48	555	347
Vehicles Exiting, veh/h	370	560	25	403
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	6.3	8.6	5.4	7.7
Approach LOS	A	A	A	A

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	258	702	53	345
Cap Entry Lane, veh/h	994	1314	783	969
Entry HV Adj Factor	0.982	0.981	0.975	0.979
Flow Entry, veh/h	253	689	52	338
Cap Entry, veh/h	976	1289	764	948
V/C Ratio	0.260	0.534	0.068	0.356
Control Delay, s/veh	6.3	8.6	5.4	7.7
LOS	A	A	A	A
95th %tile Queue, veh	1	3	0	2

Intersection	
Intersection Delay, s/veh	9.8
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	1	0	210	0	30	5	15	144	40	15	0
Future Vol, veh/h	1	1	0	210	0	30	5	15	144	40	15	0
Peak Hour Factor	0.81	0.81	0.81	0.80	0.80	0.80	0.83	0.83	0.83	0.69	0.69	0.69
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	1	0	263	0	38	6	18	173	58	22	0
Number of Lanes	0	1	0	0	1	0	0	1	1	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	1	1	1
HCM Control Delay	8.1	10.7	8.8	8.9
HCM LOS	A	B	A	A

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1
Vol Left, %	25%	0%	50%	88%	73%
Vol Thru, %	75%	0%	50%	0%	27%
Vol Right, %	0%	100%	0%	12%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	20	144	2	240	55
LT Vol	5	0	1	210	40
Through Vol	15	0	1	0	15
RT Vol	0	144	0	30	0
Lane Flow Rate	24	173	2	300	80
Geometry Grp	7	7	2	2	5
Degree of Util (X)	0.037	0.225	0.003	0.391	0.114
Departure Headway (Hd)	5.492	4.661	5.074	4.695	5.166
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	651	769	702	765	692
Service Time	3.23	2.399	3.13	2.731	3.212
HCM Lane V/C Ratio	0.037	0.225	0.003	0.392	0.116
HCM Control Delay	8.4	8.8	8.1	10.7	8.9
HCM Lane LOS	A	A	A	B	A
HCM 95th-tile Q	0.1	0.9	0	1.9	0.4

Intersection	
Intersection Delay, s/veh	9.4
Intersection LOS	A

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	38	57	17	24	197	36
Future Vol, veh/h	38	57	17	24	197	36
Peak Hour Factor	0.85	0.85	0.76	0.76	0.73	0.73
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	45	67	22	32	270	49
Number of Lanes	1	0	1	0	0	1

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	1	1	0
HCM Control Delay	8.2	7.5	10.2
HCM LOS	A	A	B

Lane	NBLn1	WBLn1	SBLn1
Vol Left, %	0%	40%	85%
Vol Thru, %	41%	0%	15%
Vol Right, %	59%	60%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	41	95	233
LT Vol	0	38	197
Through Vol	17	0	36
RT Vol	24	57	0
Lane Flow Rate	54	112	319
Geometry Grp	1	1	1
Degree of Util (X)	0.063	0.14	0.385
Departure Headway (Hd)	4.185	4.506	4.341
Convergence, Y/N	Yes	Yes	Yes
Cap	858	800	817
Service Time	2.2	2.511	2.436
HCM Lane V/C Ratio	0.063	0.14	0.39
HCM Control Delay	7.5	8.2	10.2
HCM Lane LOS	A	A	B
HCM 95th-tile Q	0.2	0.5	1.8

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	319	2	5	191	20	5	0	10	15	0	10
Future Vol, veh/h	10	319	2	5	191	20	5	0	10	15	0	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	94	94	94	94	92	85	92	85	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	339	2	5	203	22	6	0	12	16	0	11

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	225	0	0	341	0	0	592	597	340	592	587	214
Stage 1	-	-	-	-	-	-	362	362	-	224	224	-
Stage 2	-	-	-	-	-	-	230	235	-	368	363	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1344	-	-	1218	-	-	418	416	702	418	422	826
Stage 1	-	-	-	-	-	-	657	625	-	779	718	-
Stage 2	-	-	-	-	-	-	773	710	-	652	625	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1344	-	-	1218	-	-	409	411	702	407	417	826
Mov Cap-2 Maneuver	-	-	-	-	-	-	409	411	-	407	417	-
Stage 1	-	-	-	-	-	-	652	620	-	773	715	-
Stage 2	-	-	-	-	-	-	760	707	-	636	620	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0.2	11.6	9.4
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	567	1344	-	-	1218	-	-	-	826
HCM Lane V/C Ratio	0.031	0.008	-	-	0.004	-	-	-	0.013
HCM Control Delay (s)	11.6	7.7	-	-	8	-	-	0	9.4
HCM Lane LOS	B	A	-	-	A	-	-	A	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	-	0

Intersection	
Int Delay, s/veh	1.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	339	5	24	206	10	45
Future Vol, veh/h	339	5	24	206	10	45
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	100	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	361	5	26	219	12	53

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	366	0	635	364
Stage 1	-	-	-	-	364	-
Stage 2	-	-	-	-	271	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1193	-	443	681
Stage 1	-	-	-	-	703	-
Stage 2	-	-	-	-	775	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1193	-	433	681
Mov Cap-2 Maneuver	-	-	-	-	524	-
Stage 1	-	-	-	-	688	-
Stage 2	-	-	-	-	775	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.8	11.2
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	646	-	-	1193	-
HCM Lane V/C Ratio	0.1	-	-	0.021	-
HCM Control Delay (s)	11.2	-	-	8.1	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.3	-	-	0.1	-

Intersection	
Int Delay, s/veh	2.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕		↰	↑	↱		↕			↕	
Traffic Vol, veh/h	0	384	0	15	225	199	0	0	15	111	0	5
Future Vol, veh/h	0	384	0	15	225	199	0	0	15	111	0	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	200	-	155	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	409	0	16	239	212	0	0	16	118	0	5

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	451	0	0	409	0	0	789	892	409	688	680	239
Stage 1	-	-	-	-	-	-	409	409	-	271	271	-
Stage 2	-	-	-	-	-	-	380	483	-	417	409	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1109	-	-	1150	-	-	308	281	642	360	373	800
Stage 1	-	-	-	-	-	-	619	596	-	735	685	-
Stage 2	-	-	-	-	-	-	642	553	-	613	596	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1109	-	-	1150	-	-	303	277	642	347	368	800
Mov Cap-2 Maneuver	-	-	-	-	-	-	303	277	-	347	368	-
Stage 1	-	-	-	-	-	-	619	596	-	735	675	-
Stage 2	-	-	-	-	-	-	629	545	-	598	596	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0.3	10.8	20.4
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	642	1109	-	-	1150	-	-	356
HCM Lane V/C Ratio	0.025	-	-	-	0.014	-	-	0.347
HCM Control Delay (s)	10.8	0	-	-	8.2	-	-	20.4
HCM Lane LOS	B	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	1.5

