



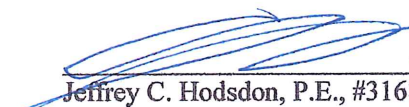
LSC TRANSPORTATION CONSULTANTS, INC.
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Forest Lakes Phase II Traffic Impact Analysis (LSC #174550) October 4, 2017

Add "PCD File No. PUDSP-18-001"

Traffic Engineer's Statement

This traffic report and supporting information were prepared under my responsible charge and they comport with the standard of care. So far as is consistent with the standard of care, said report was prepared in general conformance with the criteria established by the County for traffic reports.


Jeffrey C. Hodsdon, P.E., #31684



Date 10/4/17

Developer's Statement

I, the Developer, have read and will comply with all commitments made on my behalf within this report.

Date



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October 4, 2017

Mr. Tim Seibert
N.E.S., Inc.
619 North Cascade Avenue, Suite 200
Colorado Springs, CO 80903

RE: Forest Lakes Phase II
El Paso County, Colorado
Traffic Impact Analysis
LSC #174550

Dear Mr. Seibert:

In response to your request, LSC Transportation Consultants, Inc. has prepared this traffic impact analysis for Phase II of the Forest Lakes development in El Paso County, Colorado. As shown in Figure 1, the site is located northwest of the intersection of Hay Creek Road and Baptist Road. LSC completed a master-plan-level study for all of Forest Lakes dated August 13, 2001. LSC also prepared three letters in response to comments on the initial master plan study dated January 8, 2002, March 15, 2002, and August 5, 2002 and a traffic impact analysis for Filing 2 dated December 9, 2015. Since the completion of the master plan study, 273 lots for single-family homes have been platted as part of Phase I of the development. The currently proposed Phase II is planned to include an additional 231 lots for single-family homes. Future phases are planned to include 61 lots for single-family homes (for a total of 565 single-family homes) and an elementary school. This is 99 more single-family homes than was assumed in the 2001 master plan study. Access to the site will be to Forest Lakes Drive.

REPORT CONTENTS

This report is being prepared as part of a submittal to El Paso County. It identifies the traffic impacts of Phase II of the Forest Lakes development. The report contains the following:

- The existing roadway and traffic conditions in the site's vicinity including the roadway widths, surface conditions, lane geometries, traffic controls, and posted speed limits, etc.
- The existing traffic volumes on the area roadways.
- Short-term baseline/background traffic volume estimates.
- 2040 baseline/background traffic volume estimates.
- The projected average weekday and peak-hour vehicle-trips to be generated by the site.

- The assignment of the site's projected traffic volumes to the adjacent streets and access point intersections for the short and long term and the resulting total traffic volumes for the short and long term.
- The resulting traffic impacts including level of service analysis at the area intersections and average daily traffic volumes on key street segments.
- The recommended street classifications for the internal streets within the proposed development.
- The obligations of the project to the Countywide Fee Program and the Baptist Road Rural Transportation Authority.

LAND USE AND ACCESS

Figure 2 shows the overall Forest Lakes master plan. Filing 1 (34 lots for single-family homes), Filing 2 (160 lots for single-family homes), and Filing 3 (79 lots for single-family homes) have been platted. As of July 2017, when area traffic counts were conducted, about 57 homes had been constructed in Filing 1 and 13 homes had been constructed in Filing 3.

The currently proposed Phase II is planned to include 231 lots for single-family homes in the northwest area of the Forest Lakes development. The previous master plan study assumed 132 lots would be constructed in this area.

Future Phases are planned to include 61 lots for single-family homes in the southwest area of the development (for a total of 565 single-family homes) and an elementary school. At buildout the Forest Lakes development is currently planned to contain about 99 more single family-homes than was assumed in the 2001 master plan study.

ROADWAY AND TRAFFIC CONDITIONS

Area Roadways

The area major roadways in the site's vicinity are shown on Figure 1 and are described below.

- **Baptist Road** is a Principal Arterial that extends east of Hay Creek Road to the intersection of Roller Coaster Road and Hogden Road. Baptist Road has one through lane in each direction and a posted speed limit of 40 miles per hour (mph) between Hay Creek Road and Interstate 25. The intersection of Baptist/Old Denver was recently reconstructed as a one-lane modern roundabout.
- **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.
- **Forest Lakes Drive** is a 40-foot-wide two-lane Urban Collector and is designed to serve the Forest Lakes development and Willow Springs development on the east side of the road just north of Baptist Road.
- **Lindbergh Road** is a gravel road that extends north from Mesa Top Drive to Shilling Avenue.

- **Doolittle Road** is a Rural Local that extends east from Mt. Herman Lane to Rickenbacker Avenue. Doolittle Road has a gravel surface west of Lindbergh Road and is paved east of Lindbergh Road.
- **Spatz Road** is a gravel road that extends west from Rickenbacker Avenue to just west of Lindbergh Road.

Existing Traffic Conditions

Figure 3 shows the current morning and afternoon peak-hour traffic volumes at the intersections of Baptist Road/Old Denver Road, Lindbergh/Spatz, and Lindbergh/Doolittle based on counts conducted by LSC in April and July 2017. Figure 3 also shows estimated average weekday traffic volumes on key street segments. These volumes are estimates by LSC based on a 24-hour machine count conducted by LSC on Mesa Top Drive just east of Lindbergh Road and based on the peak-hour traffic counts. The traffic count reports are attached.

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 represents control delay of less than 10 seconds for unsignalized and signalized intersections. LOS F represents control delay of more than 50 seconds for unsignalized intersections and more than 80 seconds for signalized intersections. Table 1 shows the level of service delay ranges.

Table 1 Intersection Levels of Service Delay Ranges			
Level of Service	Signalized Intersections		Unsignalized Intersections
	Average Control Delay (seconds per vehicle)	V/C⁽¹⁾	Average Control Delay (seconds per vehicle)⁽²⁾
A	10.0 sec or less	less than 0.60	10.0 sec or less
B	10.1-20.0 sec	0.60-0.69	10.1-15.0 sec
C	20.1-35.0 sec	0.70-0.79	15.1-25.0 sec
D	35.1-55.0 sec	0.80-0.89	25.1-35.0 sec
E	55.1-80.0 sec	0.90-0.99	35.1-50.0 sec
F	80.1 sec or more	1.00 and greater	50.1 sec or more
(1) Source: <i>Transportation Research Circular 212</i>			
(2) For unsignalized intersections if V/C ratio is greater than 1.0 the level of service is LOS F regardless of the projected average control delay per vehicle.			

The intersections of Baptist Road/Old Denver Road, Lindbergh/Spatz, and Lindbergh/Doolittle were analyzed to determine the existing levels of service based on the unsignalized method of analysis procedures found in the *Highway Capacity Manual, 6th Edition* by the Transportation Research Board. Figure 3 shows the level of service analysis results. The level of service reports are attached.

All movements at the intersections of Baptist Road/Old Denver Road, Lindbergh/Spatz, and Lindbergh/Doolittle are currently operating at LOS A during the peak hours.

SHORT-TERM BACKGROUND TRAFFIC

Background traffic is the traffic estimated to be on the adjacent streets without consideration of the proposed Phase II development. Background traffic includes the through traffic and the traffic generated by adjacent developments, but assumes zero traffic generated by the site. Figure 4a shows the projected short-term background traffic volumes. 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 Forest Lakes Filings 1, 2 and 3.

Figures 4b shows the lane geometry, traffic control, and level of service at the key intersections based on the short-term background volumes.

2040 BACKGROUND TRAFFIC

Figure 5a shows the projected 20-year background traffic volumes for the year 2040. 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 and III, including the future school site, but assumes zero traffic generated by Phase II. The background traffic also assumes additional development to the north of Baptist Road between Forest Lakes Drive and the railroad tracks.

Figure 5b shows the lane geometry, traffic control, and level of service at the key intersections based on the 2040 background volumes.

TRIP GENERATION

The site-generated vehicle-trips were estimated using the nationally published trip generation rates from *Trip Generation, 9th Edition, 2012* by the Institute of Transportation Engineers (ITE). Table 2 shows the trip generation estimates for Phase II of the Forest Lakes development. Table 2 also shows the trip generation for the existing platted Filings 1 through 3 and buildout of the Forest Lakes master plan.

Once the proposed elementary school is constructed within the Forest Lakes master plan a portion of the trips were assumed to occur between the residential uses and the elementary school. As shown on Table 2 about one-half of the daily school trips were assumed to be internal to the Forest Lakes master plan area.

Phase II of the Forest Lakes development is expected to generate about 2,199 vehicle-trips on the average weekday, with about half entering and half exiting the site during a 24-hour period. During the morning peak hour, which generally occurs for one hour between 6:30 and 8:30 a.m., about 43 vehicles would enter and 130 vehicles would exit the site. During the afternoon peak hour, which generally occurs for one hour between 4:15 and 6:15 p.m., about 146 vehicles would enter and 85 vehicles would exit the site.

Provide an explanation regarding the 6% internal trip adjustment for Phase I, II, & III.

DIRECTIONAL DISTRIBUTION

The directional distribution of the site-generated traffic volumes on the area roadways is an important factor in determining the site's traffic impacts. Figure 6 shows the external directional distribution estimates for the site-generated traffic volumes. Figure 6 shows separate estimates for the short-term and the long-term. The long-term distribution estimate assumes development of the Forest Lakes Tech Center located south of the intersection of Baptist/Old Denver. 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, the Tri-Lakes region, and the balance of the City of Colorado Springs metropolitan area; the land use proposed for the site; the proposed access system for the site; and the roadway system serving the site.

SITE-GENERATED TRAFFIC

Figure 7 shows the projected short-term site-generated traffic volumes. The site-generated traffic volumes were calculated by applying the directional distribution percentages (from Figure 7) to the trip generation estimates from Table 2. The short-term site-generated traffic volumes assume all traffic is external to the Forest Lakes development.

Figure 8 shows the projected long-term site-generated traffic volumes. The long-term estimate assumes construction of the future elementary school to be located within Forest Lakes. As shown on Table 2, about six percent of the daily trips to and from the residential uses within Forest Lakes were assumed to travel to the elementary school in the long term. These internal trips have been assigned separately based on the location of the elementary school site.

SHORT-TERM TOTAL TRAFFIC

Figure 9a shows the projected short-term total traffic volumes. The short-term total traffic volumes are the sum of the short-term background traffic volumes (from Figure 4a) plus the short-term site-generated traffic volumes from Figure 7.

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

2040 TOTAL TRAFFIC

Figure 10a shows the projected total traffic volumes for the year 2040 volumes. The 2040 total traffic volumes are the sum of the long-term background traffic volumes (from Figure 5) plus the long-term site-generated traffic volumes from Figure 8.

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

PROJECTED LEVELS OF SERVICE

The intersections of Lindbergh/Spatz, Lindbergh/Doolittle, Mesa Top/Forest Lakes, Long Valley/Forest Lakes, and Baptist/Old Denver 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 4b and 5b show the level of service analysis results based on the projected background traffic volumes and Figures 9b and 10b show the level of service analysis results based on the projected total traffic volumes. 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 two-way stop-sign-controlled intersections of Lindbergh/Spatz and Lindbergh/Doolittle are projected to continue to operate at level of service A during the morning and afternoon peak hours based on the projected short-term and 2040 total traffic volumes.

All movements at the two-way stop-sign-controlled intersections of Mesa Top/Forest Lakes and Long Valley/Forest Lakes are projected to operate at B or better during the peak hours based on the projected short-term and 2040 total traffic volumes.

All movements at the intersection of Baptist/Old Denver are projected to operate at LOS C or better during the peak hours based on the projected short-term and 2040 total traffic volumes.

CONCLUSIONS AND RECOMMENDATIONS

Trip Generation

- Phase II of the Forest Lakes development is expected to generate about 2,199 vehicle-trips on the average weekday, with about half entering and half exiting the site during a 24-hour period. During the morning peak hour about 43 vehicles would enter and 130 vehicles would exit the site. During the afternoon peak hour about 146 vehicles would enter and 85 vehicles would exit the site.

Level of Service

The level of service section of this report presents the level of service analysis.

- The intersections of Lindbergh/Spatz and Lindbergh/Doolittle are projected to continue to operate at LOS A for all movements during the peak hours as two-way, stop-sign-controlled intersections based on the projected short-term and 2040 total traffic volumes.
- All movements at the two-way stop-sign-controlled intersections of Mesa Top/Forest Lakes and Long Valley/Forest Lakes are projected to operate at B or better during the peak hours based on the projected short-term and 2040 total traffic volumes.
- The intersection of Baptist/Old Denver is projected to operate at an overall level of service A during the morning peak hour and LOS B during the afternoon peak hour as a one-lane modern roundabout based on the projected 2040 total traffic volumes.

Street Classifications

- Figure 11 shows the recommended street classifications within the Forest Lakes development based on the projected buildout traffic volumes.

Lindbergh Road

- The existing average weekday traffic on Lindbergh Road south of Spaatz Road is estimated to be about 525 vehicles per day. This currently exceeds the El Paso County maximum daily traffic volume threshold of 200 vehicles per day (ADT) for gravel roadways. The majority of the current traffic is likely not generated by the residents within Forest Lakes.
- By 2040 the projected average weekday volume on Lindbergh Road is projected to be 880 vehicles per day south of Spaatz Road and 730 vehicles per day north of Spaatz Road. The volume south of Spaatz would exceed the design ADT of 750 vehicles per day for a Rural Local set by the ECM. Phase II development is projected to contribute about 105 vehicles per day to this street segment.

Impact Fees

- This project has agreements in place with regard to the obligations to the Countywide Road Improvement Fee Program and the Baptist Road Rural Transportation Authority.

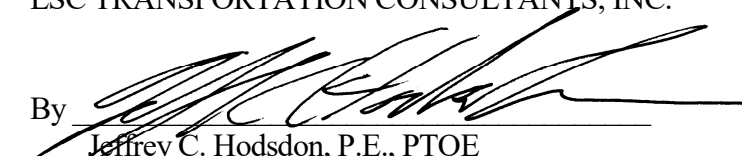
* * * * *

Please contact me if you have any questions or need further assistance.

Sincerely,

LSC TRANSPORTATION CONSULTANTS, INC.

By



Jeffrey C. Hodsdon, P.E., PTOE
Principal

JCH:KDF:bjwb

Enclosures: Table 2
Figures 1-11
Traffic County Reports
Level of Service Reports

**Table 2
Trip Generation Estimate
Forest Lakes Phase II**

														Total "External" Trips Generated (Following Opening of Elementary School)							
Land Use Code	Land Use Description	Trip Generation Units	Trip Generation Rates ⁽¹⁾						Total Trips Generated						Daily Internal Trips						
			Average Weekday Traffic	Morning Peak Hour		Afternoon Peak Hour		Average Weekday Traffic	Morning Peak Hour		Afternoon Peak Hour		Average Weekday Traffic	Morning Peak Hour		Afternoon Peak Hour					
				In	Out	In	Out		In	Out	In	Out		In		Out	In	Out			
Trip Generation Estimate Based on Existing, Currently Proposed, and Planned Future Filings																					
Phase II (Currently Proposed)																					
210	Single-Family Detached Housing	231 DU ⁽²⁾	9.52	0.19	0.56	0.63	0.37	2,199	43	130	146	85	6%	2,067	33	105	138	81			
Phase I: Filings 1, 2, and 3 (Approved Filings Currently Under Construction)																					
210	Single-Family Detached Housing	273 DU	9.52	0.19	0.56	0.63	0.37	2,599	51	154	172	101	6%	2,443	39	124	163	97			
	Total Phases I & II	504 DU						4,798	94	284	318	186		4,510	72	229	301	178			
Phase III (Future)																					
210	Single-Family Detached Housing	61 DU	9.52	0.19	0.56	0.63	0.37	581	11	34	38	23	6%	546	8	27	36	22			
	Total Phases I, II & III	565 DU						5,379	105	318	356	209		5,056	80	256	337	200			
Future School Site																					
520	Elementary School	500 Student	1.29	0.25	0.20	0.07	0.08	645	124	101	37	38	50%	322	62	76	28	19			
	Total at Full Buildout							6,024	229	419	393	247		5,378	142	332	365	219			
Trip Generation Estimate from 2001 Master Plan Study ⁽³⁾																					
210	Single-Family Detached Housing	466 DU	9.57	0.19	0.56	0.65	0.36	4,460	87	262	301	169	---	---	---	---	---	---			
	Change (Increase) From 2001 Master Plan Study							919	18	56	55	40									

Notes:

(1) Source: "Trip Generation, 9th Edition, 2012" by the Institute of Transportation Engineers (ITE)

(2) DU = dwelling unit

(3) Source: "Forest Lakes Traffic Impact and Access Analysis" by LSC August 13, 2001

Source: LSC Transportation Consultants, Inc.



Approximate Scale
Scale: 1" = 3,000'

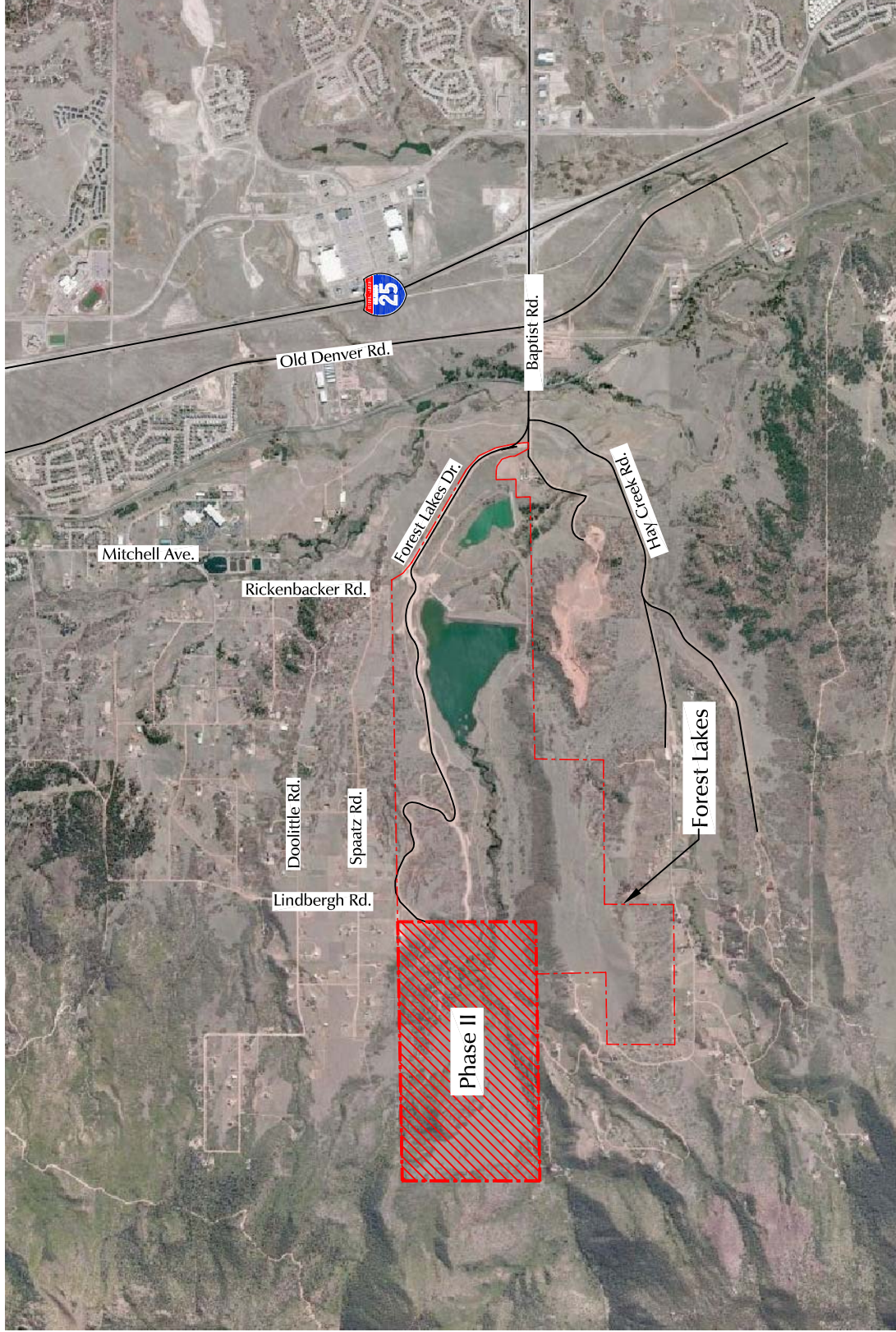


Figure 1

Vicinity Map

Forest Lakes Phase II (LSC #174550)

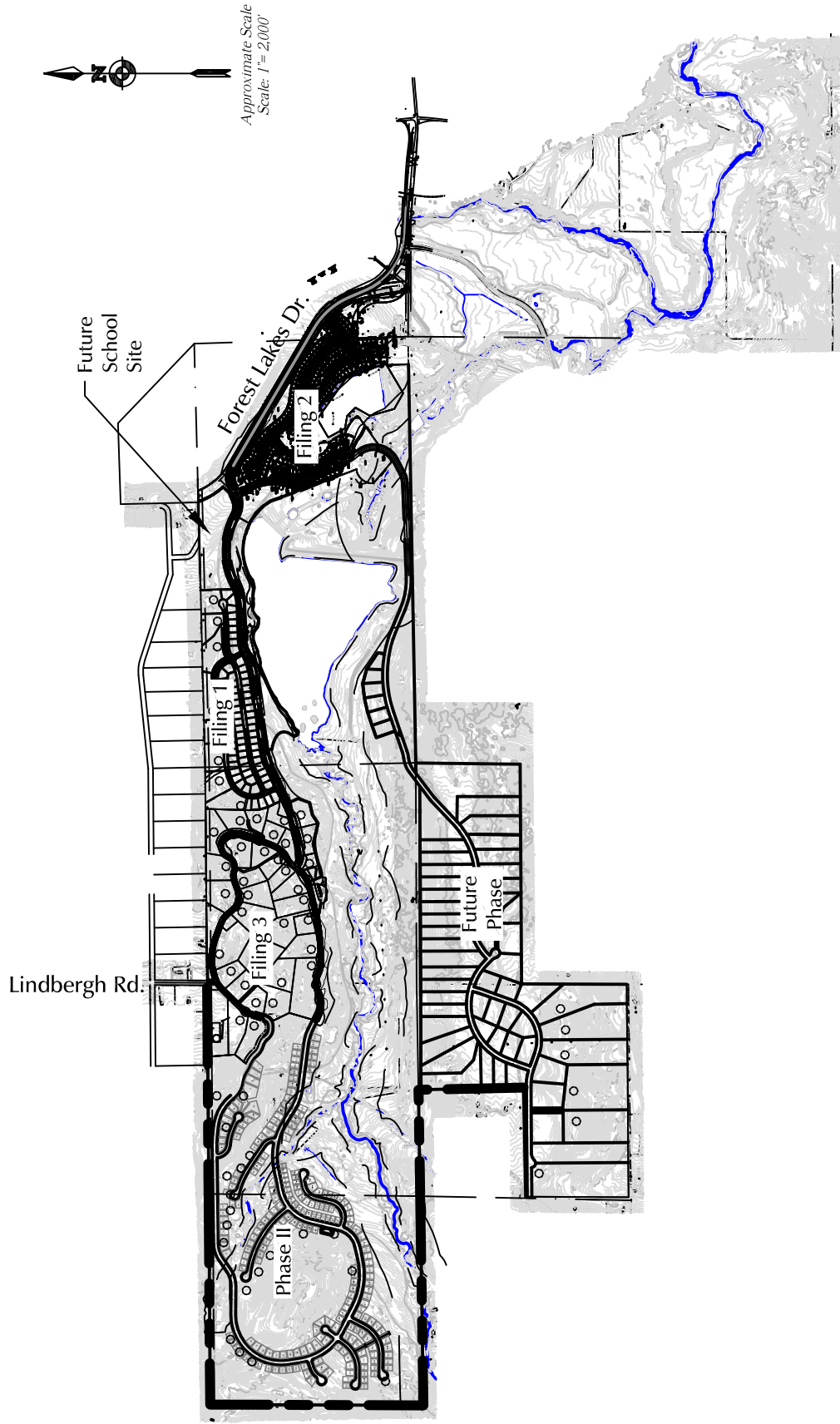
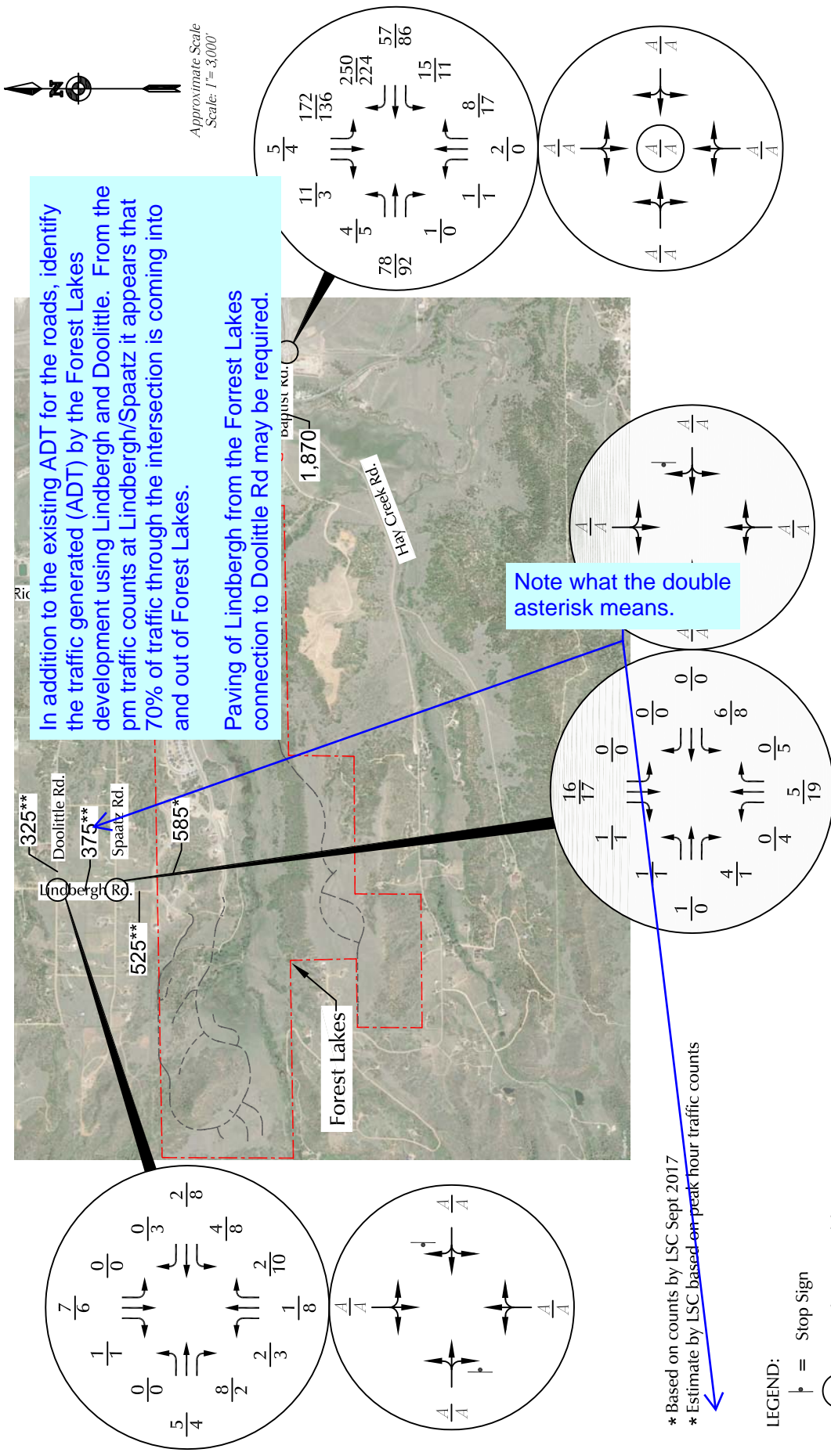


Figure 2

Site Plan

Forest Lakes Phase II (LSC #174550)



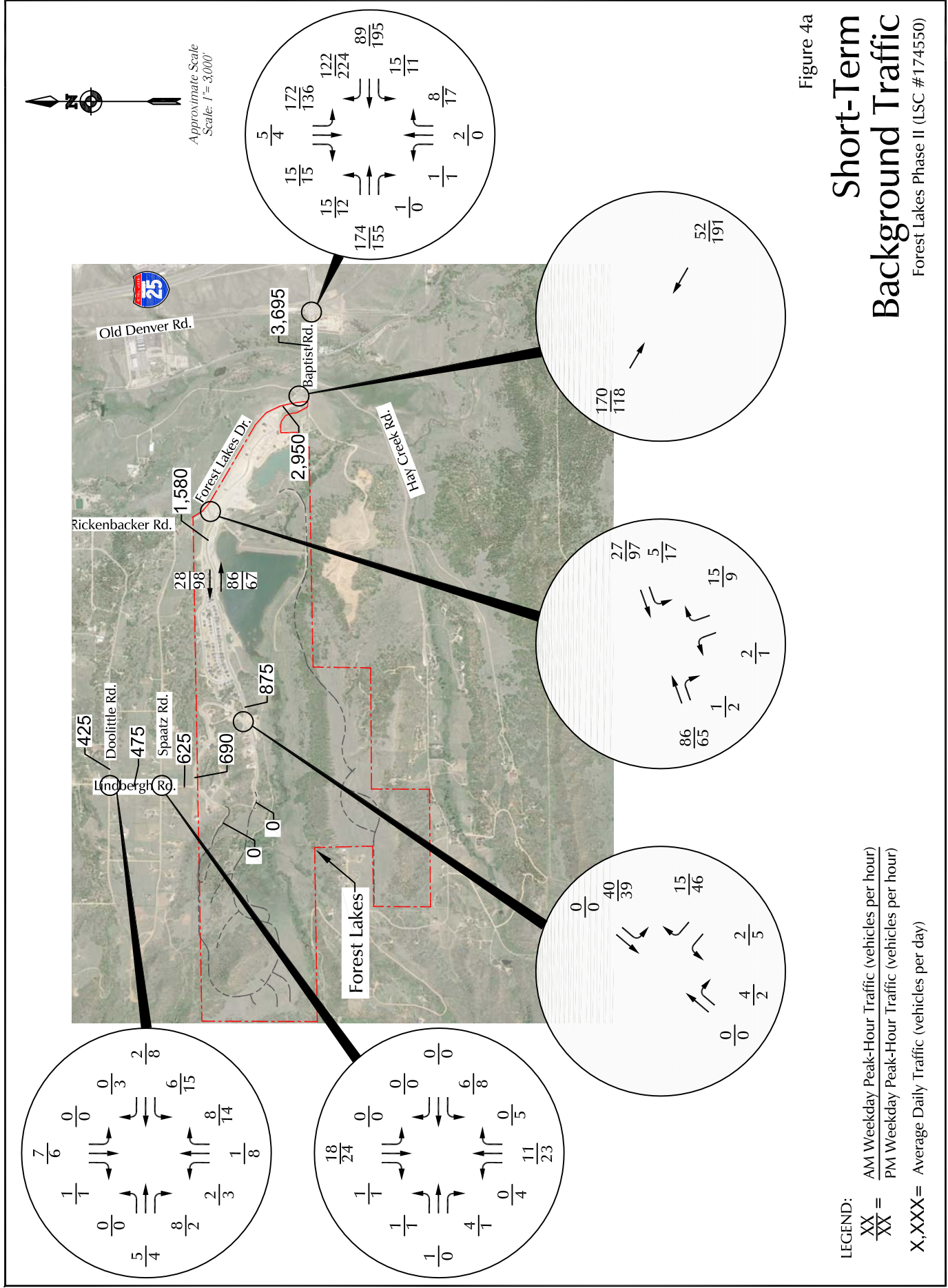
* Based on counts by LSC Sept 2017
 * Estimate by LSC based on peak hour traffic counts

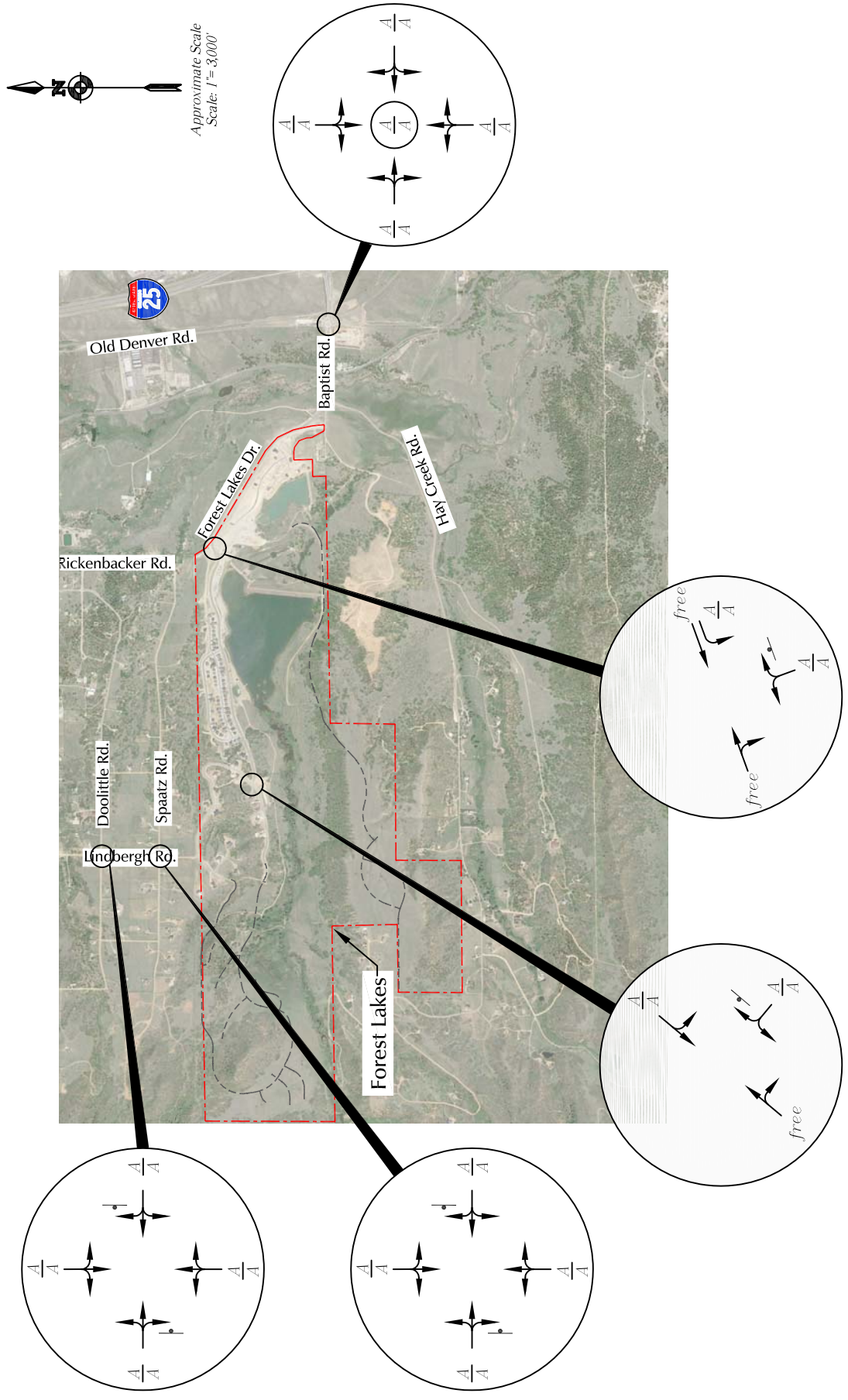
LEGEND:
 T = Stop Sign
 O = Modern Roundabout

XX/XX = AM Weekday Peak-Hour Traffic (vehicles per hour)
 XX/XX = PM Weekday Peak-Hour Traffic (vehicles per hour)
 A/B = AM Individual Movement Peak-Hour Level of Service
 B = PM Individual Movement Peak-Hour Level of Service

X,XXX= Average Daily Traffic (vehicles per day)

Figure 3
 Existing Traffic, Lane Geometry,
 Traffic Control and Level of Service
 Forest Lakes Phase II (LSC #174550)





LEGEND:

⊥ = Stop Sign

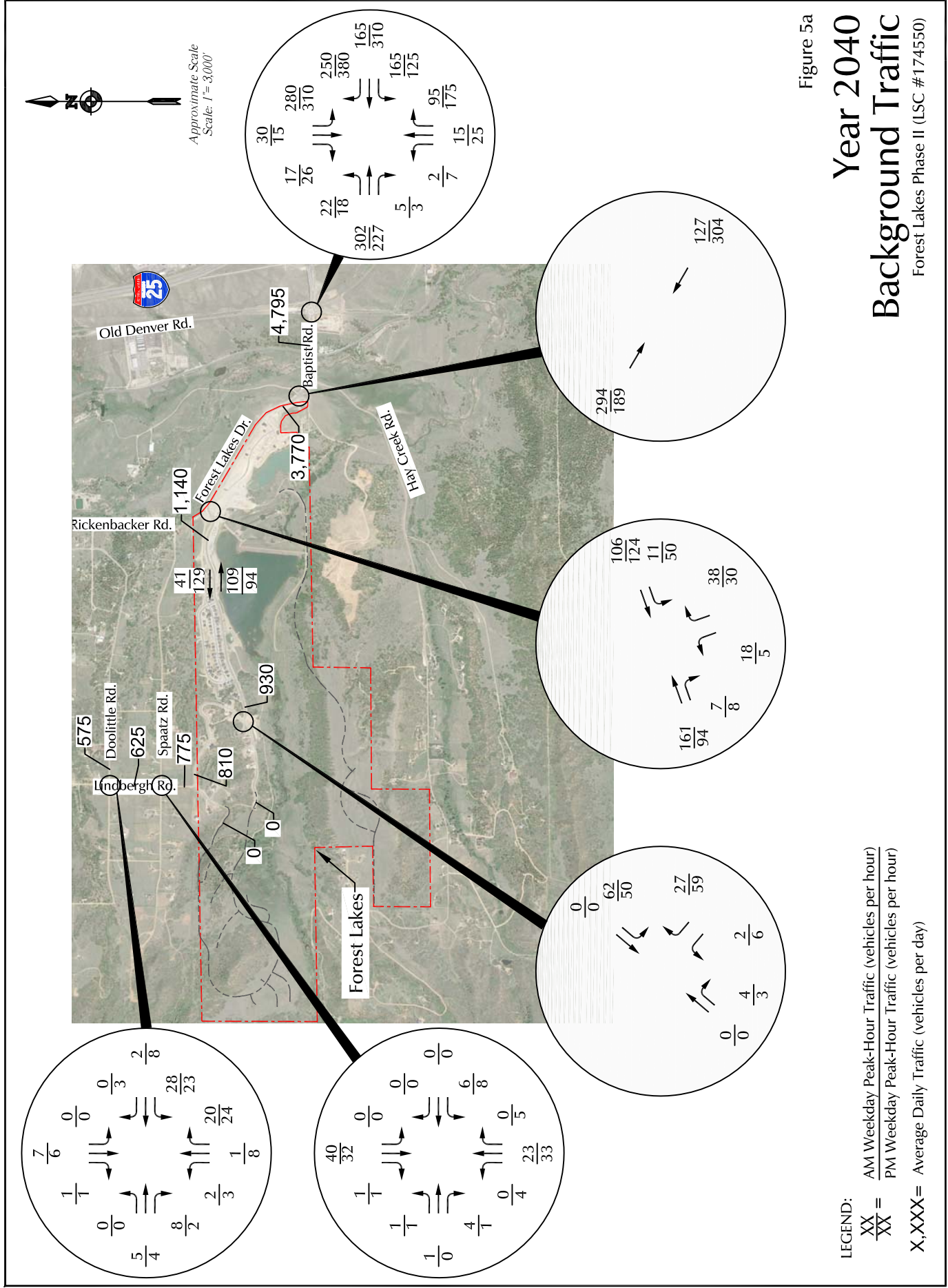
○ = Modern Roundabout

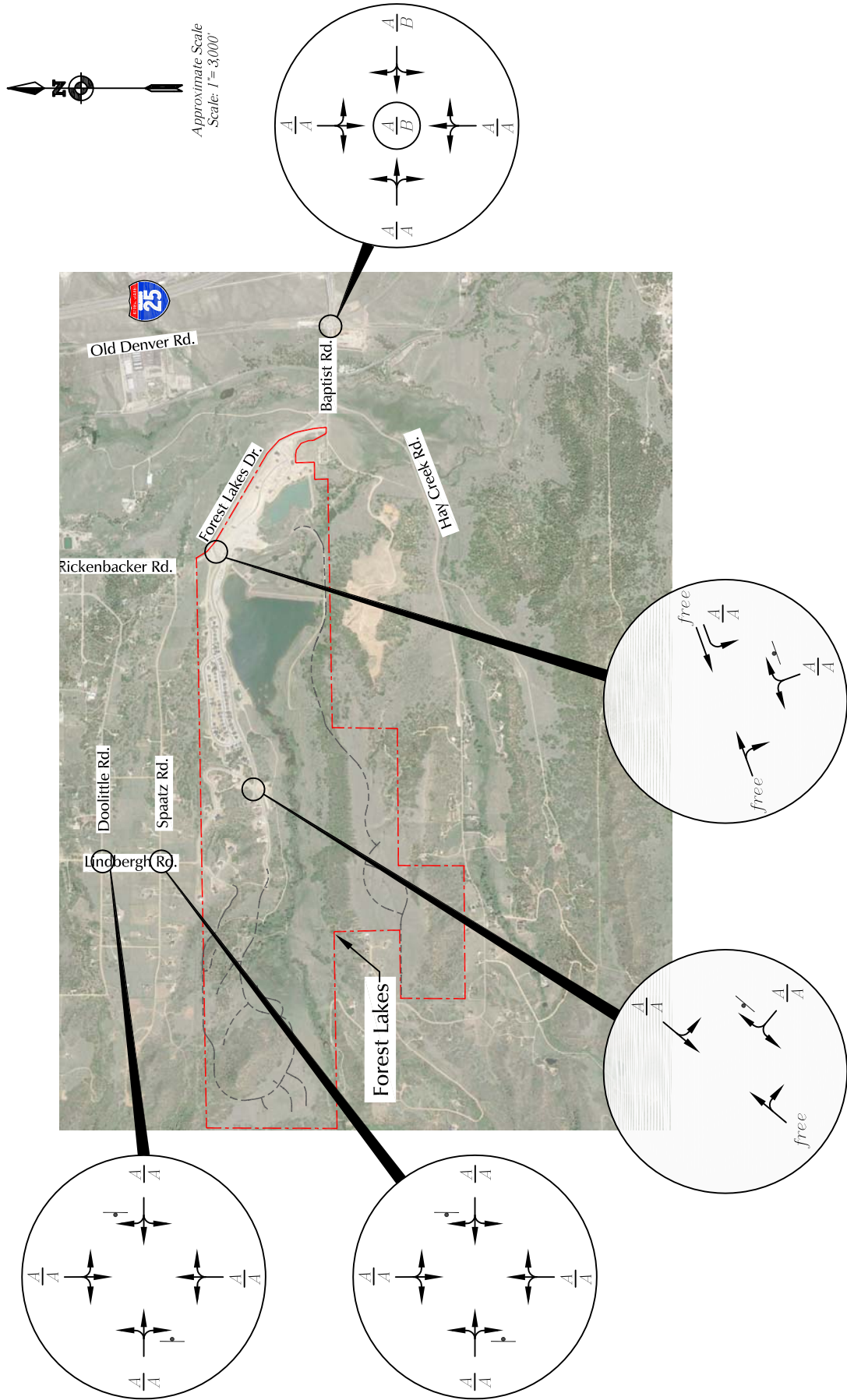
$\frac{A}{A}$ = AM Individual Movement Peak-Hour Level of Service
 $\frac{B}{B}$ = PM Individual Movement Peak-Hour Level of Service

Figure 4b

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

Forest Lakes Phase II (LSC #174550)





LEGEND:



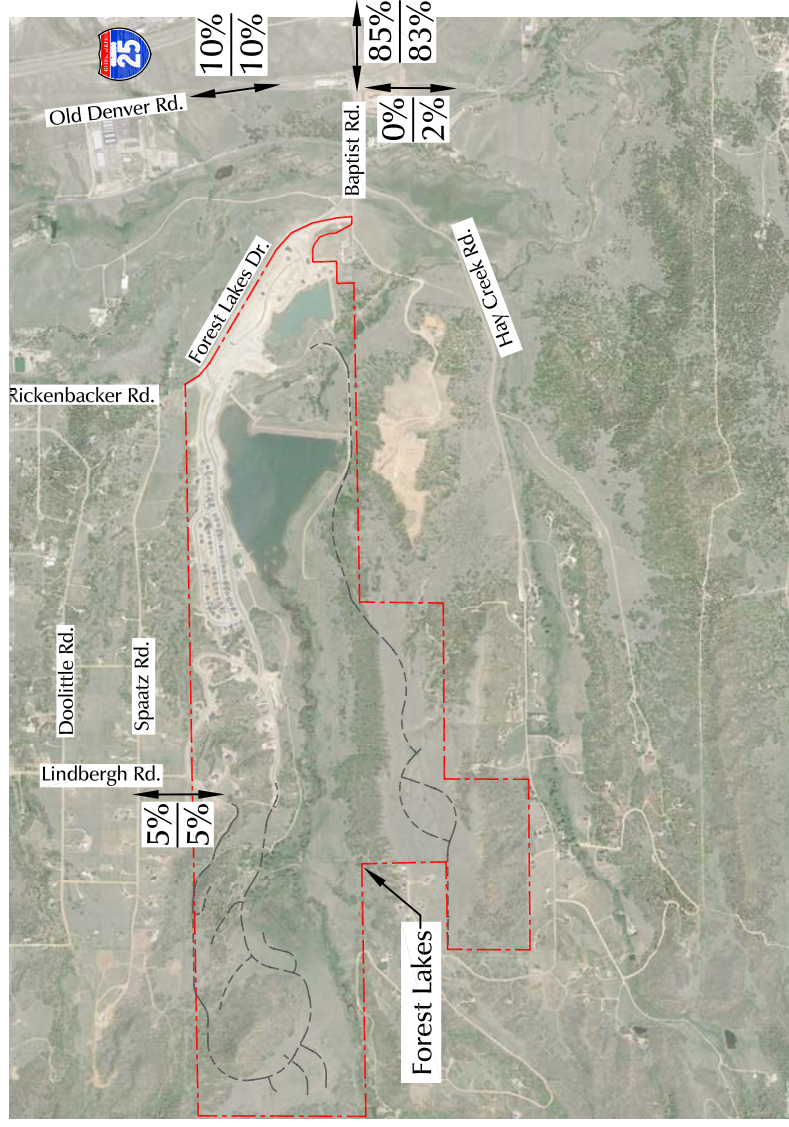
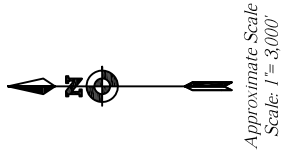
-  = Stop Sign
-  = Modern Roundabout
- $\frac{A}{A}$ = AM Individual Movement Peak-Hour Level of Service
- $\frac{B}{B}$ = PM Individual Movement Peak-Hour Level of Service

Figure 5b

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

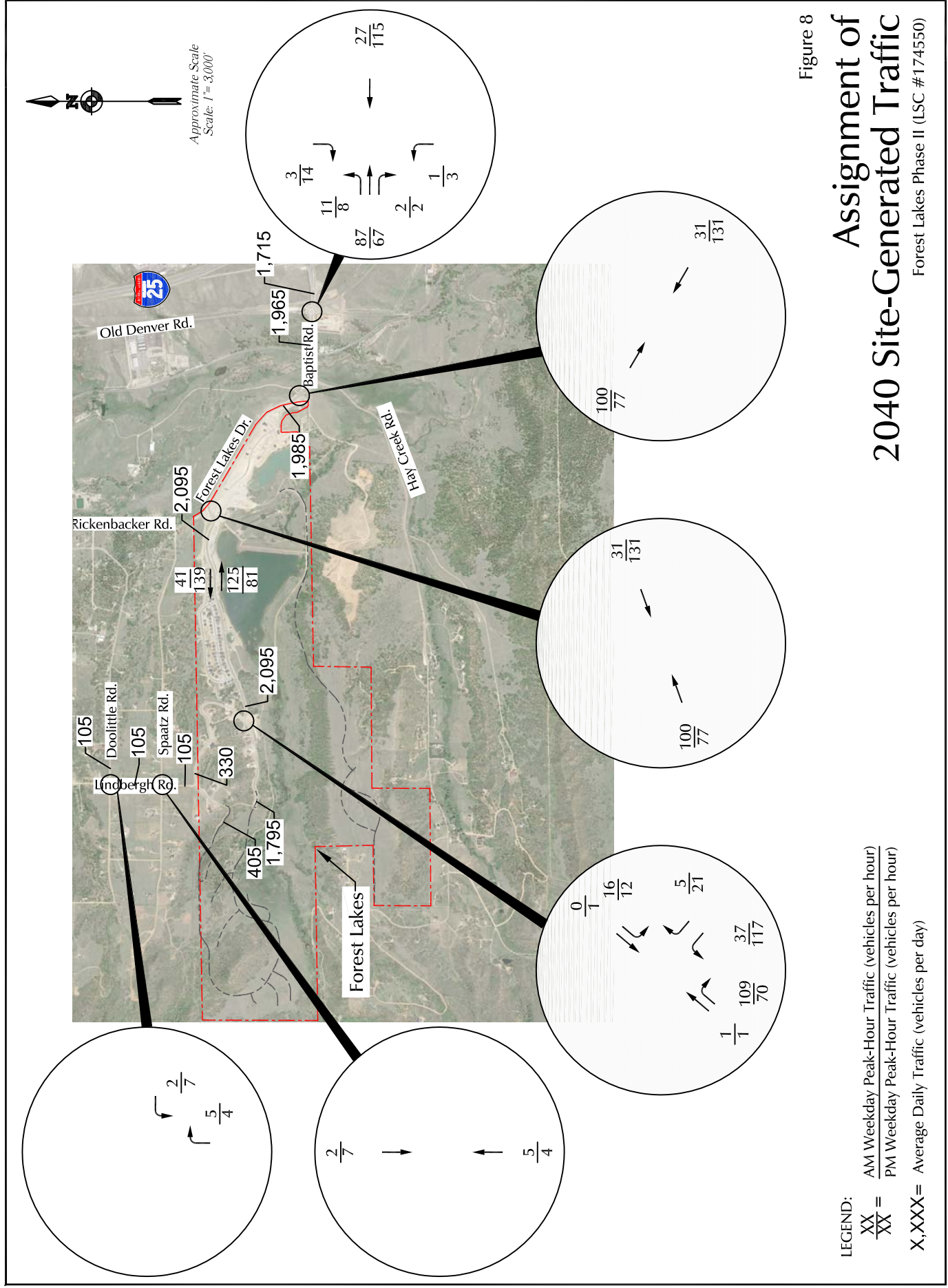
Forest Lakes Phase II (LSC #174550)

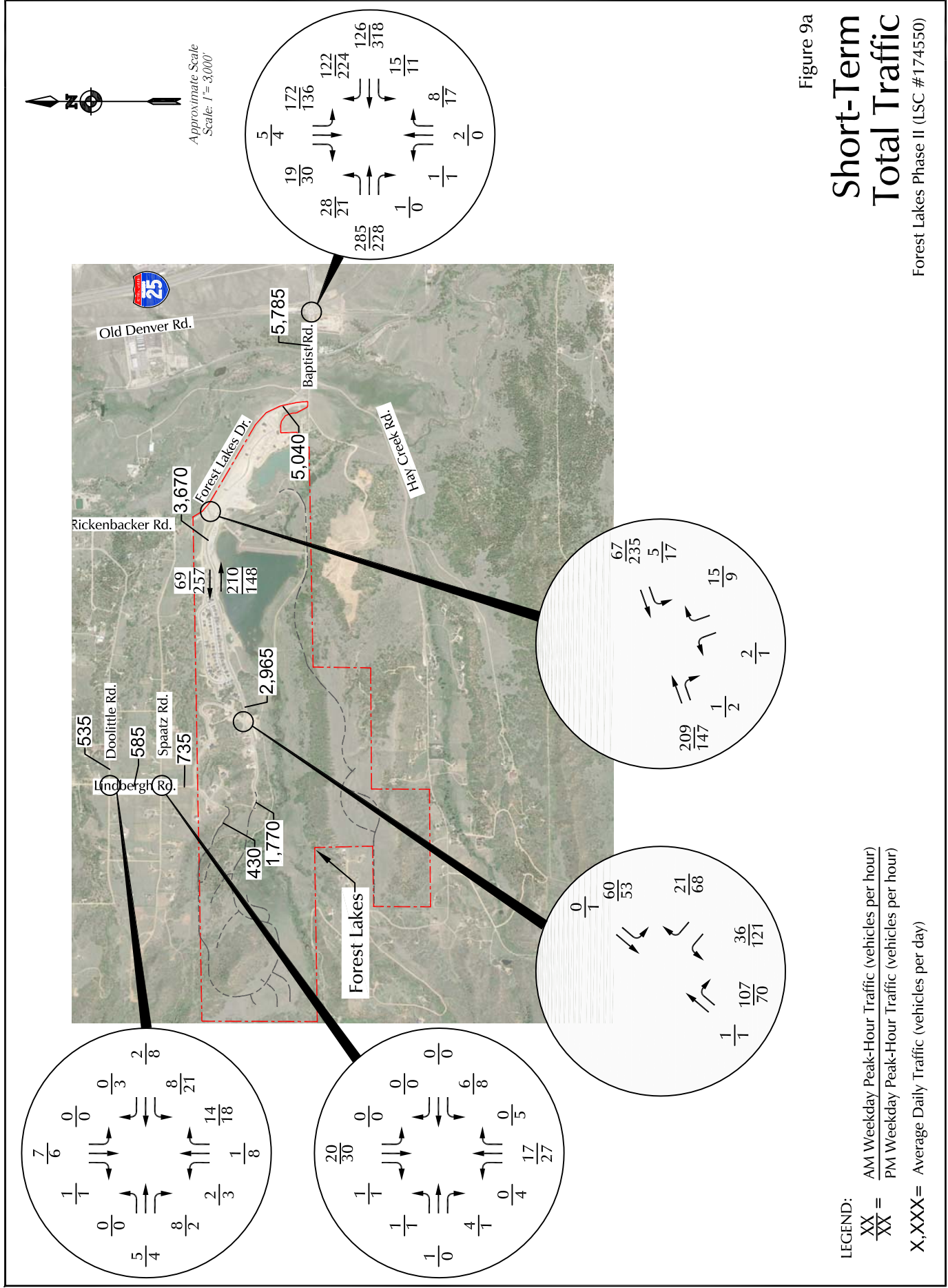


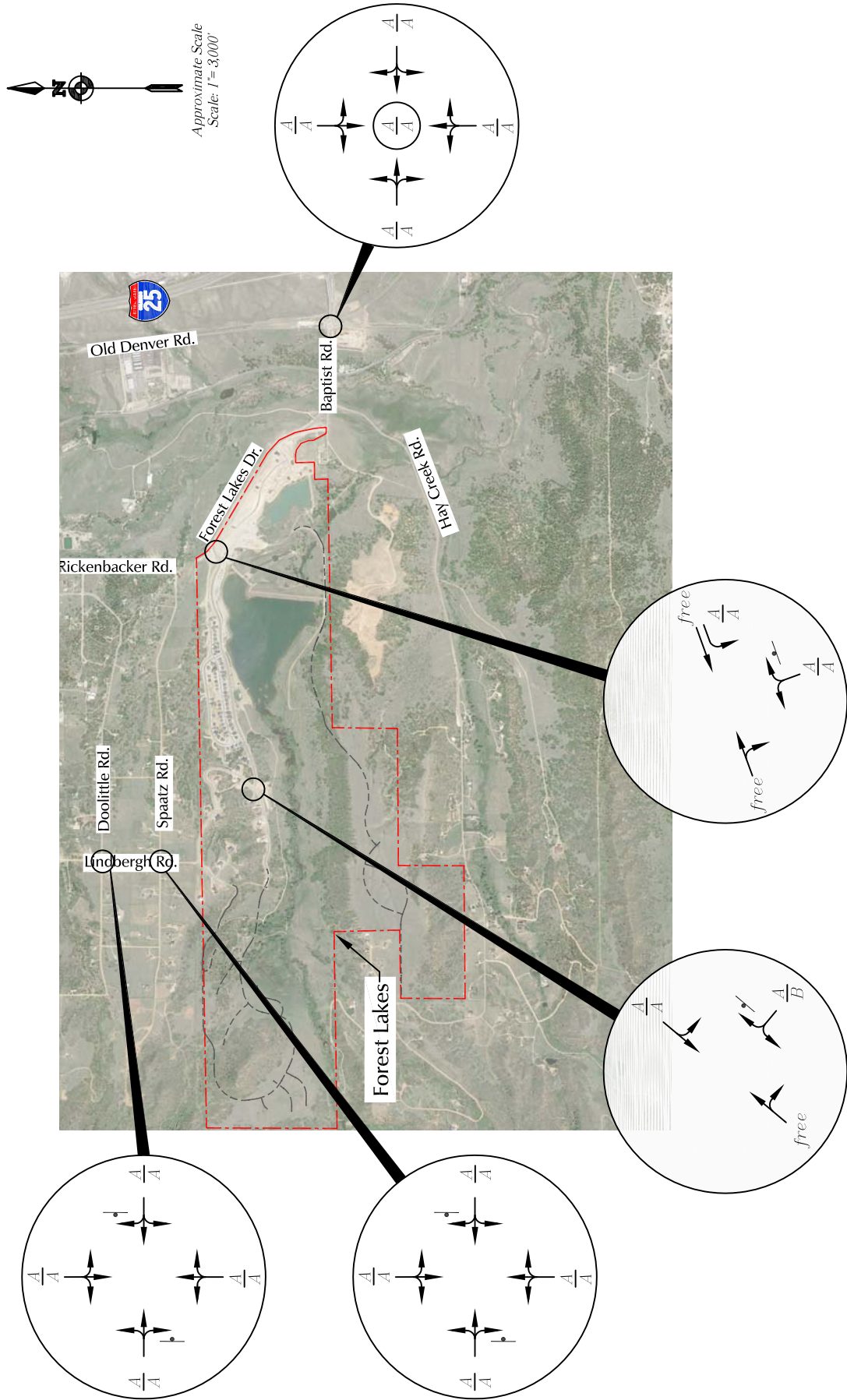
LEGEND:

$$\frac{\text{Short-Term Percent Directional Distribution}}{\text{2040 Percent Directional Distribution}} = \frac{XX\%}{XX\%}$$