Intersection	
Intersection Delay, s/veh	10.0
Intersection LOS	B

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	538	858	167	348
Demand Flow Rate, veh/h	549	875	170	355
Vehicles Circulating, veh/h	506	99	780	634
Vehicles Exiting, veh/h	483	851	275	52
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	16.2	5.3	9.5	12.3
Approach LOS	C	A	A	B

Lane	Left	Left	Bypass	Left	Left
Designated Moves	LTR	LT	R	LTR	LTR
Assumed Moves	LTR	LT	R	LTR	LTR
RT Channelized			Free		
Lane Util	1.000	1.000		1.000	1.000
Follow-Up Headway, s	2.609	2.609		2.609	2.609
Critical Headway, s	4.976	4.976	288	4.976	4.976
Entry Flow, veh/h	549	587	1938	170	355
Cap Entry Lane, veh/h	824	1247	0.980	623	723
Entry HV Adj Factor	0.980	0.981	282	0.980	0.981
Flow Entry, veh/h	538	576	1900	167	348
Cap Entry, veh/h	808	1224	0.148	610	709
V/C Ratio	0.667	0.471	0.0	0.273	0.491
Control Delay, s/veh	16.2	7.9	A	9.5	12.3
LOS	C	A	1	A	B
95th %tile Queue, veh	5	3		1	3

Intersection	
Intersection Delay, s/veh	9.5
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	5	0	179	5	50	0	25	220	40	15	1
Future Vol, veh/h	0	5	0	179	5	50	0	25	220	40	15	1
Peak Hour Factor	0.92	0.92	0.92	0.99	0.99	0.99	0.88	0.88	0.88	0.81	0.81	0.81
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	5	0	181	5	51	0	28	250	49	19	1
Number of Lanes	0	1	0	0	1	0	0	1	1	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	1	1	1
HCM Control Delay	8.1	10	9.2	8.7
HCM LOS	A	A	A	A

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	0%	0%	76%	71%
Vol Thru, %	100%	0%	100%	2%	27%
Vol Right, %	0%	100%	0%	21%	2%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	25	220	5	234	56
LT Vol	0	0	0	179	40
Through Vol	25	0	5	5	15
RT Vol	0	220	0	50	1
Lane Flow Rate	28	250	5	236	69
Geometry Grp	7	7	2	2	5
Degree of Util (X)	0.041	0.313	0.008	0.312	0.098
Departure Headway (Hd)	5.204	4.5	5.036	4.755	5.081
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	688	798	707	754	703
Service Time	2.939	2.234	3.095	2.796	3.128
HCM Lane V/C Ratio	0.041	0.313	0.007	0.313	0.098
HCM Control Delay	8.2	9.3	8.1	10	8.7
HCM Lane LOS	A	A	A	A	A
HCM 95th-tile Q	0.1	1.3	0	1.3	0.3

Intersection	
Intersection Delay, s/veh	9.5
Intersection LOS	A

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	33	179	59	64	76	28
Future Vol, veh/h	33	179	59	64	76	28
Peak Hour Factor	0.72	0.72	0.53	0.53	0.72	0.72
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	46	249	111	121	106	39
Number of Lanes	1	0	1	0	0	1

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	1	1	0
HCM Control Delay	9.7	9.3	9.3
HCM LOS	A	A	A

Lane	NBLn1	WBLn1	SBLn1
Vol Left, %	0%	16%	73%
Vol Thru, %	48%	0%	27%
Vol Right, %	52%	84%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	123	212	104
LT Vol	0	33	76
Through Vol	59	0	28
RT Vol	64	179	0
Lane Flow Rate	232	294	144
Geometry Grp	1	1	1
Degree of Util (X)	0.288	0.354	0.201
Departure Headway (Hd)	4.467	4.329	5.01
Convergence, Y/N	Yes	Yes	Yes
Cap	801	827	714
Service Time	2.515	2.371	3.063
HCM Lane V/C Ratio	0.29	0.356	0.202
HCM Control Delay	9.3	9.7	9.3
HCM Lane LOS	A	A	A
HCM 95th-tile Q	1.2	1.6	0.7

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	173	2	15	245	5	1	0	10	5	0	2
Future Vol, veh/h	2	173	2	15	245	5	1	0	10	5	0	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	182	2	16	258	5	1	0	11	5	0	2

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	263	0	0	184	0	0	481	482	183	486	481	261
Stage 1	-	-	-	-	-	-	187	187	-	293	293	-
Stage 2	-	-	-	-	-	-	294	295	-	193	188	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1301	-	-	1391	-	-	495	484	859	492	485	778
Stage 1	-	-	-	-	-	-	815	745	-	715	670	-
Stage 2	-	-	-	-	-	-	714	669	-	809	745	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1301	-	-	1391	-	-	489	477	859	481	478	778
Mov Cap-2 Maneuver	-	-	-	-	-	-	489	477	-	481	478	-
Stage 1	-	-	-	-	-	-	813	744	-	714	662	-
Stage 2	-	-	-	-	-	-	704	661	-	798	744	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.4	9.5	11.8
HCM LOS			A	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	804	1301	-	-	1391	-	-	540
HCM Lane V/C Ratio	0.014	0.002	-	-	0.011	-	-	0.014
HCM Control Delay (s)	9.5	7.8	-	-	7.6	-	-	11.8
HCM Lane LOS	A	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0

Intersection	
Int Delay, s/veh	1.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	183	5	60	264	1	40
Future Vol, veh/h	183	5	60	264	1	40
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	100	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	88	88	83	83	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	208	6	72	318	1	47

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	214	0	673	211
Stage 1	-	-	-	-	211	-
Stage 2	-	-	-	-	462	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1356	-	421	829
Stage 1	-	-	-	-	824	-
Stage 2	-	-	-	-	634	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1356	-	399	829
Mov Cap-2 Maneuver	-	-	-	-	469	-
Stage 1	-	-	-	-	780	-
Stage 2	-	-	-	-	634	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.4	9.7
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	814	-	-	1356	-
HCM Lane V/C Ratio	0.059	-	-	0.053	-
HCM Control Delay (s)	9.7	-	-	7.8	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0.2	-	-	0.2	-

Intersection	
Int Delay, s/veh	6.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕		↰	↑	↱		↕			↕	
Traffic Vol, veh/h	5	217	1	0	320	146	0	1	1	200	0	4
Future Vol, veh/h	5	217	1	0	320	146	0	1	1	200	0	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	200	-	155	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	83	83	83	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	6	247	1	0	386	176	0	1	1	235	0	5