Figure 6
**Directional Distribution
 of Site-Generated Traffic**
 Forest Lakes Phase II (LSC #174550)







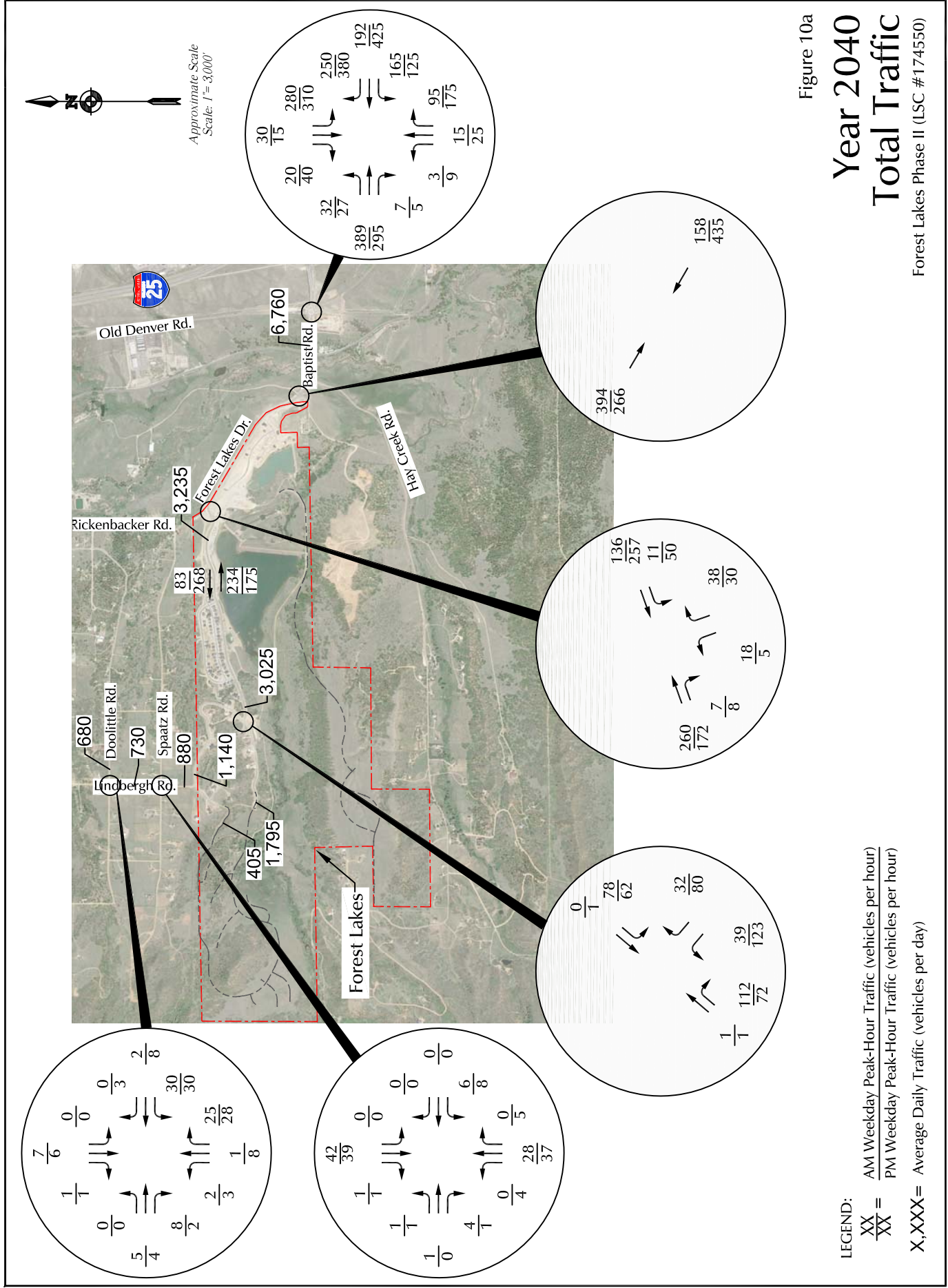
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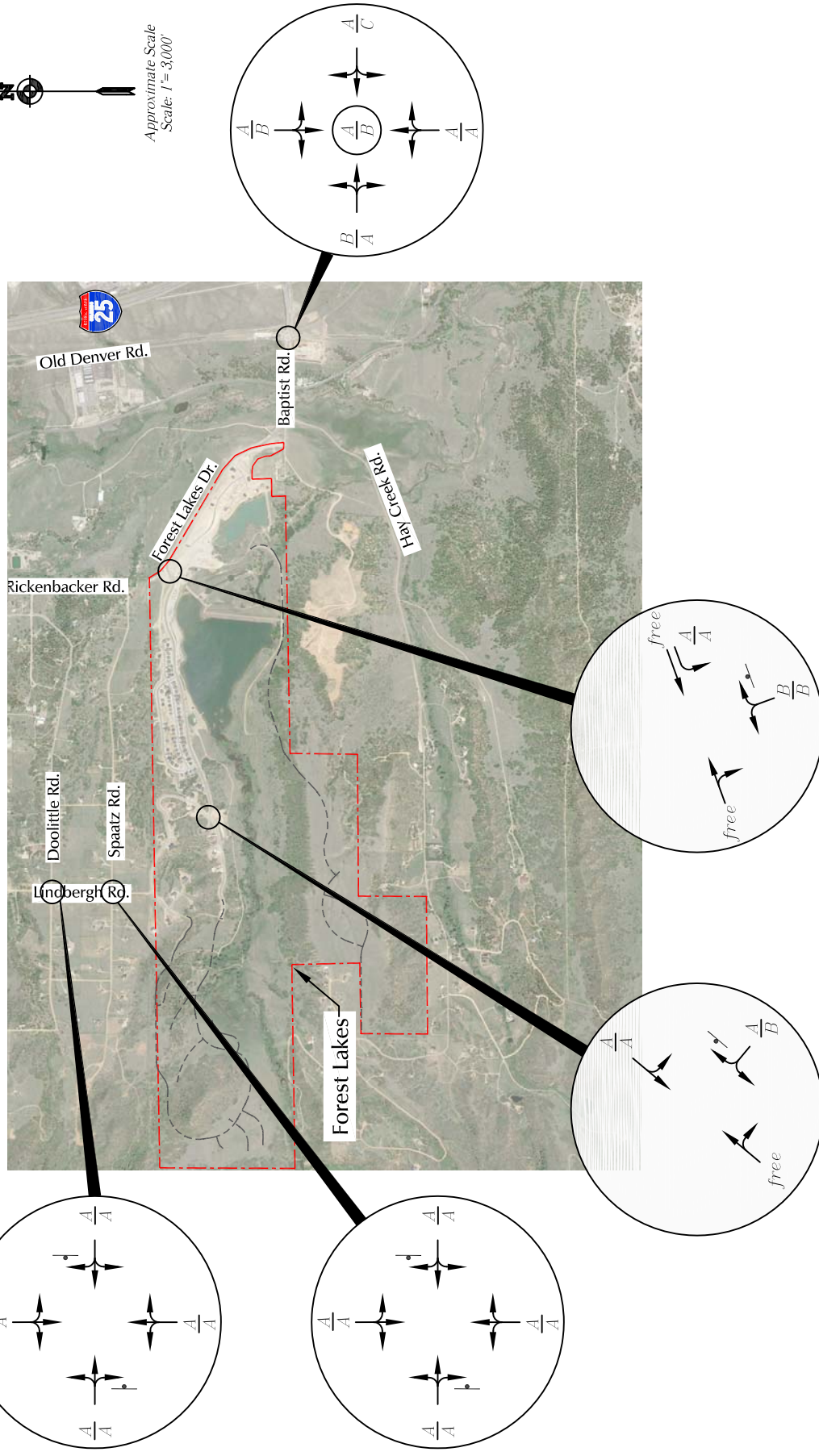
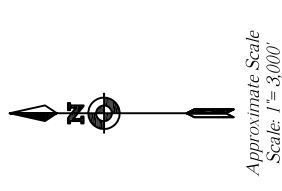
- = Stop Sign
- = Modern Roundabout
- $\frac{A}{A}$ = AM Individual Movement Peak-Hour Level of Service
- $\frac{B}{B}$ = PM Individual Movement Peak-Hour Level of Service

Figure 9b

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

Forest Lakes Phase II (LSC #174550)





LEGEND:

┤ = Stop Sign

○ = Modern Roundabout

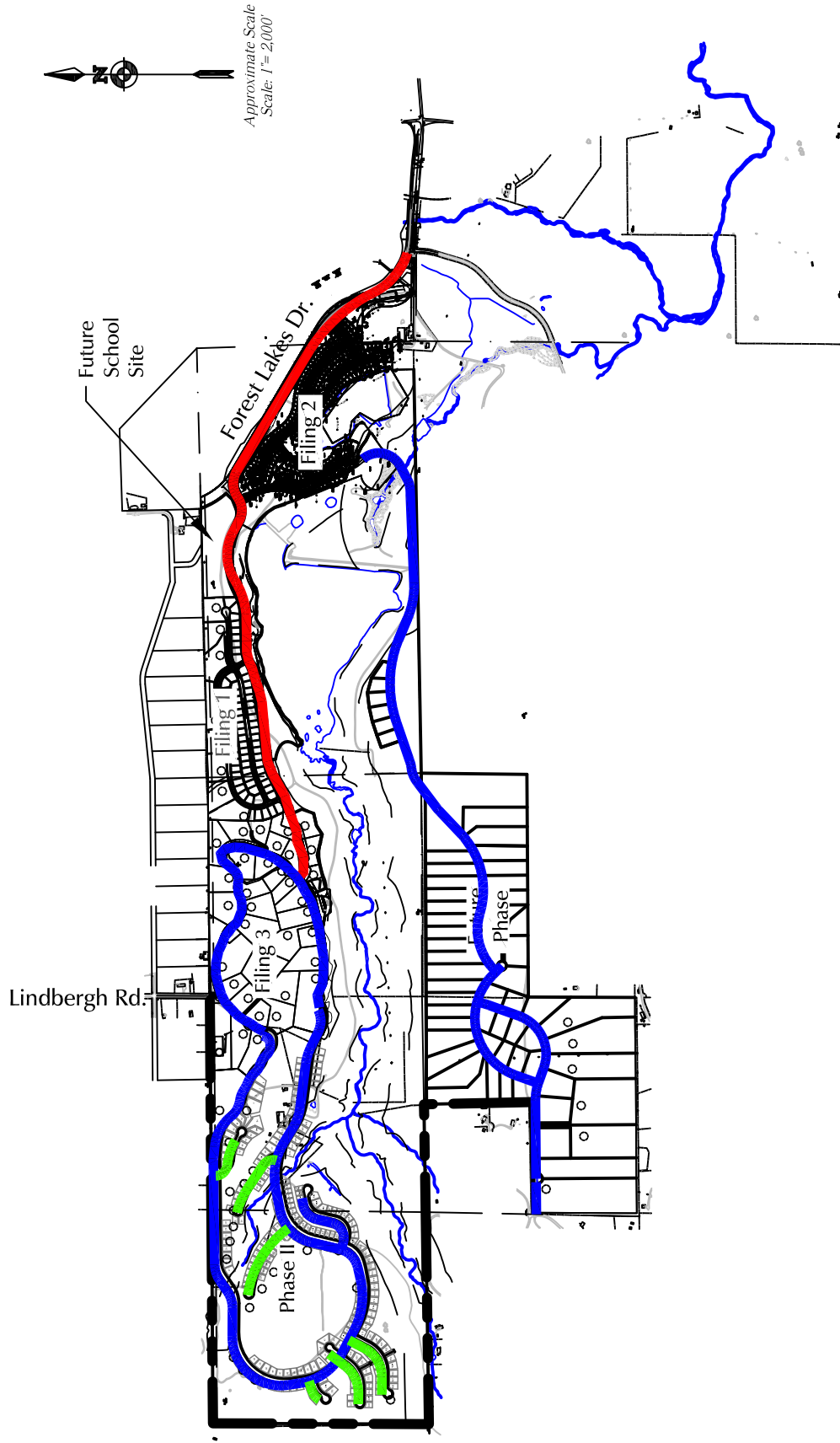
$\frac{A}{A}$ = AM Individual Movement Peak-Hour Level of Service

$\frac{B}{B}$ = PM Individual Movement Peak-Hour Level of Service

Figure 10b

Year 2040 Lane Geometry, Traffic Control and Level of Service

Forest Lakes Phase II (LSC #174550)



LEGEND:

- = Urban Residential Collector
- = Urban Local
- = Urban Local (Low Volume)

Figure 11

Recommended Classification

Forest Lakes Phase II (LSC #174550)

Counts by LSC

LSC Transportation Consultants, Inc.

File Name : Lindbergh Rd - Doolittle Rd AM

Site Code : 00174550

Start Date : 07/20/2017

Page No : 1

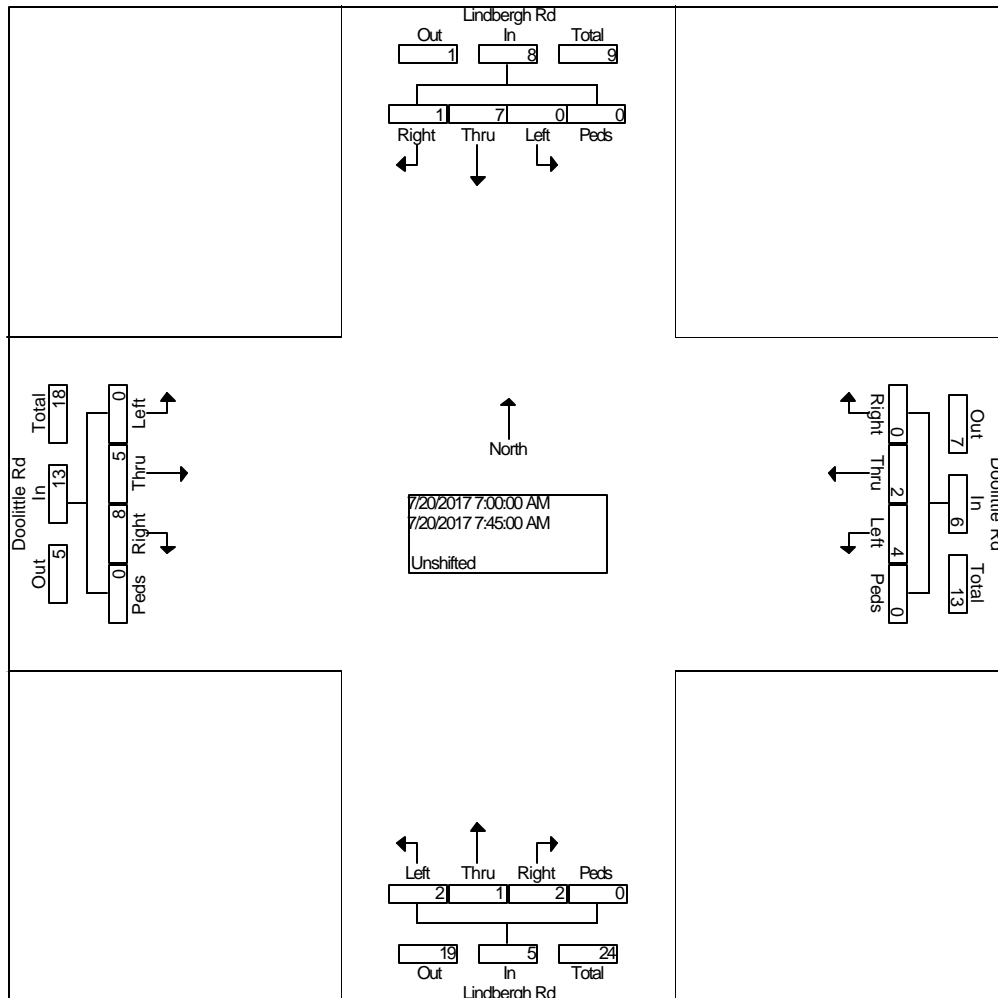
Groups Printed- Unshifted

	Lindbergh Rd From North				Doolittle Rd From East				Lindbergh Rd From South				Doolittle Rd From West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	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	2	0	0	0	0	1	0	0	1	0	0	0	0	0	0	4
06:45 AM	0	1	0	0	0	0	1	0	1	0	1	0	2	1	0	0	7
Total	0	3	0	0	0	0	2	0	1	1	1	0	2	1	0	0	11
07:00 AM	0	1	0	0	0	1	2	0	1	0	0	0	3	1	0	0	9
07:15 AM	0	1	0	0	0	0	1	0	0	0	1	0	2	0	0	0	5
07:30 AM	0	3	0	0	0	1	1	0	0	0	1	0	2	2	0	0	10
07:45 AM	1	2	0	0	0	0	0	0	1	1	0	0	1	2	0	0	8
Total	1	7	0	0	0	2	4	0	2	1	2	0	8	5	0	0	32
08:00 AM	0	2	0	0	0	0	0	0	0	1	0	0	0	2	0	0	5
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
Grand Total	1	12	0	0	0	2	6	0	3	3	3	0	10	8	1	0	49
Apprch %	7.7	92.3	0.0	0.0	0.0	25.0	75.0	0.0	33.3	33.3	33.3	0.0	52.6	42.1	5.3	0.0	
Total %	2.0	24.5	0.0	0.0	0.0	4.1	12.2	0.0	6.1	6.1	6.1	0.0	20.4	16.3	2.0	0.0	

Counts by LSC

File Name : Lindbergh Rd - Doolittle Rd AM
 Site Code : 00174550
 Start Date : 07/20/2017
 Page No : 2

	Lindbergh Rd From North					Doolittle Rd From East					Lindbergh Rd From South					Doolittle Rd From West					
Start Time	Rig ht	Thr u	Lef t	Pe ds	App. Total	Rig ht	Thr u	Lef t	Pe ds	App. Total	Rig ht	Thr u	Lef t	Pe ds	App. Total	Rig ht	Thr u	Lef t	Pe ds	App. Total	Int. Total
Peak Hour From 06:30 AM to 08:15 AM - Peak 1 of 1																					
Intersection	07:00 AM																				
Volume	1	7	0	0	8	0	2	4	0	6	2	1	2	0	5	8	5	0	0	13	32
Percent	12.	87.	0.0	0.0		0.0	33.	66.	0.0		40.	20.	40.	0.0		61.	38.	0.0	0.0		
	5	5					3	7			0	0	0			5	5				
07:30																					
Volume	0	3	0	0	3	0	1	1	0	2	0	0	1	0	1	2	2	0	0	4	10
Peak																					0.800
Factor																					
High Int.	07:30 AM					07:00 AM					07:45 AM					07:00 AM					
Volume	0	3	0	0	3	0	1	2	0	3	1	1	0	0	2	3	1	0	0	4	
Peak																					
Factor	0.66					0.50					0.62					0.81					
	7					0					5					3					



Counts by LSC

LSC Transportation Consultants, Inc.