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	562	0	0	248	0	0	737	822	248	647	646	386
Stage 1	-	-	-	-	-	-	260	260	-	386	386	-
Stage 2	-	-	-	-	-	-	477	562	-	261	260	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1009	-	-	1318	-	-	334	309	791	384	390	662
Stage 1	-	-	-	-	-	-	745	693	-	637	610	-
Stage 2	-	-	-	-	-	-	569	510	-	744	693	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1009	-	-	1318	-	-	330	307	791	380	387	662
Mov Cap-2 Maneuver	-	-	-	-	-	-	330	307	-	380	387	-
Stage 1	-	-	-	-	-	-	740	688	-	633	610	-
Stage 2	-	-	-	-	-	-	565	510	-	736	688	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0	13.2	28.9
HCM LOS			B	D

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	442	1009	-	-	1318	-	-	383
HCM Lane V/C Ratio	0.005	0.006	-	-	-	-	-	0.627
HCM Control Delay (s)	13.2	8.6	0	-	0	-	-	28.9
HCM Lane LOS	B	A	A	-	A	-	-	D
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	4.1

Intersection	
Intersection Delay, s/veh	10.1
Intersection LOS	B

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	484	986	299	391
Demand Flow Rate, veh/h	494	1006	305	399
Vehicles Circulating, veh/h	505	130	799	672
Vehicles Exiting, veh/h	566	974	200	56
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	13.9	5.0	14.3	15.0
Approach LOS	B	A	B	C

Lane	Left	Left	Bypass	Left	Left
Designated Moves	LTR	LT	R	LTR	LTR
Assumed Moves	LTR	LT	R	LTR	LTR
RT Channelized			Free		
Lane Util	1.000	1.000		1.000	1.000
Follow-Up Headway, s	2.609	2.609		2.609	2.609
Critical Headway, s	4.976	4.976	408	4.976	4.976
Entry Flow, veh/h	494	598	1938	305	399
Cap Entry Lane, veh/h	824	1209	0.980	611	695
Entry HV Adj Factor	0.979	0.980	400	0.982	0.979
Flow Entry, veh/h	484	586	1900	299	391
Cap Entry, veh/h	807	1184	0.211	600	681
V/C Ratio	0.599	0.495	0.0	0.499	0.574
Control Delay, s/veh	13.9	8.5	A	14.3	15.0
LOS	B	A	1	B	C
95th %tile Queue, veh	4	3		3	4

Intersection	
Intersection Delay, s/veh	10.2
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	1	0	222	0	30	5	18	180	40	16	0
Future Vol, veh/h	1	1	0	222	0	30	5	18	180	40	16	0
Peak Hour Factor	0.81	0.81	0.81	0.80	0.80	0.80	0.83	0.83	0.83	0.69	0.69	0.69
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	1	0	278	0	38	6	22	217	58	23	0
Number of Lanes	0	1	0	0	1	0	0	1	1	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	1	1	1
HCM Control Delay	8.3	11.3	9.2	9.1
HCM LOS	A	B	A	A

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1
Vol Left, %	22%	0%	50%	88%	71%
Vol Thru, %	78%	0%	50%	0%	29%
Vol Right, %	0%	100%	0%	12%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	23	180	2	252	56
LT Vol	5	0	1	222	40
Through Vol	18	0	1	0	16
RT Vol	0	180	0	30	0
Lane Flow Rate	28	217	2	315	81
Geometry Grp	7	7	2	2	5
Degree of Util (X)	0.043	0.284	0.004	0.421	0.119
Departure Headway (Hd)	5.532	4.716	5.223	4.81	5.274
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	645	759	679	747	676
Service Time	3.281	2.466	3.3	2.859	3.337
HCM Lane V/C Ratio	0.043	0.286	0.003	0.422	0.12
HCM Control Delay	8.5	9.3	8.3	11.3	9.1
HCM Lane LOS	A	A	A	B	A
HCM 95th-tile Q	0.1	1.2	0	2.1	0.4

Intersection	
Intersection Delay, s/veh	9.9
Intersection LOS	A

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	38	96	17	24	210	36
Future Vol, veh/h	38	96	17	24	210	36
Peak Hour Factor	0.85	0.85	0.76	0.76	0.73	0.73
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	45	113	22	32	288	49
Number of Lanes	1	0	1	0	0	1

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	1	1	0
HCM Control Delay	8.6	7.7	10.9
HCM LOS	A	A	B

Lane	NBLn1	WBLn1	SBLn1
Vol Left, %	0%	28%	85%
Vol Thru, %	41%	0%	15%
Vol Right, %	59%	72%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	41	134	246
LT Vol	0	38	210
Through Vol	17	0	36
RT Vol	24	96	0
Lane Flow Rate	54	158	337
Geometry Grp	1	1	1
Degree of Util (X)	0.065	0.196	0.424
Departure Headway (Hd)	4.323	4.47	4.527
Convergence, Y/N	Yes	Yes	Yes
Cap	828	804	795
Service Time	2.355	2.495	2.552
HCM Lane V/C Ratio	0.065	0.197	0.424
HCM Control Delay	7.7	8.6	10.9
HCM Lane LOS	A	A	B
HCM 95th-tile Q	0.2	0.7	2.1

Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	320	2	5	194	25	5	0	10	30	0	10
Future Vol, veh/h	10	320	2	5	194	25	5	0	10	30	0	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	340	2	5	206	27	6	0	12	35	0	12

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	233	0	0	342	0	0	599	606	341	599	594	220
Stage 1	-	-	-	-	-	-	363	363	-	230	230	-
Stage 2	-	-	-	-	-	-	236	243	-	369	364	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1335	-	-	1217	-	-	413	411	701	413	418	820
Stage 1	-	-	-	-	-	-	656	625	-	773	714	-
Stage 2	-	-	-	-	-	-	767	705	-	651	624	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1335	-	-	1217	-	-	403	406	701	402	413	820
Mov Cap-2 Maneuver	-	-	-	-	-	-	403	406	-	402	413	-
Stage 1	-	-	-	-	-	-	651	620	-	767	711	-
Stage 2	-	-	-	-	-	-	753	702	-	635	619	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0.2	11.6	13.7
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	562	1335	-	-	1217	-	-	461
HCM Lane V/C Ratio	0.031	0.008	-	-	0.004	-	-	0.102
HCM Control Delay (s)	11.6	7.7	-	-	8	-	-	13.7
HCM Lane LOS	B	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.3

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	360	224	2	7	0
Future Vol, veh/h	0	360	224	2	7	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	94	94	94	94	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	383	238	2	8	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	240	0	-	0	622	239
Stage 1	-	-	-	-	239	-
Stage 2	-	-	-	-	383	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1327	-	-	-	450	800
Stage 1	-	-	-	-	801	-
Stage 2	-	-	-	-	689	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1327	-	-	-	450	800
Mov Cap-2 Maneuver	-	-	-	-	541	-
Stage 1	-	-	-	-	801	-
Stage 2	-	-	-	-	689	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	11.8
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1327	-	-	-	541
HCM Lane V/C Ratio	-	-	-	-	0.015
HCM Control Delay (s)	0	-	-	-	11.8
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0