File Name : Lindbergh Rd - Doolittle Rd PM

Site Code : 00174550

Start Date : 07/27/2017

Page No : 1

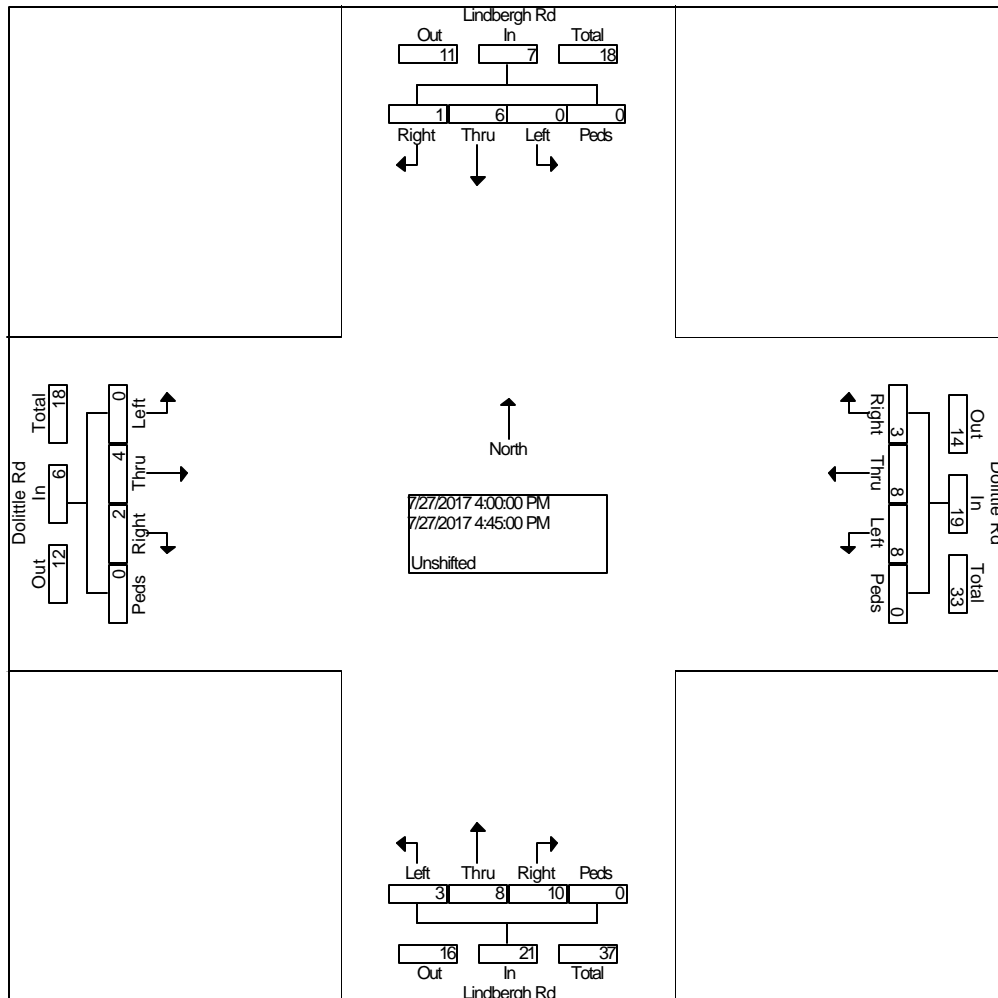
Groups Printed- Unshifted

	Lindbergh Rd From North				Doolittle Rd From East				Lindbergh Rd From South				Doolittle Rd From West				Int. Total
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	
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	
04:00 PM	1	1	0	0	0	2	1	0	3	1	1	0	1	0	0	0	11
04:15 PM	0	3	0	0	0	3	2	0	0	2	0	0	0	1	0	0	11
04:30 PM	0	2	0	0	2	2	5	0	3	2	0	0	1	3	0	0	20
04:45 PM	0	0	0	0	1	1	0	0	4	3	2	0	0	0	0	0	11
Total	1	6	0	0	3	8	8	0	10	8	3	0	2	4	0	0	53
05:00 PM	1	2	0	0	0	3	1	0	2	1	1	0	0	0	0	0	11
05:15 PM	0	1	0	0	0	0	2	0	0	2	2	0	1	1	0	0	9
05:30 PM	0	0	0	0	0	0	2	0	3	2	1	0	0	1	0	0	9
05:45 PM	0	4	0	0	0	0	1	0	1	3	1	0	0	1	0	0	11
Total	1	7	0	0	0	3	6	0	6	8	5	0	1	3	0	0	40
Grand Total	2	13	0	0	3	11	14	0	16	16	8	0	3	7	0	0	93
Apprch %	13.3	86.7	0.0	0.0	10.7	39.3	50.0	0.0	40.0	40.0	20.0	0.0	30.0	70.0	0.0	0.0	
Total %	2.2	14.0	0.0	0.0	3.2	11.8	15.1	0.0	17.2	17.2	8.6	0.0	3.2	7.5	0.0	0.0	

Counts by LSC

File Name : Lindbergh Rd - Doolittle Rd PM
 Site Code : 00174550
 Start Date : 07/27/2017
 Page No : 2

	Lindbergh Rd From North					Doolittle Rd From East					Lindbergh Rd From South					Doolittle Rd From West					
Start Time	Rig ht	Thr u	Lef t	Pe ds	App. Total	Rig ht	Thr u	Lef t	Pe ds	App. Total	Rig ht	Thr u	Lef t	Pe ds	App. Total	Rig ht	Thr u	Lef t	Pe ds	App. Total	Int. Total
Peak Hour From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Intersection 04:00 PM																					
Volume	1	6	0	0	7	3	8	8	0	19	10	8	3	0	21	2	4	0	0	6	53
Percent	14.	85.	0.0	0.0		15.	42.	42.	0.0		47.	38.	14.	0.0		33.	66.	0.0	0.0		
	3	7				8	1	1			6	1	3			3	7				
04:30 Volume	0	2	0	0	2	2	2	5	0	9	3	2	0	0	5	1	3	0	0	4	20
Peak Factor																					0.663
High Int.	04:15 PM					04:30 PM					04:45 PM					04:30 PM					
Volume	0	3	0	0	3	2	2	5	0	9	4	3	2	0	9	1	3	0	0	4	
Peak Factor	0.58					0.52					0.58					0.37					
	3					8					3					5					



Counts by LSC

LSC Transportation Consultants, Inc.

File Name : Lindbergh Rd - Spatz Rd AM

Site Code : 00174550

Start Date : 07/20/2017

Page No : 1

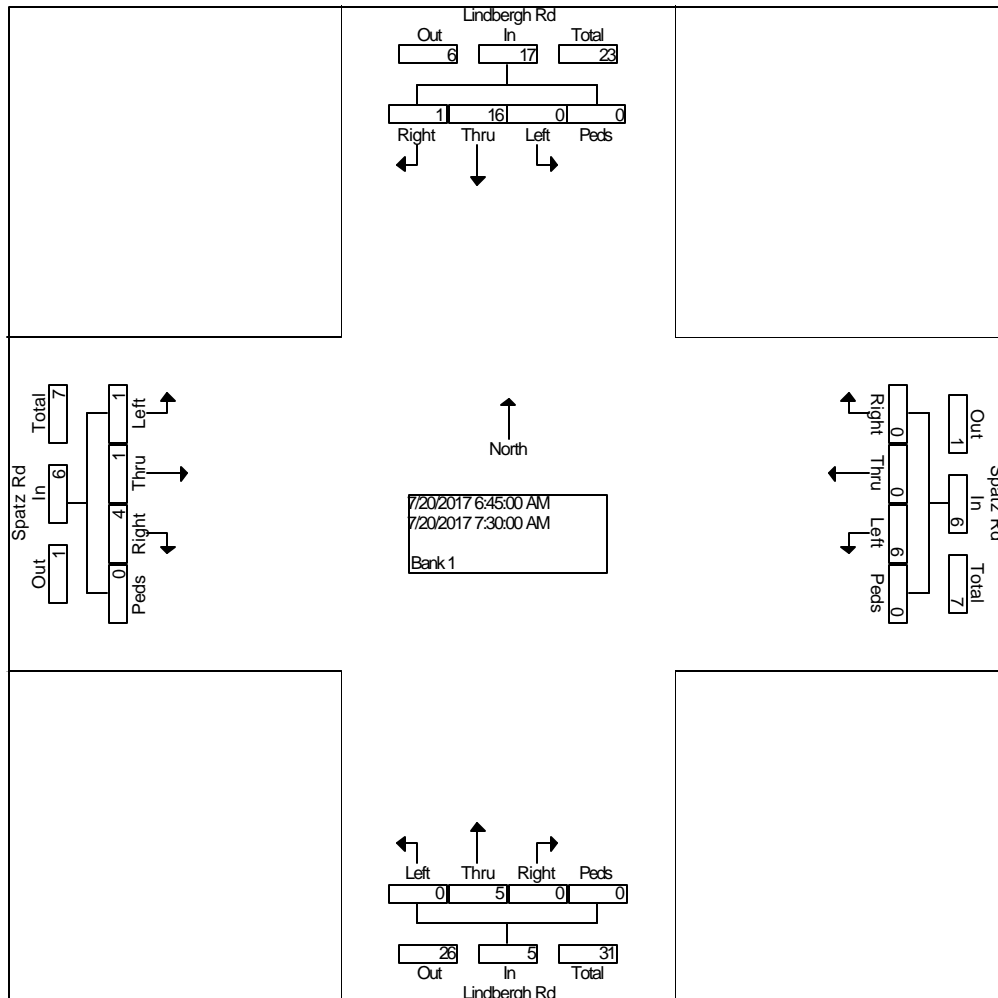
Groups Printed- Bank 1

	Lindbergh Rd From North				Spatz Rd From East				Lindbergh Rd From South				Spatz Rd From West				Int. Total
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	
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	2	0	0	0	0	0	0	0	1	0	0	0	0	0	0	3
06:45 AM	0	4	0	0	0	0	0	0	0	2	0	0	0	0	0	0	6
Total	0	6	0	0	0	0	0	0	0	3	0	0	0	0	0	0	9
07:00 AM	1	5	0	0	0	0	1	0	0	1	0	0	1	0	1	0	10
07:15 AM	0	3	0	0	0	0	3	0	0	1	0	0	0	0	0	0	7
07:30 AM	0	4	0	0	0	0	2	0	0	1	0	0	3	1	0	0	11
07:45 AM	0	4	0	0	0	0	0	0	0	2	0	0	0	0	0	0	6
Total	1	16	0	0	0	0	6	0	0	5	0	0	4	1	1	0	34
08:00 AM	0	2	0	0	0	0	1	0	1	1	1	0	0	0	0	0	6
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	3
Grand Total	1	24	0	0	0	0	7	0	1	9	1	0	7	1	1	0	52
Apprch %	4.0	96.0	0.0	0.0	0.0	0.0	100.0	0.0	9.1	81.8	9.1	0.0	77.8	11.1	11.1	0.0	
Total %	1.9	46.2	0.0	0.0	0.0	0.0	13.5	0.0	1.9	17.3	1.9	0.0	13.5	1.9	1.9	0.0	

Counts by LSC

File Name : Lindbergh Rd - Spatz Rd AM
 Site Code : 00174550
 Start Date : 07/20/2017
 Page No : 2

	Lindbergh Rd From North					Spatz Rd From East					Lindbergh Rd From South					Spatz Rd From West					
Start Time	Rig ht	Thr u	Lef t	Pe ds	App. Total	Rig ht	Thr u	Lef t	Pe ds	App. Total	Rig ht	Thr u	Lef t	Pe ds	App. Total	Rig ht	Thr u	Lef t	Pe ds	App. Total	Int. Total
Peak Hour From 06:30 AM to 08:15 AM - Peak 1 of 1																					
Intersection	06:45 AM																				
Volume	1	16	0	0	17	0	0	6	0	6	0	5	0	0	5	4	1	1	0	6	34
Percent	5.9	94.1	0.0	0.0		0.0	0.0	10.0	0.0		0.0	10.0	0.0	0.0		66.7	16.7	16.7	0.0		
07:30 Volume	0	4	0	0	4	0	0	2	0	2	0	1	0	0	1	3	1	0	0	4	11
Peak Factor																					0.773
High Int.	07:00 AM					07:15 AM					06:45 AM					07:30 AM					
Volume	1	5	0	0	6	0	0	3	0	3	0	2	0	0	2	3	1	0	0	4	
Peak Factor	0.70					0.50					0.62					0.37					
	8					0					5					5					



Counts by LSC

LSC Transportation Consultants, Inc.

File Name : Lindbergh Rd - Spatz Rd PM

Site Code : 00174550

Start Date : 07/27/2017

Page No : 1

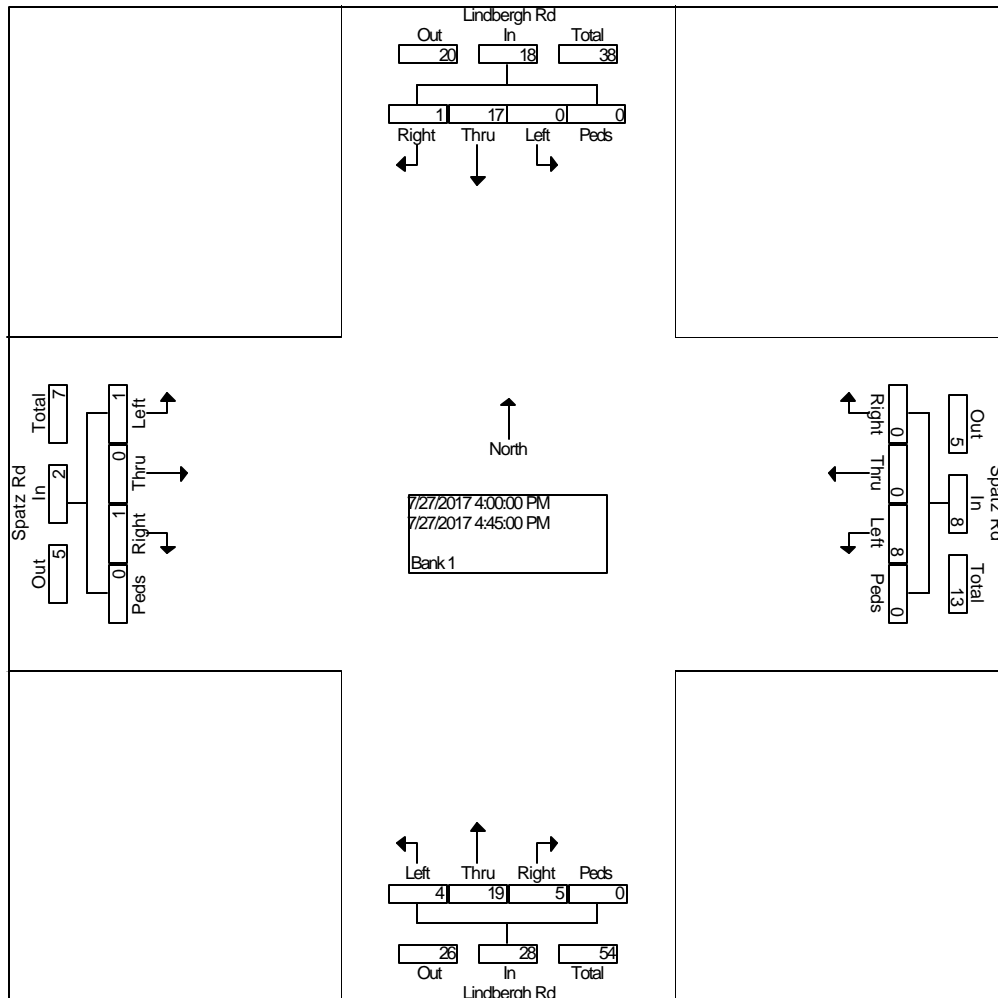
Groups Printed- Bank 1

	Lindbergh Rd From North				Spatz Rd From East				Lindbergh Rd From South				Spatz Rd From West				Int. Total
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	
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	
04:00 PM	0	2	0	0	0	0	1	0	1	4	2	0	1	0	0	0	11
04:15 PM	0	6	0	0	0	0	4	0	2	3	2	0	0	0	0	0	17
04:30 PM	1	8	0	0	0	0	1	0	1	3	0	0	0	0	1	0	15
04:45 PM	0	1	0	0	0	0	2	0	1	9	0	0	0	0	0	0	13
Total	1	17	0	0	0	0	8	0	5	19	4	0	1	0	1	0	56
05:00 PM	0	2	0	0	0	0	1	0	0	4	1	0	0	0	0	0	8
05:15 PM	0	3	1	0	0	0	1	0	3	3	0	0	0	0	0	0	11
05:30 PM	0	2	0	1	0	0	1	0	3	6	1	0	1	0	0	0	15
05:45 PM	0	3	2	0	1	0	0	0	0	5	1	0	0	0	0	0	12
Total	0	10	3	1	1	0	3	0	6	18	3	0	1	0	0	0	46
Grand Total	1	27	3	1	1	0	11	0	11	37	7	0	2	0	1	0	102
Apprch %	3.1	84.4	9.4	3.1	8.3	0.0	91.7	0.0	20.0	67.3	12.7	0.0	66.7	0.0	33.3	0.0	
Total %	1.0	26.5	2.9	1.0	1.0	0.0	10.8	0.0	10.8	36.3	6.9	0.0	2.0	0.0	1.0	0.0	

Counts by LSC

File Name : Lindbergh Rd - Spatz Rd PM
 Site Code : 00174550
 Start Date : 07/27/2017
 Page No : 2

	Lindbergh Rd From North					Spatz Rd From East					Lindbergh Rd From South					Spatz Rd From West					Int.
Start Time	Rig ht	Thr u	Lef t	Pe ds	App. Total	Rig ht	Thr u	Lef t	Pe ds	App. Total	Rig ht	Thr u	Lef t	Pe ds	App. Total	Rig ht	Thr u	Lef t	Pe ds	App. Total	Total
Peak Hour From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Intersection	04:00 PM																				
Volume	1	17	0	0	18	0	0	8	0	8	5	19	4	0	28	1	0	1	0	2	56
Percent	5.6	94.4	0.0	0.0		0.0	0.0	10.0	0.0		17.9	67.9	14.3	0.0		50.0	0.0	50.0	0.0		
04:15																					
Volume	0	6	0	0	6	0	0	4	0	4	2	3	2	0	7	0	0	0	0	0	17
Peak Factor																					0.824
High Int.	04:30 PM					04:15 PM					04:45 PM					04:00 PM					
Volume	1	8	0	0	9	0	0	4	0	4	1	9	0	0	10	1	0	0	0	1	
Peak Factor	0.50					0.50					0.70					0.50					
	0					0					0					0					



COUNTER MEASURES INC.