Intersection	
Int Delay, s/veh	1.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	362	5	24	216	6	10	0	45	18	0	0
Future Vol, veh/h	0	362	5	24	216	6	10	0	45	18	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	385	5	26	230	6	12	0	53	21	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	236	0	0	390	0	0	673	676	388	699	675	233
Stage 1	-	-	-	-	-	-	388	388	-	285	285	-
Stage 2	-	-	-	-	-	-	285	288	-	414	390	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1331	-	-	1169	-	-	369	375	660	354	376	806
Stage 1	-	-	-	-	-	-	636	609	-	722	676	-
Stage 2	-	-	-	-	-	-	722	674	-	616	608	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1331	-	-	1169	-	-	363	367	660	320	368	806
Mov Cap-2 Maneuver	-	-	-	-	-	-	363	367	-	320	368	-
Stage 1	-	-	-	-	-	-	636	609	-	722	661	-
Stage 2	-	-	-	-	-	-	706	659	-	567	608	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0.8	12.1	17
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	575	1331	-	-	1169	-	-	320
HCM Lane V/C Ratio	0.113	-	-	-	0.022	-	-	0.066
HCM Control Delay (s)	12.1	0	-	-	8.1	-	-	17
HCM Lane LOS	B	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	0.4	0	-	-	0.1	-	-	0.2

Intersection	
Int Delay, s/veh	12.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕		↰	↑	↱		↕			↕	
Traffic Vol, veh/h	1	424	0	15	238	246	0	0	15	251	0	8
Future Vol, veh/h	1	424	0	15	238	246	0	0	15	251	0	8
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	200	-	155	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	451	0	16	253	262	0	0	16	267	0	9

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	515	0	0	451	0	0	874	1000	451	746	738	253
Stage 1	-	-	-	-	-	-	453	453	-	285	285	-
Stage 2	-	-	-	-	-	-	421	547	-	461	453	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1051	-	-	1109	-	-	270	243	608	330	346	786
Stage 1	-	-	-	-	-	-	586	570	-	722	676	-
Stage 2	-	-	-	-	-	-	610	517	-	581	570	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1051	-	-	1109	-	-	264	239	608	317	341	786
Mov Cap-2 Maneuver	-	-	-	-	-	-	264	239	-	317	341	-
Stage 1	-	-	-	-	-	-	585	569	-	721	667	-
Stage 2	-	-	-	-	-	-	595	510	-	565	569	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0.2	11.1	56.4
HCM LOS			B	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	608	1051	-	-	1109	-	-	323
HCM Lane V/C Ratio	0.026	0.001	-	-	0.014	-	-	0.853
HCM Control Delay (s)	11.1	8.4	0	-	8.3	-	-	56.4
HCM Lane LOS	B	A	A	-	A	-	-	F
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	7.6

Intersection	
Intersection Delay, s/veh	21.4
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	424	0	15	238	246	0	0	15	251	0	8
Future Vol, veh/h	1	424	0	15	238	246	0	0	15	251	0	8
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	451	0	16	253	262	0	0	16	267	0	9
Number of Lanes	0	1	0	1	1	1	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	3	1
HCM Control Delay	31.8	13.4	10.4	20.4
HCM LOS	D	B	B	C

Lane	NBLn1	EBLn1	WBLn1	WBLn2	WBLn3	SBLn1
Vol Left, %	0%	0%	100%	0%	0%	97%
Vol Thru, %	0%	100%	0%	100%	0%	0%
Vol Right, %	100%	0%	0%	0%	100%	3%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	15	425	15	238	246	259
LT Vol	0	1	15	0	0	251
Through Vol	0	424	0	238	0	0
RT Vol	15	0	0	0	246	8
Lane Flow Rate	16	452	16	253	262	276
Geometry Grp	7	7	7	7	7	7
Degree of Util (X)	0.033	0.813	0.031	0.453	0.417	0.58
Departure Headway (Hd)	7.426	6.477	6.954	6.444	5.73	7.581
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	485	556	511	554	623	474
Service Time	5.126	4.266	4.749	4.238	3.523	5.37
HCM Lane V/C Ratio	0.033	0.813	0.031	0.457	0.421	0.582
HCM Control Delay	10.4	31.8	10	14.5	12.6	20.4
HCM Lane LOS	B	D	A	B	B	C
HCM 95th-tile Q	0.1	8	0.1	2.3	2.1	3.6

Intersection	
Intersection Delay, s/veh	17.4
Intersection LOS	C

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	727	917	168	351
Demand Flow Rate, veh/h	741	935	171	358
Vehicles Circulating, veh/h	506	109	969	695
Vehicles Exiting, veh/h	547	1031	278	61
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	34.5	6.1	12.3	13.9
Approach LOS	D	A	B	B

Lane	Left	Left	Bypass	Left	Left
Designated Moves	LTR	LT	R	LTR	LTR
Assumed Moves	LTR	LT	R	LTR	LTR
RT Channelized			Free		
Lane Util	1.000	1.000		1.000	1.000
Follow-Up Headway, s	2.609	2.609		2.609	2.609
Critical Headway, s	4.976	4.976	288	4.976	4.976
Entry Flow, veh/h	741	647	1938	171	358
Cap Entry Lane, veh/h	824	1235	0.980	514	679
Entry HV Adj Factor	0.981	0.981	282	0.980	0.981
Flow Entry, veh/h	727	635	1900	168	351
Cap Entry, veh/h	808	1211	0.148	503	667
V/C Ratio	0.900	0.524	0.0	0.333	0.527
Control Delay, s/veh	34.5	8.8	A	12.3	13.9
LOS	D	A	1	B	B
95th %tile Queue, veh	12	3		1	3

Intersection	
Intersection Delay, s/veh	10.1
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	5	0	219	5	50	0	27	244	40	19	1
Future Vol, veh/h	0	5	0	219	5	50	0	27	244	40	19	1
Peak Hour Factor	0.92	0.92	0.92	0.99	0.99	0.99	0.88	0.88	0.88	0.81	0.81	0.81
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	5	0	221	5	51	0	31	277	49	23	1
Number of Lanes	0	1	0	0	1	0	0	1	1	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	1	1	1
HCM Control Delay	8.3	10.8	9.7	8.9
HCM LOS	A	B	A	A