Location: LINDBERGH RD AT SITE ACCESS

City:

County: EL PASO

Direction: EASTBOUND-WESTBOUND

1889 YORK STREET

DENVER, COLORADO 80206

303-333-7409





Site Code: 092711

Station ID: 092711

Start Time	28-Sep-17		EB		WB		Combined		29-Sep		EB		WB		Combined	
	Thu	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	Fri	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
12:00		0	6		0	8	0	14		*	*	*	*	*	*	*
12:15		0	3		1	1	1	4		*	*	*	*	*	*	*
12:30		0	4		0	8	0	12		*	*	*	*	*	*	*
12:45		0	2		0	5	0	7		*	*	*	*	*	*	*
01:00		0	1		0	6	0	7		*	*	*	*	*	*	*
01:15		0	7		0	6	0	13		*	*	*	*	*	*	*
01:30		0	2		1	3	1	5		*	*	*	*	*	*	*
01:45		0	4		0	6	0	10		*	*	*	*	*	*	*
02:00		0	7		0	5	0	12		*	*	*	*	*	*	*
02:15		0	3		0	3	0	6		*	*	*	*	*	*	*
02:30		0	8		0	1	0	9		*	*	*	*	*	*	*
02:45		0	3		0	4	0	7		*	*	*	*	*	*	*
03:00		0	5		0	9	0	14		*	*	*	*	*	*	*
03:15		0	5		0	7	0	12		*	*	*	*	*	*	*
03:30		0	7		0	10	0	17		*	*	*	*	*	*	*
03:45		2	4		0	4	2	8		*	*	*	*	*	*	*
04:00		0	6		2	8	2	14		*	*	*	*	*	*	*
04:15		0	4		0	7	0	11		*	*	*	*	*	*	*
04:30		0	10		0	5	0	15		*	*	*	*	*	*	*
04:45		0	6		0	6	0	12		*	*	*	*	*	*	*
05:00		1	5		0	9	1	14		*	*	*	*	*	*	*
05:15		2	1		1	8	3	9		*	*	*	*	*	*	*
05:30		0	5		0	7	0	12		*	*	*	*	*	*	*
05:45		2	8		0	9	2	17		*	*	*	*	*	*	*
06:00		1	4		0	12	1	16		*	*	*	*	*	*	*
06:15		4	3		3	5	7	8		*	*	*	*	*	*	*
06:30		6	4		0	10	6	14		*	*	*	*	*	*	*
06:45		9	3		2	3	11	6		*	*	*	*	*	*	*
07:00		11	5		2	4	13	9		*	*	*	*	*	*	*
07:15		7	2		4	1	11	3		*	*	*	*	*	*	*
07:30		6	2		1	3	7	5		*	*	*	*	*	*	*
07:45		6	2		4	7	10	9		*	*	*	*	*	*	*
08:00		4	4		4	3	8	7		*	*	*	*	*	*	*
08:15		6	1		2	6	8	7		*	*	*	*	*	*	*
08:30		8	0		6	5	14	5		*	*	*	*	*	*	*
08:45		6	0		6	2	12	2		*	*	*	*	*	*	*
09:00		5	0		3	5	8	5		*	*	*	*	*	*	*
09:15		5	1		3	6	8	7		*	*	*	*	*	*	*
09:30		4	1		3	4	7	5		*	*	*	*	*	*	*
09:45		4	0		5	2	9	2		*	*	*	*	*	*	*
10:00		6	1		5	2	11	3		*	*	*	*	*	*	*
10:15		4	0		4	1	8	1		*	*	*	*	*	*	*
10:30		6	1		3	0	9	1		*	*	*	*	*	*	*
10:45		1	0		3	1	4	1		*	*	*	*	*	*	*
11:00		3	0		1	2	4	2		*	*	*	*	*	*	*
11:15		4	0		2	0	6	0		*	*	*	*	*	*	*
11:30		3	2		4	0	7	2		*	*	*	*	*	*	*
11:45		2	2		1	0	3	2		*	*	*	*	*	*	*
Total		128	154		76	229	204	383		0	0	0	0	0	0	0
Day Total		282			305		587			0	0		0		0	
% Total		21.8%	26.2%		12.9%	39.0%				0.0%	0.0%		0.0%		0	
Peak	-	06:30	04:00		08:00	05:15	06:45	05:45	-	-	-	-	-	-	-	-
Vol.	-	33	26		18	36	42	55	-	-	-	-	-	-	-	-
P.H.F.		0.750	0.650		0.750	0.750	0.808	0.809								





HCM 6th TWSC
1: Lindbergh Rd & Doolittle Rd

Existing Traffic
AM Peak Hour

Intersection												
Int Delay, s/veh	5.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	5	8	4	2	0	2	1	2	0	7	1
Future Vol, veh/h	0	5	8	4	2	0	2	1	2	0	7	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	81	81	81	75	75	75	100	100	100	67	67	67
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	6	10	5	3	0	2	1	2	0	10	1
Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	19	18	11	25	17	2	11	0	0	3	0	0
Stage 1	11	11	-	6	6	-	-	-	-	-	-	-
Stage 2	8	7	-	19	11	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
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	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	995	876	1070	986	877	1082	1608	-	-	1619	-	-
Stage 1	1010	886	-	1016	891	-	-	-	-	-	-	-
Stage 2	1013	890	-	1000	886	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	992	875	1070	971	876	1082	1608	-	-	1619	-	-
Mov Cap-2 Maneuver	992	875	-	971	876	-	-	-	-	-	-	-
Stage 1	1009	886	-	1015	890	-	-	-	-	-	-	-
Stage 2	1009	889	-	984	886	-	-	-	-	-	-	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	8.7			8.9			2.9			0		
HCM LOS	A			A								
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR				
Capacity (veh/h)	1608	-	-	986	937	1619	-	-				
HCM Lane V/C Ratio	0.001	-	-	0.016	0.009	-	-	-				
HCM Control Delay (s)	7.2	0	-	8.7	8.9	0	-	-				
HCM Lane LOS	A	A	-	A	A	A	-	-				
HCM 95th %tile Q(veh)	0	-	-	0	0	0	-	-				

HCM 6th TWSC
2: Lindbergh Rd & Spaatz Rd

Existing Traffic
AM Peak Hour

Intersection												
Int Delay, s/veh	4.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	1	4	6	0	0	0	5	0	0	16	1
Future Vol, veh/h	1	1	4	6	0	0	0	5	0	0	16	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	38	38	38	75	75	75	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	3	3	11	8	0	0	0	5	0	0	16	1
Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	22	22	17	29	22	5	17	0	0	5	0	0
Stage 1	17	17	-	5	5	-	-	-	-	-	-	-
Stage 2	5	5	-	24	17	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
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	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	990	872	1062	980	872	1078	1600	-	-	1616	-	-
Stage 1	1002	881	-	1017	892	-	-	-	-	-	-	-
Stage 2	1017	892	-	994	881	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	990	872	1062	968	872	1078	1600	-	-	1616	-	-
Mov Cap-2 Maneuver	990	872	-	968	872	-	-	-	-	-	-	-
Stage 1	1002	881	-	1017	892	-	-	-	-	-	-	-
Stage 2	1017	892	-	981	881	-	-	-	-	-	-	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	8.6			8.8			0			0		
HCM LOS	A			A								
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR				
Capacity (veh/h)	1600	-	-	1013	968	1616	-	-				
HCM Lane V/C Ratio	-	-	-	0.016	0.008	-	-	-				
HCM Control Delay (s)	0	-	-	8.6	8.8	0	-	-				
HCM Lane LOS	A	-	-	A	A	A	-	-				
HCM 95th %tile Q(veh)	0	-	-	0	0	0	-	-				





HCM 6th Roundabout
5: Woodcarver Rd/Old Denver Rd & Baptist Rd

Existing Traffic
AM Peak Hour

Intersection				
Intersection Delay, s/veh	4.1			
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	83	243	11	188
Demand Flow Rate, veh/h	85	247	11	191
Vehicles Circulating, veh/h	199	7	259	92
Vehicles Exiting, veh/h	84	263	25	162
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	3.9	4.2	3.5	4.2
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	85	247	11	191
Cap Entry Lane, veh/h	1126	1370	1060	1256
Entry HV Adj Factor	0.982	0.982	0.996	0.984
Flow Entry, veh/h	83	243	11	188
Cap Entry, veh/h	1106	1346	1056	1236
V/C Ratio	0.075	0.180	0.010	0.152
Control Delay, s/veh	3.9	4.2	3.5	4.2
LOS	A	A	A	A
95th %tile Queue, veh	0	1	0	1





HCM 6th TWSC
1: Lindbergh Rd & Doolittle Rd

Existing Traffic
PM Peak Hour

Intersection												
Int Delay, s/veh	6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	4	2	8	8	3	3	8	10	0	6	1
Future Vol, veh/h	0	4	2	8	8	3	3	8	10	0	6	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	38	38	38	53	53	53	100	100	100	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	11	5	15	15	6	3	8	10	0	7	1
Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	38	32	8	35	27	13	8	0	0	18	0	0
Stage 1	8	8	-	19	19	-	-	-	-	-	-	-
Stage 2	30	24	-	16	8	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
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	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	967	861	1074	971	866	1067	1612	-	-	1599	-	-
Stage 1	1013	889	-	1000	880	-	-	-	-	-	-	-
Stage 2	987	875	-	1004	889	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	948	859	1074	955	864	1067	1612	-	-	1599	-	-
Mov Cap-2 Maneuver	948	859	-	955	864	-	-	-	-	-	-	-
Stage 1	1011	889	-	998	878	-	-	-	-	-	-	-
Stage 2	963	873	-	987	889	-	-	-	-	-	-	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	9			9			1			0		
HCM LOS	A			A								
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR				
Capacity (veh/h)	1612	-	-	920	929	1599	-	-				
HCM Lane V/C Ratio	0.002	-	-	0.017	0.039	-	-	-				
HCM Control Delay (s)	7.2	0	-	9	9	0	-	-				
HCM Lane LOS	A	A	-	A	A	A	-	-				
HCM 95th %tile Q(veh)	0	-	-	0.1	0.1	0	-	-				

HCM 6th TWSC
2: Lindbergh Rd & Spaatz Rd

Existing Traffic
PM Peak Hour

Intersection												
Int Delay, s/veh	2.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	0	1	8	0	0	4	19	5	0	17	1
Future Vol, veh/h	1	0	1	8	0	0	4	19	5	0	17	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	50	50	50	100	100	100	75	75	75
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	0	1	16	0	0	4	19	5	0	23	1
Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	54	56	24	54	54	22	24	0	0	24	0	0
Stage 1	24	24	-	30	30	-	-	-	-	-	-	-
Stage 2	30	32	-	24	24	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
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	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	944	835	1052	944	837	1055	1591	-	-	1591	-	-
Stage 1	994	875	-	987	870	-	-	-	-	-	-	-
Stage 2	987	868	-	994	875	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	942	832	1052	941	834	1055	1591	-	-	1591	-	-
Mov Cap-2 Maneuver	942	832	-	941	834	-	-	-	-	-	-	-
Stage 1	991	875	-	984	867	-	-	-	-	-	-	-
Stage 2	984	865	-	993	875	-	-	-	-	-	-	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	8.6			8.9			1			0		
HCM LOS	A			A								
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR				
Capacity (veh/h)	1591	-	-	994	941	1591	-	-				
HCM Lane V/C Ratio	0.003	-	-	0.002	0.017	-	-	-				
HCM Control Delay (s)	7.3	0	-	8.6	8.9	0	-	-				
HCM Lane LOS	A	A	-	A	A	A	-	-				
HCM 95th %tile Q(veh)	0	-	-	0	0.1	0	-	-				






HCM 6th Roundabout
5: Woodcarver Rd/Old Denver Rd & Baptist Rd

Existing Traffic
PM Peak Hour

Intersection				
Intersection Delay, s/veh	4.1			
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	83	243	11	188
Demand Flow Rate, veh/h	85	247	11	191
Vehicles Circulating, veh/h	199	7	259	92
Vehicles Exiting, veh/h	84	263	25	162
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	3.9	4.2	3.5	4.2
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	85	247	11	191
Cap Entry Lane, veh/h	1126	1370	1060	1256
Entry HV Adj Factor	0.982	0.982	0.996	0.984
Flow Entry, veh/h	83	243	11	188
Cap Entry, veh/h	1106	1346	1056	1236
V/C Ratio	0.075	0.180	0.010	0.152
Control Delay, s/veh	3.9	4.2	3.5	4.2
LOS	A	A	A	A
95th %tile Queue, veh	0	1	0	1




HCM 6th TWSC
6: Long Valley Dr & Forest Lakes Dr

Short-Term Background Traffic
AM Peak Hour

Intersection						
Int Delay, s/veh	1.4					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	86	1	5	27	2	15
Future Vol, veh/h	86	1	5	27	2	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	-	-	72	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	93	1	5	29	2	16
Major/Minor	Major1	Major2		Minor1		
Conflicting Flow All	0	0	94	0	133	94
Stage 1	-	-	-	-	94	-
Stage 2	-	-	-	-	39	-
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	-	-	1500	-	861	963
Stage 1	-	-	-	-	930	-
Stage 2	-	-	-	-	983	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1500	-	858	963
Mov Cap-2 Maneuver	-	-	-	-	858	-
Stage 1	-	-	-	-	927	-
Stage 2	-	-	-	-	983	-
Approach	EB	WB		NB		
HCM Control Delay, s	0	1.2		8.9		
HCM LOS	A					
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	949	-	-	1500	-	
HCM Lane V/C Ratio	0.019	-	-	0.004	-	
HCM Control Delay (s)	8.9	-	-	7.4	-	
HCM Lane LOS	A	-	-	A	-	
HCM 95th %tile Q(veh)	0.1	-	-	0	-	

HCM 6th TWSC
9: Forest Lakes Dr & Mesa Top Dr

Short-Term Background Traffic
AM Peak Hour

Intersection						
Int Delay, s/veh	7.2					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	2	15	0	4	40	0
Future Vol, veh/h	2	15	0	4	40	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	2	16	0	4	43	0
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	88	2	0	0	4	0
Stage 1	2	-	-	-	-	-
Stage 2	86	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	913	1082	-	-	1618	-
Stage 1	1021	-	-	-	-	-
Stage 2	937	-	-	-	-	-
Platoon blocked, %		-	-	-	-	-
Mov Cap-1 Maneuver	888	1082	-	-	1618	-
Mov Cap-2 Maneuver	888	-	-	-	-	-
Stage 1	993	-	-	-	-	-
Stage 2	937	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	8.5	0		7.3		
HCM LOS	A					
Minor Lane/Major Mvmt	NBT	NBRWBLn1		SBL	SBT	
Capacity (veh/h)	-	- 1055		1618	-	
HCM Lane V/C Ratio	-	- 0.018		0.027	-	
HCM Control Delay (s)	-	- 8.5		7.3	0	
HCM Lane LOS	-	- A		A	A	
HCM 95th %tile Q(veh)	-	- 0.1		0.1	-	

Intersection												
Int Delay, s/veh	3.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	1	1	4	6	0	0	0	11	0	0	18	1
Future Vol, veh/h	1	1	4	6	0	0	0	11	0	0	18	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	38	38	38	75	75	75	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	3	3	11	8	0	0	0	11	0	0	18	1

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	30	30	19	37	30	11	19	0	0	11	0	0
Stage 1	19	19	-	11	11	-	-	-	-	-	-	-
Stage 2	11	11	-	26	19	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
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	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	979	863	1059	968	863	1070	1597	-	-	1608	-	-
Stage 1	1000	880	-	1010	886	-	-	-	-	-	-	-
Stage 2	1010	886	-	992	880	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	979	863	1059	956	863	1070	1597	-	-	1608	-	-
Mov Cap-2 Maneuver	979	863	-	956	863	-	-	-	-	-	-	-
Stage 1	1000	880	-	1010	886	-	-	-	-	-	-	-
Stage 2	1010	886	-	979	880	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	8.6		8.8		0		0	
HCM LOS	A		A					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1597	-	-	1007 956	1608	-	-
HCM Lane V/C Ratio	-	-	-	0.016 0.008	-	-	-
HCM Control Delay (s)	0	-	-	8.6 8.8	0	-	-
HCM Lane LOS	A	-	-	A A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0 0	0	-	-

HCM 6th Roundabout
21: Woodcarver Rd/Old Denver Rd & Baptist Rd

Short-Term Background Traffic
AM Peak Hour

Intersection				
Intersection Delay, s/veh	4.5			
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	190	283	11	192
Demand Flow Rate, veh/h	193	288	11	195
Vehicles Circulating, veh/h	199	18	367	133
Vehicles Exiting, veh/h	129	360	25	173
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	4.8	4.5	3.9	4.4
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	193	288	11	195
Cap Entry Lane, veh/h	1126	1355	949	1205
Entry HV Adj Factor	0.982	0.982	0.996	0.984
Flow Entry, veh/h	190	283	11	192
Cap Entry, veh/h	1106	1330	946	1186
V/C Ratio	0.171	0.213	0.012	0.162
Control Delay, s/veh	4.8	4.5	3.9	4.4
LOS	A	A	A	A
95th %tile Queue, veh	1	1	0	1

Intersection												
Int Delay, s/veh	5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	5	8	6	2	0	2	1	8	0	7	1
Future Vol, veh/h	0	5	8	6	2	0	2	1	8	0	7	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	81	81	81	75	75	75	100	100	100	67	67	67
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	6	10	8	3	0	2	1	8	0	10	1






Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	22	24	11	28	20	5	11	0	0	9	0	0
Stage 1	11	11	-	9	9	-	-	-	-	-	-	-
Stage 2	11	13	-	19	11	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
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	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	990	869	1070	981	874	1078	1608	-	-	1611	-	-
Stage 1	1010	886	-	1012	888	-	-	-	-	-	-	-
Stage 2	1010	885	-	1000	886	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	987	868	1070	966	873	1078	1608	-	-	1611	-	-
Mov Cap-2 Maneuver	987	868	-	966	873	-	-	-	-	-	-	-
Stage 1	1009	886	-	1011	887	-	-	-	-	-	-	-
Stage 2	1006	884	-	984	886	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	8.7		8.9		1.3		0	
HCM LOS	A		A					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1608	-	-	982 941	1611	-	-
HCM Lane V/C Ratio	0.001	-	-	0.016 0.011	-	-	-
HCM Control Delay (s)	7.2	0	-	8.7 8.9	0	-	-
HCM Lane LOS	A	A	-	A A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.1 0	0	-	-