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	0%	0%	80%	67%
Vol Thru, %	100%	0%	100%	2%	32%
Vol Right, %	0%	100%	0%	18%	2%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	27	244	5	274	60
LT Vol	0	0	0	219	40
Through Vol	27	0	5	5	19
RT Vol	0	244	0	50	1
Lane Flow Rate	31	277	5	277	74
Geometry Grp	7	7	2	2	5
Degree of Util (X)	0.045	0.356	0.008	0.374	0.108
Departure Headway (Hd)	5.327	4.622	5.197	4.871	5.233
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	670	776	683	736	681
Service Time	3.073	2.368	3.272	2.921	3.295
HCM Lane V/C Ratio	0.046	0.357	0.007	0.376	0.109
HCM Control Delay	8.3	9.9	8.3	10.8	8.9
HCM Lane LOS	A	A	A	B	A
HCM 95th-tile Q	0.1	1.6	0	1.7	0.4

Intersection	
Intersection Delay, s/veh	10.3
Intersection LOS	B

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	33	205	59	64	120	28
Future Vol, veh/h	33	205	59	64	120	28
Peak Hour Factor	0.72	0.72	0.53	0.53	0.72	0.72
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	46	285	111	121	167	39
Number of Lanes	1	0	1	0	0	1

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	1	1	0
HCM Control Delay	10.7	9.7	10.4
HCM LOS	B	A	B

Lane	NBLn1	WBLn1	SBLn1
Vol Left, %	0%	14%	81%
Vol Thru, %	48%	0%	19%
Vol Right, %	52%	86%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	123	238	148
LT Vol	0	33	120
Through Vol	59	0	28
RT Vol	64	205	0
Lane Flow Rate	232	331	206
Geometry Grp	1	1	1
Degree of Util (X)	0.3	0.411	0.293
Departure Headway (Hd)	4.651	4.481	5.134
Convergence, Y/N	Yes	Yes	Yes
Cap	766	797	695
Service Time	2.725	2.539	3.211
HCM Lane V/C Ratio	0.303	0.415	0.296
HCM Control Delay	9.7	10.7	10.4
HCM Lane LOS	A	B	B
HCM 95th-tile Q	1.3	2	1.2

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	177	2	15	247	22	1	0	10	15	0	2
Future Vol, veh/h	2	177	2	15	247	22	1	0	10	15	0	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	83	83	83	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	201	2	18	298	27	1	0	12	18	0	2

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	325	0	0	203	0	0	555	567	202	560	555	312
Stage 1	-	-	-	-	-	-	206	206	-	348	348	-
Stage 2	-	-	-	-	-	-	349	361	-	212	207	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1235	-	-	1369	-	-	442	433	839	439	440	728
Stage 1	-	-	-	-	-	-	796	731	-	668	634	-
Stage 2	-	-	-	-	-	-	667	626	-	790	731	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1235	-	-	1369	-	-	436	427	839	428	433	728
Mov Cap-2 Maneuver	-	-	-	-	-	-	436	427	-	428	433	-
Stage 1	-	-	-	-	-	-	794	730	-	667	626	-
Stage 2	-	-	-	-	-	-	656	618	-	778	730	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.4	9.7	13.4
HCM LOS			A	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	774	1235	-	-	1369	-	-	450
HCM Lane V/C Ratio	0.017	0.002	-	-	0.013	-	-	0.044
HCM Control Delay (s)	9.7	7.9	-	-	7.7	-	-	13.4
HCM Lane LOS	A	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.1

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	202	284	7	5	0
Future Vol, veh/h	0	202	284	7	5	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	88	88	83	83	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	230	342	8	6	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	350	0	-	0	576	346
Stage 1	-	-	-	-	346	-
Stage 2	-	-	-	-	230	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1209	-	-	-	479	697
Stage 1	-	-	-	-	716	-
Stage 2	-	-	-	-	808	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1209	-	-	-	479	697
Mov Cap-2 Maneuver	-	-	-	-	563	-
Stage 1	-	-	-	-	716	-
Stage 2	-	-	-	-	808	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	11.5
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1209	-	-	-	563
HCM Lane V/C Ratio	-	-	-	-	0.01
HCM Control Delay (s)	0	-	-	-	11.5
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0

Intersection	
Int Delay, s/veh	1.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	202	5	60	290	21	1	0	40	12	0	0
Future Vol, veh/h	0	202	5	60	290	21	1	0	40	12	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	83	83	83	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	230	6	72	349	25	1	0	47	14	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	374	0	0	236	0	0	739	751	233	763	742	362
Stage 1	-	-	-	-	-	-	233	233	-	506	506	-
Stage 2	-	-	-	-	-	-	506	518	-	257	236	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1184	-	-	1331	-	-	333	340	806	321	344	683
Stage 1	-	-	-	-	-	-	770	712	-	549	540	-
Stage 2	-	-	-	-	-	-	549	533	-	748	710	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1184	-	-	1331	-	-	319	322	806	290	325	683
Mov Cap-2 Maneuver	-	-	-	-	-	-	319	322	-	290	325	-
Stage 1	-	-	-	-	-	-	770	712	-	549	511	-
Stage 2	-	-	-	-	-	-	519	504	-	704	710	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	1.3	9.9	18
HCM LOS			A	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	777	1184	-	-	1331	-	-	290
HCM Lane V/C Ratio	0.062	-	-	-	0.054	-	-	0.049
HCM Control Delay (s)	9.9	0	-	-	7.9	-	-	18
HCM Lane LOS	A	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	0.2	0	-	-	0.2	-	-	0.2

Intersection	
Int Delay, s/veh	24.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕		↰	↑	↱		↕			↕	
Traffic Vol, veh/h	9	244	1	0	365	302	0	1	1	292	0	6
Future Vol, veh/h	9	244	1	0	365	302	0	1	1	292	0	6
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	200	-	155	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	83	83	83	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	10	277	1	0	440	364	0	1	1	344	0	7

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	804	0	0	278	0	0	924	1102	278	739	738	440
Stage 1	-	-	-	-	-	-	298	298	-	440	440	-
Stage 2	-	-	-	-	-	-	626	804	-	299	298	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	820	-	-	1285	-	-	250	212	761	~ 333	346	617
Stage 1	-	-	-	-	-	-	711	667	-	596	578	-
Stage 2	-	-	-	-	-	-	472	396	-	710	667	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	820	-	-	1285	-	-	245	209	761	~ 328	341	617
Mov Cap-2 Maneuver	-	-	-	-	-	-	245	209	-	~ 328	341	-
Stage 1	-	-	-	-	-	-	701	658	-	588	578	-
Stage 2	-	-	-	-	-	-	467	396	-	698	658	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	0	16.1	102.4
HCM LOS			C	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	328	820	-	-	1285	-	-	331
HCM Lane V/C Ratio	0.007	0.012	-	-	-	-	-	1.059
HCM Control Delay (s)	16.1	9.4	0	-	0	-	-	102.4
HCM Lane LOS	C	A	A	-	A	-	-	F
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	12.8

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Intersection Delay, s/veh	25.6
Intersection LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	9	244	1	0	365	302	0	1	1	292	0	6
Future Vol, veh/h	9	244	1	0	365	302	0	1	1	292	0	6
Peak Hour Factor	0.88	0.88	0.88	0.83	0.83	0.83	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	10	277	1	0	440	364	0	1	1	344	0	7
Number of Lanes	0	1	0	1	1	1	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	3	1
HCM Control Delay	19.7	25.5	10.9	30.7
HCM LOS	C	D	B	D

Lane	NBLn1	EBLn1	WBLn1	WBLn2	WBLn3	SBLn1
Vol Left, %	0%	4%	0%	0%	0%	98%
Vol Thru, %	50%	96%	100%	100%	0%	0%
Vol Right, %	50%	0%	0%	0%	100%	2%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	2	254	0	365	302	298
LT Vol	0	9	0	0	0	292
Through Vol	1	244	0	365	0	0
RT Vol	1	1	0	0	302	6
Lane Flow Rate	2	289	0	440	364	351
Geometry Grp	7	7	7	7	7	7
Degree of Util (X)	0.005	0.583	0	0.814	0.601	0.752
Departure Headway (Hd)	8.132	7.271	6.664	6.664	5.95	7.835
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	441	499	0	545	611	466
Service Time	5.865	4.986	4.364	4.364	3.65	5.535
HCM Lane V/C Ratio	0.005	0.579	0	0.807	0.596	0.753
HCM Control Delay	10.9	19.7	9.4	32.3	17.2	30.7
HCM Lane LOS	B	C	N	D	C	D
HCM 95th-tile Q	0	3.7	0	8	4	6.3

Intersection	
Intersection Delay, s/veh	13.9
Intersection LOS	B

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	594	1153	294	387
Demand Flow Rate, veh/h	607	1177	300	394
Vehicles Circulating, veh/h	488	136	899	858
Vehicles Exiting, veh/h	764	1063	196	60
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	18.6	7.9	17.0	22.5
Approach LOS	C	A	C	C

Lane	Left	Left	Bypass	Left	Left
Designated Moves	LTR	LT	R	LTR	LTR
Assumed Moves	LTR	LT	R	LTR	LTR
RT Channelized			Free		
Lane Util	1.000	1.000		1.000	1.000
Follow-Up Headway, s	2.609	2.609		2.609	2.609
Critical Headway, s	4.976	4.976	395	4.976	4.976
Entry Flow, veh/h	607	782	1938	300	394
Cap Entry Lane, veh/h	839	1201	0.980	552	575
Entry HV Adj Factor	0.979	0.980	387	0.982	0.981
Flow Entry, veh/h	594	766	1900	294	387
Cap Entry, veh/h	822	1177	0.204	541	564
V/C Ratio	0.724	0.651	0.0	0.544	0.685
Control Delay, s/veh	18.6	11.8	A	17.0	22.5
LOS	C	B	1	C	C
95th %tile Queue, veh	6	5		3	5

Appendix Tables

TRANSPORTATION
CONSULTANTS, INC.

Appendix Table 1
Peak Hour Factor Calculations
Old Denver Road and Baptist Road
Willow Springs Ranch

Existing Traffic Volumes[1]
(vehicles per hour)

AM Peak Hour

Time	Southbound					Westbound					Northbound					Eastbound					Total
	SBL	SBT	SBR	SBU	SB Total	WBL	WBT	WBR	WBU	WB Total	NBL	NBT	NBR	NBU	NB Total	EBL	EBT	EBR	EBU	EB Total	
7:30 AM	38	1	1	0	40	4	18	28	0	50	0	1	2	0	3	3	28	0	0	31	**124**
7:45 AM	33	4	2	0	39	4	17	51	0	72	0	2	0	0	2	2	20	0	0	22	**135**
8:00 AM	29	1	1	0	31	7	18	17	0	42	0	1	4	0	5	1	32	0	0	33	**111**
8:15 AM	42	2	0	0	44	5	22	34	0	61	0	1	1	0	2	3	20	0	0	23	**130**
TOTAL	**142**	**8**	**4**	**0**	**154**	**20**	**75**	**130**	**0**	**225**	**0**	**5**	**7**	**0**	**12**	**9**	**100**	**0**	**0**	**109**	**500**
Peak-15	39					72					2					22					135
4x Peak-15	156					288					8					88					540
60 Total	154					225					12					109					500
PHF	**0.99**					**0.78**					**1.50**					**1.24**					0.93
Approach	**SB**					**WB**					**NB**					**EB**					
PHF -- USE[2]	**0.99**					**0.78**					**0.93**					**0.93**					

PM Peak Hour

Time	Southbound					Westbound					Northbound					Eastbound					Total
	SBL	SBT	SBR	SBU	SB Total	WBL	WBT	WBR	WBU	WB Total	NBL	NBT	NBR	NBU	NB Total	EBL	EBT	EBR	EBU	EB Total	
4:30 PM	25	2	4	0	31	3	33	48	0	84	0	1	1	0	2	5	35	0	0	40	**157**
4:45 PM	36	1	3	0	40	3	30	54	0	87	0	2	6	0	8	5	13	0	0	18	**153**
5:00 PM	28	0	4	0	32	1	29	62	0	92	0	1	1	0	2	3	17	1	0	21	**147**
5:15 PM	40	0	5	0	45	1	34	51	0	86	4	2	3	0	9	0	32	1	0	33	**173**
TOTAL	**129**	**3**	**16**	**0**	**148**	**8**	**126**	**215**	**0**	**349**	**4**	**6**	**11**	**0**	**21**	**13**	**97**	**2**	**0**	**112**	**630**
Peak-15	45					86					9					33					173
4x Peak-15	180					344					36					132					692
60 Total	148					349					21					112					630
PHF	**0.82**					**1.01**					**0.58**					**0.85**					0.91
Approach	**SB**					**WB**					**NB**					**EB**					
PHF -- USE	**0.82**					**0.91**					**0.58**					**0.85**					

Notes:
(1) Based on manual turning movement counts by LSC in June 2019
(2) The calculated peak hour factor for each approach is for the peak 15 minues of the entire intersection. If the calculated peak hour factor is greater than or equal to one then the peak hour factor for the entire intersection is used in the analysis

Source: LSC Transportation Consultants, Inc.