HCM 6th TWSC
6: Long Valley Dr & Forest Lakes Dr

Short-Term Background Traffic
PM Peak Hour

Intersection						
Int Delay, s/veh	1.1					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	65	2	17	97	1	9
Future Vol, veh/h	65	2	17	97	1	9
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	72	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	71	2	18	105	1	10
Major/Minor	Major1	Major2	Minor1			
Conflicting Flow All	0	0	73	0	213	72
Stage 1	-	-	-	-	72	-
Stage 2	-	-	-	-	141	-
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	-	-	1527	-	775	990
Stage 1	-	-	-	-	951	-
Stage 2	-	-	-	-	886	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1527	-	766	990
Mov Cap-2 Maneuver	-	-	-	-	766	-
Stage 1	-	-	-	-	940	-
Stage 2	-	-	-	-	886	-
Approach	EB	WB		NB		
HCM Control Delay, s	0	1.1		8.8		
HCM LOS	A					
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	962	-	-	1527	-	
HCM Lane V/C Ratio	0.011	-	-	0.012	-	
HCM Control Delay (s)	8.8	-	-	7.4	-	
HCM Lane LOS	A	-	-	A	-	
HCM 95th %tile Q(veh)	0	-	-	0	-	

HCM 6th TWSC
9: Forest Lakes Dr & Mesa Top Dr

Short-Term Background Traffic
PM Peak Hour

Intersection						
Int Delay, s/veh	7.9					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	5	46	0	2	39	0
Future Vol, veh/h	5	46	0	2	39	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	5	50	0	2	42	0
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	85	1	0	0	2	0
Stage 1	1	-	-	-	-	-
Stage 2	84	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	916	1084	-	-	1620	-
Stage 1	1022	-	-	-	-	-
Stage 2	939	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	892	1084	-	-	1620	-
Mov Cap-2 Maneuver	892	-	-	-	-	-
Stage 1	995	-	-	-	-	-
Stage 2	939	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	8.6	0		7.3		
HCM LOS	A					
Minor Lane/Major Mvmt	NBT	NBRWBLn1		SBL	SBT	
Capacity (veh/h)	-	- 1062		1620	-	
HCM Lane V/C Ratio	-	- 0.052		0.026	-	
HCM Control Delay (s)	-	- 8.6		7.3	0	
HCM Lane LOS	-	- A		A	A	
HCM 95th %tile Q(veh)	-	- 0.2		0.1	-	

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	1	0	1	8	0	0	4	23	5	0	24	1
Future Vol, veh/h	1	0	1	8	0	0	4	23	5	0	24	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	50	50	50	100	100	100	75	75	75
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	0	1	16	0	0	4	23	5	0	32	1

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	67	69	33	67	67	26	33	0	0	28	0	0
Stage 1	33	33	-	34	34	-	-	-	-	-	-	-
Stage 2	34	36	-	33	33	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
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	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	926	822	1041	926	824	1050	1579	-	-	1585	-	-
Stage 1	983	868	-	982	867	-	-	-	-	-	-	-
Stage 2	982	865	-	983	868	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	924	820	1041	923	822	1050	1579	-	-	1585	-	-
Mov Cap-2 Maneuver	924	820	-	923	822	-	-	-	-	-	-	-
Stage 1	980	868	-	979	864	-	-	-	-	-	-	-
Stage 2	979	862	-	982	868	-	-	-	-	-	-	-





Approach	EB		WB		NB		SB	
HCM Control Delay, s	8.7		9		0.9		0	
HCM LOS	A		A					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1579	-	-	979 923	1585	-	-
HCM Lane V/C Ratio	0.003	-	-	0.002 0.017	-	-	-
HCM Control Delay (s)	7.3	0	-	8.7 9	0	-	-
HCM Lane LOS	A	A	-	A A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0 0.1	0	-	-

HCM 6th Roundabout
21: Woodcarver Rd/Old Denver Rd & Baptist Rd






Short-Term Background Traffic
PM Peak Hour

Intersection				
Intersection Delay, s/veh	5.8			
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	167	538	18	155
Demand Flow Rate, veh/h	170	549	18	158
Vehicles Circulating, veh/h	157	13	309	264
Vehicles Exiting, veh/h	265	314	18	298
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	4.4	6.5	3.7	4.8
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	170	549	18	158
Cap Entry Lane, veh/h	1176	1362	1007	1054
Entry HV Adj Factor	0.982	0.980	1.000	0.981
Flow Entry, veh/h	167	538	18	155
Cap Entry, veh/h	1154	1335	1007	1034
V/C Ratio	0.145	0.403	0.018	0.150
Control Delay, s/veh	4.4	6.5	3.7	4.8
LOS	A	A	A	A
95th %tile Queue, veh	1	2	0	1

Intersection												
Int Delay, s/veh	6.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	4	2	15	8	3	3	8	14	0	6	1
Future Vol, veh/h	0	4	2	15	8	3	3	8	14	0	6	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	38	38	38	53	53	53	100	100	100	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	11	5	28	15	6	3	8	14	0	7	1
Major/Minor	Minor2		Minor1			Major1			Major2			
Conflicting Flow All	40	36	8	37	29	15	8	0	0	22	0	0
Stage 1	8	8	-	21	21	-	-	-	-	-	-	-
Stage 2	32	28	-	16	8	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
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	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	964	856	1074	968	864	1065	1612	-	-	1593	-	-
Stage 1	1013	889	-	998	878	-	-	-	-	-	-	-
Stage 2	984	872	-	1004	889	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	945	854	1074	953	862	1065	1612	-	-	1593	-	-
Mov Cap-2 Maneuver	945	854	-	953	862	-	-	-	-	-	-	-
Stage 1	1011	889	-	996	876	-	-	-	-	-	-	-
Stage 2	960	870	-	987	889	-	-	-	-	-	-	-
Approach	EB		WB			NB			SB			
HCM Control Delay, s	9		9.1			0.9			0			
HCM LOS	A		A									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	1612	-	-	917 934	1593	-	-					
HCM Lane V/C Ratio	0.002	-	-	0.017 0.053	-	-	-					
HCM Control Delay (s)	7.2	0	-	9 9.1	0	-	-					
HCM Lane LOS	A	A	-	A A	A	-	-					
HCM 95th %tile Q(veh)	0	-	-	0.1 0.2	0	-	-					




HCM 6th TWSC
6: Long Valley Dr & Forest Lakes Dr

Short-Term Total Traffic
AM Peak Hour

Intersection						
Int Delay, s/veh	0.7					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	209	1	5	67	2	15
Future Vol, veh/h	209	1	5	67	2	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	-	-	72	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	227	1	5	73	2	16
Major/Minor	Major1	Major2		Minor1		
Conflicting Flow All	0	0	228	0	311	228
Stage 1	-	-	-	-	228	-
Stage 2	-	-	-	-	83	-
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	-	-	1340	-	681	811
Stage 1	-	-	-	-	810	-
Stage 2	-	-	-	-	940	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1340	-	678	811
Mov Cap-2 Maneuver	-	-	-	-	678	-
Stage 1	-	-	-	-	807	-
Stage 2	-	-	-	-	940	-
Approach	EB	WB		NB		
HCM Control Delay, s	0	0.5		9.6		
HCM LOS	A					
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	793	-	-	1340	-	
HCM Lane V/C Ratio	0.023	-	-	0.004	-	
HCM Control Delay (s)	9.6	-	-	7.7	-	
HCM Lane LOS	A	-	-	A	-	
HCM 95th %tile Q(veh)	0.1	-	-	0	-	

HCM 6th TWSC
9: Forest Lakes Dr & Mesa Top Dr

Short-Term Total Traffic
AM Peak Hour

Intersection						
Int Delay, s/veh	4.5					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	36	21	1	107	60	0
Future Vol, veh/h	36	21	1	107	60	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	39	23	1	116	65	0
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	189	59	0	0	117	0
Stage 1	59	-	-	-	-	-
Stage 2	130	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	800	1007	-	-	1471	-
Stage 1	964	-	-	-	-	-
Stage 2	896	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	765	1007	-	-	1471	-
Mov Cap-2 Maneuver	765	-	-	-	-	-
Stage 1	922	-	-	-	-	-
Stage 2	896	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	9.6	0		7.6		
HCM LOS	A					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT		
Capacity (veh/h)	-	-	839	1471	-	
HCM Lane V/C Ratio	-	-	0.074	0.044	-	
HCM Control Delay (s)	-	-	9.6	7.6	0	
HCM Lane LOS	-	-	A	A	A	
HCM 95th %tile Q(veh)	-	-	0.2	0.1	-	

HCM 6th TWSC
19: Lindbergh Rd & Spaatz Rd

Short-Term Total Traffic
AM Peak Hour

Intersection												
Int Delay, s/veh	3.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	1	1	4	6	0	0	0	17	0	0	20	1
Future Vol, veh/h	1	1	4	6	0	0	0	17	0	0	20	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	38	38	38	75	75	75	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	3	3	11	8	0	0	0	17	0	0	20	1
Major/Minor	Minor2		Minor1			Major1			Major2			
Conflicting Flow All	38	38	21	45	38	17	21	0	0	17	0	0
Stage 1	21	21	-	17	17	-	-	-	-	-	-	-
Stage 2	17	17	-	28	21	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
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	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	967	854	1056	957	854	1062	1595	-	-	1600	-	-
Stage 1	998	878	-	1002	881	-	-	-	-	-	-	-
Stage 2	1002	881	-	989	878	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	967	854	1056	946	854	1062	1595	-	-	1600	-	-
Mov Cap-2 Maneuver	967	854	-	946	854	-	-	-	-	-	-	-
Stage 1	998	878	-	1002	881	-	-	-	-	-	-	-
Stage 2	1002	881	-	976	878	-	-	-	-	-	-	-
Approach	EB		WB			NB			SB			
HCM Control Delay, s	8.7		8.8			0			0			
HCM LOS	A		A									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR				
Capacity (veh/h)	1595	-	-	1001	946	1600	-	-				
HCM Lane V/C Ratio	-	-	-	0.016	0.008	-	-	-				
HCM Control Delay (s)	0	-	-	8.7	8.8	0	-	-				
HCM Lane LOS	A	-	-	A	A	A	-	-				
HCM 95th %tile Q(veh)	0	-	-	0	0	0	-	-				

HCM 6th Roundabout
21: Woodcarver Rd/Old Denver Rd & Baptist Rd






Short-Term Total Traffic
AM Peak Hour

Intersection				
Intersection Delay, s/veh	5.3			
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	314	330	11	196
Demand Flow Rate, veh/h	321	336	11	199
Vehicles Circulating, veh/h	199	32	495	181
Vehicles Exiting, veh/h	181	474	25	187
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	6.0	4.9	4.5	4.7
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	321	336	11	199
Cap Entry Lane, veh/h	1126	1336	833	1147
Entry HV Adj Factor	0.979	0.982	0.996	0.984
Flow Entry, veh/h	314	330	11	196
Cap Entry, veh/h	1103	1311	830	1129
V/C Ratio	0.285	0.252	0.013	0.173
Control Delay, s/veh	6.0	4.9	4.5	4.7
LOS	A	A	A	A
95th %tile Queue, veh	1	1	0	1

Intersection												
Int Delay, s/veh	4.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	5	8	8	2	0	2	1	14	0	7	1
Future Vol, veh/h	0	5	8	8	2	0	2	1	14	0	7	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	81	81	81	75	75	75	100	100	100	67	67	67
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	6	10	11	3	0	2	1	14	0	10	1
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	25	30	11	31	23	8	11	0	0	15	0	0
Stage 1	11	11	-	12	12	-	-	-	-	-	-	-
Stage 2	14	19	-	19	11	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
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	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	986	863	1070	977	870	1074	1608	-	-	1603	-	-
Stage 1	1010	886	-	1009	886	-	-	-	-	-	-	-
Stage 2	1006	880	-	1000	886	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	983	862	1070	962	869	1074	1608	-	-	1603	-	-
Mov Cap-2 Maneuver	983	862	-	962	869	-	-	-	-	-	-	-
Stage 1	1009	886	-	1008	885	-	-	-	-	-	-	-
Stage 2	1002	879	-	984	886	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	8.7		8.9		0.9		0					
HCM LOS	A		A									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR				
Capacity (veh/h)	1608	-	-	979	942	1603	-	-				
HCM Lane V/C Ratio	0.001	-	-	0.016	0.014	-	-	-				
HCM Control Delay (s)	7.2	0	-	8.7	8.9	0	-	-				
HCM Lane LOS	A	A	-	A	A	A	-	-				
HCM 95th %tile Q(veh)	0	-	-	0.1	0	0	-	-				




HCM 6th TWSC
6: Long Valley Dr & Forest Lakes Dr

Short-Term Total Traffic
PM Peak Hour

Intersection						
Int Delay, s/veh	0.5					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	147	2	17	235	1	9
Future Vol, veh/h	147	2	17	235	1	9
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	72	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	160	2	18	255	1	10
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	162	0	452	161
Stage 1	-	-	-	-	161	-
Stage 2	-	-	-	-	291	-
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	-	-	1417	-	565	884
Stage 1	-	-	-	-	868	-
Stage 2	-	-	-	-	759	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1417	-	558	884
Mov Cap-2 Maneuver	-	-	-	-	558	-
Stage 1	-	-	-	-	857	-
Stage 2	-	-	-	-	759	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		0.5		9.4	
HCM LOS					A	
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	835	-	-	1417	-	
HCM Lane V/C Ratio	0.013	-	-	0.013	-	
HCM Control Delay (s)	9.4	-	-	7.6	-	
HCM Lane LOS	A	-	-	A	-	
HCM 95th %tile Q(veh)	0	-	-	0	-	

HCM 6th TWSC
9: Forest Lakes Dr & Mesa Top Dr

Short-Term Total Traffic
PM Peak Hour

Intersection						
Int Delay, s/veh	7.5					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	121	68	1	70	53	1
Future Vol, veh/h	121	68	1	70	53	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	132	74	1	76	58	1
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	156	39	0	0	77	0
Stage 1	39	-	-	-	-	-
Stage 2	117	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	835	1033	-	-	1522	-
Stage 1	983	-	-	-	-	-
Stage 2	908	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	803	1033	-	-	1522	-
Mov Cap-2 Maneuver	803	-	-	-	-	-
Stage 1	946	-	-	-	-	-
Stage 2	908	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	10.4	0		7.3		
HCM LOS	B					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT		
Capacity (veh/h)	-	-	873	1522	-	
HCM Lane V/C Ratio	-	-	0.235	0.038	-	
HCM Control Delay (s)	-	-	10.4	7.5	0	
HCM Lane LOS	-	-	B	A	A	
HCM 95th %tile Q(veh)	-	-	0.9	0.1	-	

HCM 6th TWSC
19: Lindbergh Rd & Spaatz Rd

Short-Term Total Traffic
PM Peak Hour

Intersection												
Int Delay, s/veh	2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	1	0	1	8	0	0	4	27	5	0	31	1
Future Vol, veh/h	1	0	1	8	0	0	4	27	5	0	31	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	50	50	50	100	100	100	75	75	75
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	0	1	16	0	0	4	27	5	0	41	1

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	80	82	42	80	80	30	42	0	0	32	0	0
Stage 1	42	42	-	38	38	-	-	-	-	-	-	-
Stage 2	38	40	-	42	42	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
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	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	908	808	1029	908	810	1044	1567	-	-	1580	-	-
Stage 1	972	860	-	977	863	-	-	-	-	-	-	-
Stage 2	977	862	-	972	860	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	906	806	1029	905	808	1044	1567	-	-	1580	-	-
Mov Cap-2 Maneuver	906	806	-	905	808	-	-	-	-	-	-	-
Stage 1	969	860	-	974	860	-	-	-	-	-	-	-
Stage 2	974	859	-	971	860	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	8.7	9	0.8	0
HCM LOS	A	A		






Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1567	-	-	964 905	1580	-	-
HCM Lane V/C Ratio	0.003	-	-	0.002 0.018	-	-	-
HCM Control Delay (s)	7.3	0	-	8.7 9	0	-	-
HCM Lane LOS	A	A	-	A A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0 0.1	0	-	-




HCM 6th Roundabout
21: Woodcarver Rd/Old Denver Rd & Baptist Rd





Short-Term Total Traffic
PM Peak Hour

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	249	692	18	170
Demand Flow Rate, veh/h	254	706	18	174
Vehicles Circulating, veh/h	157	22	393	421
Vehicles Exiting, veh/h	438	389	18	307
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	5.1	8.3	4.1	6.1
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	254	706	18	174
Cap Entry Lane, veh/h	1176	1349	924	898
Entry HV Adj Factor	0.982	0.980	1.000	0.977
Flow Entry, veh/h	249	692	18	170
Cap Entry, veh/h	1155	1323	924	877
V/C Ratio	0.216	0.523	0.019	0.194
Control Delay, s/veh	5.1	8.3	4.1	6.1
LOS	A	A	A	A
95th %tile Queue, veh	1	3	0	1

Intersection												
Int Delay, s/veh	6.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	4	2	22	8	3	3	8	18	0	6	1
Future Vol, veh/h	0	4	2	22	8	3	3	8	18	0	6	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	38	38	38	53	53	53	100	100	100	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	11	5	42	15	6	3	8	18	0	7	1
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	42	40	8	39	31	17	8	0	0	26	0	0
Stage 1	8	8	-	23	23	-	-	-	-	-	-	-
Stage 2	34	32	-	16	8	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
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	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	961	852	1074	966	862	1062	1612	-	-	1588	-	-
Stage 1	1013	889	-	995	876	-	-	-	-	-	-	-
Stage 2	982	868	-	1004	889	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	942	850	1074	951	860	1062	1612	-	-	1588	-	-
Mov Cap-2 Maneuver	942	850	-	951	860	-	-	-	-	-	-	-
Stage 1	1011	889	-	993	874	-	-	-	-	-	-	-
Stage 2	958	866	-	987	889	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	9		9.1		0.7		0					
HCM LOS	A		A									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR				
Capacity (veh/h)	1612	-	-	914	936	1588	-	-				
HCM Lane V/C Ratio	0.002	-	-	0.017	0.067	-	-	-				
HCM Control Delay (s)	7.2	0	-	9	9.1	0	-	-				
HCM Lane LOS	A	A	-	A	A	A	-	-				
HCM 95th %tile Q(veh)	0	-	-	0.1	0.2	0	-	-				

Intersection						
Int Delay, s/veh	1.9					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	161	7	11	106	18	38
Future Vol, veh/h	161	7	11	106	18	38
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	72	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	175	8	12	115	20	41
Major/Minor	Major1	Major2		Minor1		
Conflicting Flow All	0	0	183	0	318	179
Stage 1	-	-	-	-	179	-
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	-	-	1392	-	675	864
Stage 1	-	-	-	-	852	-
Stage 2	-	-	-	-	888	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1392	-	669	864
Mov Cap-2 Maneuver	-	-	-	-	669	-
Stage 1	-	-	-	-	844	-
Stage 2	-	-	-	-	888	-
Approach	EB	WB		NB		
HCM Control Delay, s	0	0.7		9.9		
HCM LOS	A					
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	790	-	-	1392	-	
HCM Lane V/C Ratio	0.077	-	-	0.009	-	
HCM Control Delay (s)	9.9	-	-	7.6	-	
HCM Lane LOS	A	-	-	A	-	
HCM 95th %tile Q(veh)	0.2	-	-	0	-	