Appendix Table 2

Peak Hour Factor Calculations

Old Denver Road and private drive

Willow Springs Ranch

Existing Traffic Volumes[1]

(vehicles per hour)

AM Peak Hour

Time	Southbound					Westbound					Northbound					Eastbound					Total
	SBL	SBT	SBR	Peds	SB Total	WBL	WBT	WBR	Peds	WB Total	NBL	NBT	NBR	Peds	NB Total	EBL	EBT	EBR	Peds	EB Total	
7:00 AM	0	0	0	0	0	7	19	0	0	26	0	0	0	0	0	0	24	0	0	24	**50**
7:15 AM	0	0	0	0	0	3	17	0	0	20	0	0	5	0	5	0	21	0	0	21	**46**
7:30 AM	0	0	0	0	0	1	8	0	0	9	0	0	3	0	3	0	24	0	0	24	**36**
7:45 AM	0	0	0	0	0	2	10	0	1	12	0	0	6	0	6	0	29	0	0	29	**48**
TOTAL	**0**	**0**	**0**	**0**	**0**	**13**	**54**	**0**	**1**	**67**	**0**	**0**	**14**	**0**	**14**	**0**	**98**	**0**	**0**	**98**	**180**
Peak-15			0					26					0					24			50
4x Peak-15			0					104					0					96			200
60 Total			0					68					14					98			180
PHF			- - -					**0.65**					- - -					**1.02**			0.90
Approach			**SB**					**WB**					**NB**					**EB**			
PHF -- USE[2]			**0.90**					**0.65**					**0.90**					**0.90**			

PM Peak Hour

Time	Southbound					Westbound					Northbound					Eastbound					Total
	SBL	SBT	SBR	Peds	SB Total	WBL	WBT	WBR	Peds	WB Total	NBL	NBT	NBR	Peds	NB Total	EBL	EBT	EBR	Peds	EB Total	
4:00 PM	0	0	0	0	0	0	23	3	0	26	0	1	1	0	2	0	25	1	0	26	**54**
4:15 PM	1	0	0	0	1	0	31	0	0	31	0	0	0	0	0	0	24	0	0	24	**56**
4:30 PM	0	0	0	0	0	0	19	0	1	19	0	0	0	0	0	0	19	0	0	19	**39**
4:45 PM	0	0	0	0	0	0	26	0	0	26	0	0	0	0	0	0	15	0	0	15	**41**
TOTAL	**1**	**0**	**0**	**0**	**1**	**0**	**99**	**3**	**1**	**102**	**0**	**1**	**1**	**0**	**2**	**0**	**83**	**1**	**0**	**84**	**190**
Peak-15			1					31					0					24			56
4x Peak-15			4					124					0					96			224
60 Total			1					103					2					84			190
PHF			**0.25**					**0.83**					- - -					**0.88**			0.85
Approach			**SB**					**WB**					**NB**					**EB**			
PHF -- USE			**0.25**					**0.83**					**0.85**					**0.88**			

Notes:

(1) Based on manual turning movement counts by LSC in August 2019

(2) The calculated peak hour factor for each approach is for the peak 15 minues of the entire intersection. If the calculated peak hour factor is greater than or equal to one then the peak hour factor for the entire intersection is used in the analysis

Source: LSC Transportation Consultants, Inc.

Appendix Table 3
Peak Hour Factor Calculations
Mitchell Ave and Synthes Ave
Willow Springs Ranch

Existing Traffic Volumes[1]
(vehicles per hour)

AM Peak Hour

Time	Southbound					Westbound					Northbound					Eastbound					Total
	SBL	SBT	SBR	Peds	SB Total	WBL	WBT	WBR	Peds	WB Total	NBL	NBT	NBR	Peds	NB Total	EBL	EBT	EBR	Peds	EB Total	
7:15 AM	15	15	0	0	30	0	0	2	0	2	0	14	1	0	15	0	0	0	0	0	**47**
7:30 AM	19	21	0	0	40	0	0	0	0	0	0	8	1	0	9	0	0	0	0	0	**49**
7:45 AM	37	21	0	0	58	0	0	4	0	4	0	8	2	0	10	0	0	0	0	0	**72**
8:00 AM	26	16	0	0	42	1	0	2	0	3	0	5	2	0	7	0	0	0	0	0	**52**
TOTAL	**97**	**73**	**0**	**0**	**170**	**1**	**0**	**8**	**0**	**9**	**0**	**35**	**6**	**0**	**41**	**0**	**0**	**0**	**0**	**0**	**220**
Peak-15	58					4					10					0					72
4x Peak-15	232					16					40					0					288
60 Total	170					9					41					0					220
PHF	**0.73**					**0.56**					**1.03**					- - -					0.76
Approach	**SB**					**WB**					**NB**					**EB**					
PHF -- USE[2]	**0.73**					**0.56**					**0.76**					- - -					

PM Peak Hour

Time	Southbound					Westbound					Northbound					Eastbound					Total
	SBL	SBT	SBR	Peds	SB Total	WBL	WBT	WBR	Peds	WB Total	NBL	NBT	NBR	Peds	NB Total	EBL	EBT	EBR	Peds	EB Total	
4:00 PM	5	12	0	0	17	2	0	14	0	16	0	57	1	0	58	0	0	0	0	0	**91**
4:15 PM	4	19	0	0	23	1	0	15	0	16	0	15	3	0	18	0	0	0	0	0	**57**
4:30 PM	3	9	0	0	12	0	0	20	0	20	0	31	1	0	32	0	0	0	0	0	**64**
4:45 PM	1	16	0	0	17	2	0	17	0	19	0	15	0	0	15	0	0	0	0	0	**51**
TOTAL	**13**	**56**	**0**	**0**	**69**	**5**	**0**	**66**	**0**	**71**	**0**	**118**	**5**	**0**	**123**	**0**	**0**	**0**	**0**	**0**	**263**
Peak-15	17					16					58					0					91
4x Peak-15	68					64					232					0					364
60 Total	69					71					123					0					263
PHF	**1.01**					**1.11**					**0.53**					- - -					0.72
Approach	**SB**					**WB**					**NB**					**EB**					
PHF -- USE	**0.72**					**0.72**					**0.53**					- - -					

Notes:
(1) Based on manual turning movement counts by LSC in August 2019
(2) The calculated peak hour factor for each approach is for the peak 15 minues of the entire intersection. If the calculated peak hour factor is greater than or equal to one then the peak hour factor for the entire intersection is used in the analysis

Source: LSC Transportation Consultants, Inc.

Appendix Table 4
Peak Hour Factor Calculations
Mitchell Ave and 2nd St
Willow Springs Ranch

Existing Traffic Volumes[1]
(vehicles per hour)

AM Peak Hour

Time	Southbound					Westbound					Northbound					Eastbound					Total
	SBL	SBT	SBR	Peds	SB Total	WBL	WBT	WBR	Peds	WB Total	NBL	NBT	NBR	Peds	NB Total	EBL	EBT	EBR	Peds	EB Total	
7:30 AM	3	0	0	0	3	64	0	3	0	67	0	2	46	0	48	0	0	0	0	0	**118**
7:45 AM	3	5	0	0	8	79	0	1	0	80	1	5	49	0	55	0	0	0	0	0	**143**
8:00 AM	3	1	0	0	4	47	0	1	0	48	1	3	37	0	41	1	1	0	0	2	**95**
8:15 AM	4	3	0	0	7	57	0	4	0	61	0	2	36	0	38	0	0	0	0	0	**106**
TOTAL	**13**	**9**	**0**	**0**	**22**	**247**	**0**	**9**	**0**	**256**	**2**	**12**	**168**	**0**	**182**	**1**	**1**	**0**	**0**	**2**	**462**
Peak-15			8					80					55					0			143
4x Peak-15			32					320					220					0			572
60 Total			22					256					182					2			462
PHF			**0.69**					**0.80**					**0.83**					- - -			0.81
Approach			**SB**					**WB**					**NB**					**EB**			
PHF -- USE[2]			**0.69**					**0.80**					**0.83**					**0.81**			

PM Peak Hour

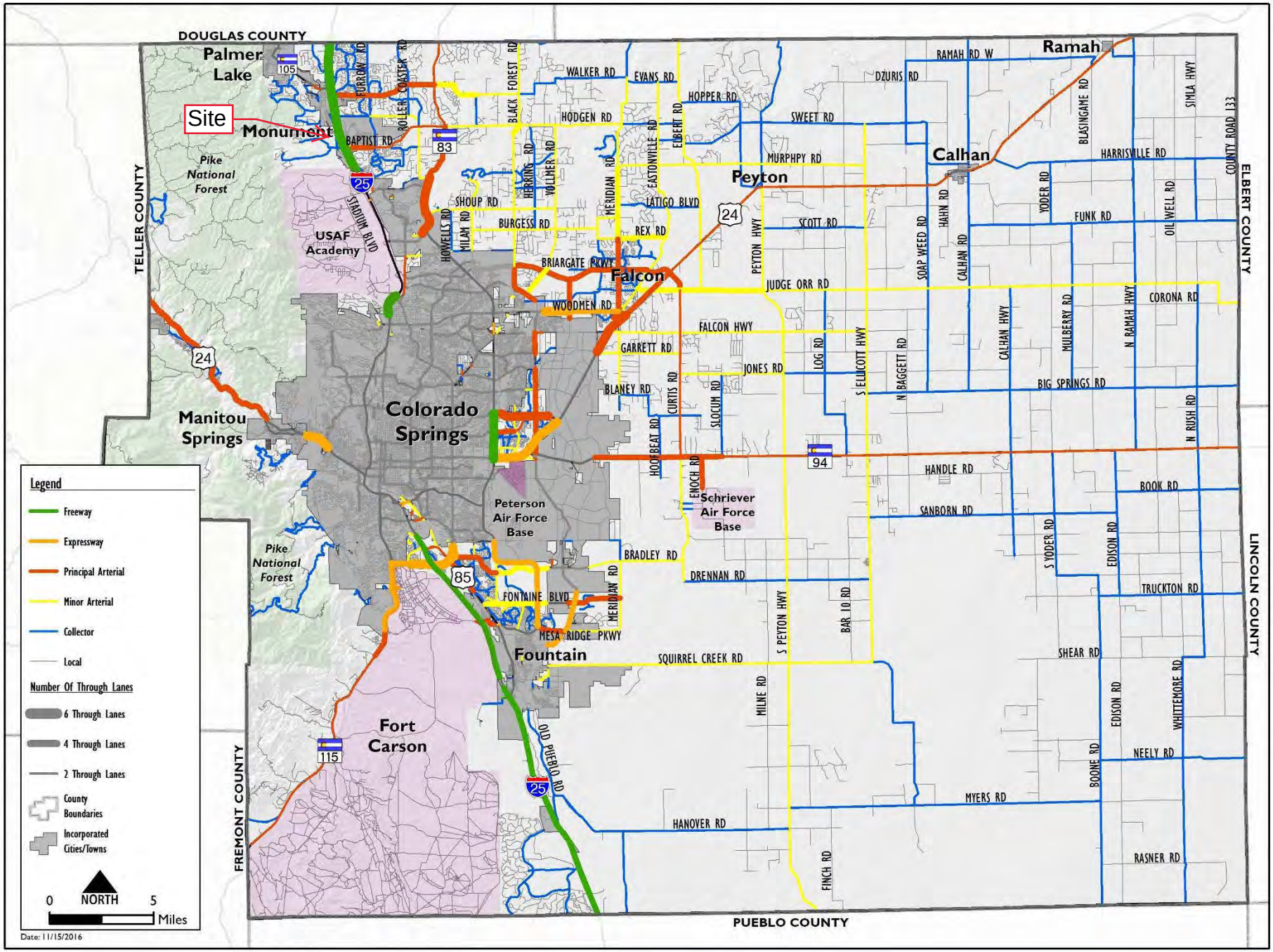
Time	Southbound					Westbound					Northbound					Eastbound					Total
	SBL	SBT	SBR	Peds	SB Total	WBL	WBT	WBR	Peds	WB Total	NBL	NBT	NBR	Peds	NB Total	EBL	EBT	EBR	Peds	EB Total	
4:00 PM	6	3	0	0	9	58	0	3	0	61	0	3	78	1	81	0	0	0	0	0	**152**
4:15 PM	1	0	1	0	2	65	1	5	0	71	0	1	62	0	63	0	2	0	0	2	**138**
4:30 PM	8	4	0	0	12	51	1	6	0	58	0	4	67	0	71	0	2	0	0	2	**143**
4:45 PM	1	5	0	0	6	48	2	2	0	52	0	3	68	0	71	0	0	0	0	0	**129**
TOTAL	**16**	**12**	**1**	**0**	**29**	**222**	**4**	**16**	**0**	**242**	**0**	**11**	**275**	**1**	**286**	**0**	**4**	**0**	**0**	**4**	**562**
Peak-15			9					61					82					0			152
4x Peak-15			36					244					328					0			608
60 Total			29					242					287					4			562
PHF			**0.81**					**0.99**					**0.88**					- - -			0.92
Approach			**SB**					**WB**					**NB**					**EB**			
PHF -- USE			**0.81**					**0.99**					**0.88**					**0.92**			

Notes:
(1) Based on manual turning movement counts by LSC in August 2019
(2) The calculated peak hour factor for each approach is for the peak 15 minues of the entire intersection. If the calculated peak hour factor is greater than or equal to one then the peak hour factor for the entire intersection is used in the analysis

Source: LSC Transportation Consultants, Inc.

MTCP Maps

TRANSPORTATION
CONSULTANTS, INC.



Map 14: 2040 Roadway Plan (Classification and Lanes)

Map 17: 2060 Corridor Preservation