Intersection						
Int Delay, s/veh	7.4					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	2	27	0	4	62	0
Future Vol, veh/h	2	27	0	4	62	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	2	29	0	4	67	0
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	136	2	0	0	4	0
Stage 1	2	-	-	-	-	-
Stage 2	134	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	857	1082	-	-	1618	-
Stage 1	1021	-	-	-	-	-
Stage 2	892	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	822	1082	-	-	1618	-
Mov Cap-2 Maneuver	822	-	-	-	-	-
Stage 1	979	-	-	-	-	-
Stage 2	892	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	8.5	0		7.3		
HCM LOS	A					
Minor Lane/Major Mvmt	NBT	NBRWBLn1		SBL	SBT	
Capacity (veh/h)	-	- 1059		1618	-	
HCM Lane V/C Ratio	-	- 0.03		0.042	-	
HCM Control Delay (s)	-	- 8.5		7.3	0	
HCM Lane LOS	-	- A		A	A	
HCM 95th %tile Q(veh)	-	- 0.1		0.1	-	

Intersection												
Int Delay, s/veh	2.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	1	4	6	0	0	0	23	0	0	40	1
Future Vol, veh/h	1	1	4	6	0	0	0	23	0	0	40	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	38	38	38	75	75	75	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	3	3	11	8	0	0	0	23	0	0	40	1
Major/Minor	Minor2		Minor1			Major1			Major2			
Conflicting Flow All	64	64	41	71	64	23	41	0	0	23	0	0
Stage 1	41	41	-	23	23	-	-	-	-	-	-	-
Stage 2	23	23	-	48	41	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
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	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	930	827	1030	920	827	1054	1568	-	-	1592	-	-
Stage 1	974	861	-	995	876	-	-	-	-	-	-	-
Stage 2	995	876	-	965	861	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	930	827	1030	908	827	1054	1568	-	-	1592	-	-
Mov Cap-2 Maneuver	930	827	-	908	827	-	-	-	-	-	-	-
Stage 1	974	861	-	995	876	-	-	-	-	-	-	-
Stage 2	995	876	-	952	861	-	-	-	-	-	-	-
Approach	EB		WB			NB			SB			
HCM Control Delay, s	8.8		9			0			0			
HCM LOS	A		A									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	1568	-	-	973 908	1592	-	-					
HCM Lane V/C Ratio	-	-	-	0.016 0.009	-	-	-					
HCM Control Delay (s)	0	-	-	8.8 9	0	-	-					
HCM Lane LOS	A	-	-	A A	A	-	-					
HCM 95th %tile Q(veh)	0	-	-	0 0	0	-	-					

HCM 6th Roundabout
21: Woodcarver Rd/Old Denver Rd & Baptist Rd

2040 Background Traffic
AM Peak Hour






Intersection				
Intersection Delay, s/veh	8.2			
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	346	611	118	345
Demand Flow Rate, veh/h	352	622	120	352
Vehicles Circulating, veh/h	511	41	648	356
Vehicles Exiting, veh/h	197	727	215	307
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	9.9	7.6	7.0	7.9
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	352	622	120	352
Cap Entry Lane, veh/h	819	1323	713	960
Entry HV Adj Factor	0.982	0.982	0.981	0.981
Flow Entry, veh/h	346	611	118	345
Cap Entry, veh/h	805	1299	699	942
V/C Ratio	0.430	0.470	0.168	0.367
Control Delay, s/veh	9.9	7.6	7.0	7.9
LOS	A	A	A	A
95th %tile Queue, veh	2	3	1	2




Intersection												
Int Delay, s/veh	5.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	5	8	28	2	0	2	1	20	0	7	1
Future Vol, veh/h	0	5	8	28	2	0	2	1	20	0	7	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	81	81	81	75	75	75	100	100	100	67	67	67
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	6	10	37	3	0	2	1	20	0	10	1





Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	28	36	11	34	26	11	11	0	0	21	0	0
Stage 1	11	11	-	15	15	-	-	-	-	-	-	-
Stage 2	17	25	-	19	11	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
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	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	981	856	1070	973	867	1070	1608	-	-	1595	-	-
Stage 1	1010	886	-	1005	883	-	-	-	-	-	-	-
Stage 2	1002	874	-	1000	886	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	978	855	1070	958	866	1070	1608	-	-	1595	-	-
Mov Cap-2 Maneuver	978	855	-	958	866	-	-	-	-	-	-	-
Stage 1	1009	886	-	1004	882	-	-	-	-	-	-	-
Stage 2	998	873	-	984	886	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	8.8	9	0.6	0
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1608	-	-	976 951	1595	-	-
HCM Lane V/C Ratio	0.001	-	-	0.016 0.042	-	-	-
HCM Control Delay (s)	7.2	0	-	8.8 9	0	-	-
HCM Lane LOS	A	A	-	A A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.1 0.1	0	-	-

Intersection						
Int Delay, s/veh	2.2					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	94	8	50	127	5	30
Future Vol, veh/h	94	8	50	127	5	30
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	72	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	102	9	54	138	5	33
Major/Minor	Major1	Major2		Minor1		
Conflicting Flow All	0	0	111	0	353	107
Stage 1	-	-	-	-	107	-
Stage 2	-	-	-	-	246	-
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	-	-	1479	-	645	947
Stage 1	-	-	-	-	917	-
Stage 2	-	-	-	-	795	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1479	-	621	947
Mov Cap-2 Maneuver	-	-	-	-	621	-
Stage 1	-	-	-	-	883	-
Stage 2	-	-	-	-	795	-
Approach	EB	WB		NB		
HCM Control Delay, s	0	2.1		9.3		
HCM LOS	A					
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	881	-	-	1479	-	
HCM Lane V/C Ratio	0.043	-	-	0.037	-	
HCM Control Delay (s)	9.3	-	-	7.5	-	
HCM Lane LOS	A	-	-	A	-	
HCM 95th %tile Q(veh)	0.1	-	-	0.1	-	





Intersection						
Int Delay, s/veh	7.9					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	6	59	0	3	50	0
Future Vol, veh/h	6	59	0	3	50	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	7	64	0	3	54	0
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	110	2	0	0	3	0
Stage 1	2	-	-	-	-	-
Stage 2	108	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	887	1082	-	-	1619	-
Stage 1	1021	-	-	-	-	-
Stage 2	916	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	858	1082	-	-	1619	-
Mov Cap-2 Maneuver	858	-	-	-	-	-
Stage 1	987	-	-	-	-	-
Stage 2	916	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	8.7	0		7.3		
HCM LOS	A					
Minor Lane/Major Mvmt	NBT	NBRWBLn1		SBL	SBT	
Capacity (veh/h)	-	- 1057		1619	-	
HCM Lane V/C Ratio	-	- 0.067		0.034	-	
HCM Control Delay (s)	-	- 8.7		7.3	0	
HCM Lane LOS	-	- A		A	A	
HCM 95th %tile Q(veh)	-	- 0.2		0.1	-	

Intersection												
Int Delay, s/veh	1.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	0	1	8	0	0	4	33	5	0	32	1
Future Vol, veh/h	1	0	1	8	0	0	4	33	5	0	32	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	50	50	50	100	100	100	75	75	75
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	0	1	16	0	0	4	33	5	0	43	1
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	88	90	44	88	88	36	44	0	0	38	0	0
Stage 1	44	44	-	44	44	-	-	-	-	-	-	-
Stage 2	44	46	-	44	44	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
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	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	897	800	1026	897	802	1037	1564	-	-	1572	-	-
Stage 1	970	858	-	970	858	-	-	-	-	-	-	-
Stage 2	970	857	-	970	858	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	895	798	1026	894	800	1037	1564	-	-	1572	-	-
Mov Cap-2 Maneuver	895	798	-	894	800	-	-	-	-	-	-	-
Stage 1	967	858	-	967	855	-	-	-	-	-	-	-
Stage 2	967	854	-	969	858	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	8.8		9.1		0.7		0					
HCM LOS	A		A									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	1564	-	-	956	894	1572	-	-				
HCM Lane V/C Ratio	0.003	-	-	0.002	0.018	-	-	-				
HCM Control Delay (s)	7.3	0	-	8.8	9.1	0	-	-				
HCM Lane LOS	A	A	-	A	A	A	-	-				
HCM 95th %tile Q(veh)	0	-	-	0	0.1	0	-	-				

HCM 6th Roundabout
21: Woodcarver Rd/Old Denver Rd & Baptist Rd






2040 Background Traffic
PM Peak Hour

Intersection				
Intersection Delay, s/veh	10.2			
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	261	846	217	369
Demand Flow Rate, veh/h	266	864	222	377
Vehicles Circulating, veh/h	484	53	596	475
Vehicles Exiting, veh/h	368	765	154	442
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	7.9	11.4	8.4	10.0
Approach LOS	A	B	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	266	864	222	377
Cap Entry Lane, veh/h	842	1307	751	850
Entry HV Adj Factor	0.982	0.980	0.980	0.978
Flow Entry, veh/h	261	846	217	369
Cap Entry, veh/h	827	1281	736	831
V/C Ratio	0.316	0.661	0.295	0.444
Control Delay, s/veh	7.9	11.4	8.4	10.0
LOS	A	B	A	A
95th %tile Queue, veh	1	5	1	2

Intersection												
Int Delay, s/veh	6.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	4	2	23	8	3	3	8	24	0	6	1
Future Vol, veh/h	0	4	2	23	8	3	3	8	24	0	6	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	38	38	38	53	53	53	100	100	100	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	11	5	43	15	6	3	8	24	0	7	1
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	45	46	8	42	34	20	8	0	0	32	0	0
Stage 1	8	8	-	26	26	-	-	-	-	-	-	-
Stage 2	37	38	-	16	8	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
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	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	957	846	1074	961	859	1058	1612	-	-	1580	-	-
Stage 1	1013	889	-	992	874	-	-	-	-	-	-	-
Stage 2	978	863	-	1004	889	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	938	844	1074	946	857	1058	1612	-	-	1580	-	-
Mov Cap-2 Maneuver	938	844	-	946	857	-	-	-	-	-	-	-
Stage 1	1011	889	-	990	872	-	-	-	-	-	-	-
Stage 2	954	861	-	987	889	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	9		9.1		0.6		0					
HCM LOS	A		A									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	1612	-	-	909	932	1580	-	-				
HCM Lane V/C Ratio	0.002	-	-	0.017	0.069	-	-	-				
HCM Control Delay (s)	7.2	0	-	9	9.1	0	-	-				
HCM Lane LOS	A	A	-	A	A	A	-	-				
HCM 95th %tile Q(veh)	0	-	-	0.1	0.2	0	-	-				

HCM 6th TWSC
6: Long Valley Dr & Forest Lakes Dr

2040 Total Traffic
AM Peak Hour




Intersection						
Int Delay, s/veh	1.5					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	260	7	11	136	18	38
Future Vol, veh/h	260	7	11	136	18	38
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	72	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	283	8	12	148	20	41
Major/Minor	Major1	Major2		Minor1		
Conflicting Flow All	0	0	291	0	459	287
Stage 1	-	-	-	-	287	-
Stage 2	-	-	-	-	172	-
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	-	-	1271	-	560	752
Stage 1	-	-	-	-	762	-
Stage 2	-	-	-	-	858	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1271	-	555	752
Mov Cap-2 Maneuver	-	-	-	-	555	-
Stage 1	-	-	-	-	755	-
Stage 2	-	-	-	-	858	-
Approach	EB	WB		NB		
HCM Control Delay, s	0	0.6		10.9		
HCM LOS	B					
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	675	-	-	1271	-	
HCM Lane V/C Ratio	0.09	-	-	0.009	-	
HCM Control Delay (s)	10.9	-	-	7.9	-	
HCM Lane LOS	B	-	-	A	-	
HCM 95th %tile Q(veh)	0.3	-	-	0	-	

HCM 6th TWSC
9: Forest Lakes Dr & Mesa Top Dr

2040 Total Traffic
AM Peak Hour

Intersection

Int Delay, s/veh 4.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	39	32	1	112	78	0
Future Vol, veh/h	39	32	1	112	78	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	42	35	1	122	85	0

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	232	62	0
Stage 1	62	-	-
Stage 2	170	-	-
Critical Hdwy	6.42	6.22	-
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	-
Pot Cap-1 Maneuver	756	1003	-
Stage 1	961	-	-
Stage 2	860	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	712	1003	-
Mov Cap-2 Maneuver	712	-	-
Stage 1	905	-	-
Stage 2	860	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.9	0	7.6
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	819	1464
HCM Lane V/C Ratio	-	-	0.094	0.058
HCM Control Delay (s)	-	-	9.9	7.6
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0.3	0.2

HCM 6th TWSC
19: Lindbergh Rd & Spaatz Rd

2040 Total Traffic
AM Peak Hour

Intersection												
Int Delay, s/veh	2.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	1	1	4	6	0	0	0	28	0	0	42	1
Future Vol, veh/h	1	1	4	6	0	0	0	28	0	0	42	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	38	38	38	75	75	75	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	3	3	11	8	0	0	0	28	0	0	42	1

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	71	71	43	78	71	28	43	0	0	28	0	0
Stage 1	43	43	-	28	28	-	-	-	-	-	-	-
Stage 2	28	28	-	50	43	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
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	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	920	819	1027	911	819	1047	1566	-	-	1585	-	-
Stage 1	971	859	-	989	872	-	-	-	-	-	-	-
Stage 2	989	872	-	963	859	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	920	819	1027	899	819	1047	1566	-	-	1585	-	-
Mov Cap-2 Maneuver	920	819	-	899	819	-	-	-	-	-	-	-
Stage 1	971	859	-	989	872	-	-	-	-	-	-	-
Stage 2	989	872	-	950	859	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	8.8	9	0	0
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1566	-	-	967 899	1585	-	-
HCM Lane V/C Ratio	-	-	-	0.016 0.009	-	-	-
HCM Control Delay (s)	0	-	-	8.8 9	0	-	-
HCM Lane LOS	A	-	-	A A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.1 0	0	-	-

HCM 6th Roundabout
21: Woodcarver Rd/Old Denver Rd & Baptist Rd

2040 Total Traffic
AM Peak Hour

Intersection				
Intersection Delay, s/veh	9.5			
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	450	639	119	348
Demand Flow Rate, veh/h	459	651	121	355
Vehicles Circulating, veh/h	511	54	753	386
Vehicles Exiting, veh/h	230	820	217	319
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	12.8	8.1	8.0	8.3
Approach LOS	B	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	459	651	121	355
Cap Entry Lane, veh/h	819	1306	640	931
Entry HV Adj Factor	0.980	0.982	0.981	0.981
Flow Entry, veh/h	450	639	119	348
Cap Entry, veh/h	803	1282	628	913
V/C Ratio	0.560	0.499	0.189	0.381
Control Delay, s/veh	12.8	8.1	8.0	8.3
LOS	B	A	A	A
95th %tile Queue, veh	4	3	1	2

Intersection												
Int Delay, s/veh	5.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	5	8	30	2	0	2	1	25	0	7	1
Future Vol, veh/h	0	5	8	30	2	0	2	1	25	0	7	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	81	81	81	75	75	75	100	100	100	67	67	67
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	6	10	40	3	0	2	1	25	0	10	1






Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	30	41	11	37	29	14	11	0	0	26	0	0
Stage 1	11	11	-	18	18	-	-	-	-	-	-	-
Stage 2	19	30	-	19	11	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
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	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	979	851	1070	968	864	1066	1608	-	-	1588	-	-
Stage 1	1010	886	-	1001	880	-	-	-	-	-	-	-
Stage 2	1000	870	-	1000	886	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	976	850	1070	953	863	1066	1608	-	-	1588	-	-
Mov Cap-2 Maneuver	976	850	-	953	863	-	-	-	-	-	-	-
Stage 1	1009	886	-	1000	879	-	-	-	-	-	-	-
Stage 2	996	869	-	984	886	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	8.8	9	0.5	0
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1608	-	-	973 947	1588	-	-
HCM Lane V/C Ratio	0.001	-	-	0.016 0.045	-	-	-
HCM Control Delay (s)	7.2	0	-	8.8 9	0	-	-
HCM Lane LOS	A	A	-	A A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.1 0.1	0	-	-




HCM 6th TWSC
6: Long Valley Dr & Forest Lakes Dr

2040 Total Traffic
PM Peak Hour

Intersection						
Int Delay, s/veh	1.4					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	172	8	50	257	5	30
Future Vol, veh/h	172	8	50	257	5	30
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	72	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	187	9	54	279	5	33
Major/Minor	Major1	Major2		Minor1		
Conflicting Flow All	0	0	196	0	579	192
Stage 1	-	-	-	-	192	-
Stage 2	-	-	-	-	387	-
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	-	-	1377	-	477	850
Stage 1	-	-	-	-	841	-
Stage 2	-	-	-	-	686	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1377	-	458	850
Mov Cap-2 Maneuver	-	-	-	-	458	-
Stage 1	-	-	-	-	808	-
Stage 2	-	-	-	-	686	-
Approach	EB	WB		NB		
HCM Control Delay, s	0	1.3		10		
HCM LOS	B					
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	757	-	-	1377	-	
HCM Lane V/C Ratio	0.05	-	-	0.039	-	
HCM Control Delay (s)	10	-	-	7.7	-	
HCM Lane LOS	B	-	-	A	-	
HCM 95th %tile Q(veh)	0.2	-	-	0.1	-	

HCM 6th TWSC
9: Forest Lakes Dr & Mesa Top Dr

2040 Total Traffic
PM Peak Hour

Intersection						
Int Delay, s/veh	7.7					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	123	80	1	72	62	1
Future Vol, veh/h	123	80	1	72	62	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	134	87	1	78	67	1
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	175	40	0	0	79	0
Stage 1	40	-	-	-	-	-
Stage 2	135	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	815	1031	-	-	1519	-
Stage 1	982	-	-	-	-	-
Stage 2	891	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	779	1031	-	-	1519	-
Mov Cap-2 Maneuver	779	-	-	-	-	-
Stage 1	939	-	-	-	-	-
Stage 2	891	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	10.6	0	7.4			
HCM LOS	B					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT		
Capacity (veh/h)	-	-	862	1519	-	
HCM Lane V/C Ratio	-	-	0.256	0.044	-	
HCM Control Delay (s)	-	-	10.6	7.5	0	
HCM Lane LOS	-	-	B	A	A	
HCM 95th %tile Q(veh)	-	-	1	0.1	-	

HCM 6th TWSC
19: Lindbergh Rd & Spaatz Rd

2040 Total Traffic
PM Peak Hour

Intersection												
Int Delay, s/veh	1.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	1	0	1	8	0	0	4	37	5	0	39	1
Future Vol, veh/h	1	0	1	8	0	0	4	37	5	0	39	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	50	50	50	100	100	100	75	75	75
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	0	1	16	0	0	4	37	5	0	52	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	101	103	53	101	101	40	53	0	0	42	0	0
Stage 1	53	53	-	48	48	-	-	-	-	-	-	-
Stage 2	48	50	-	53	53	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
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	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	880	787	1014	880	789	1031	1553	-	-	1567	-	-
Stage 1	960	851	-	965	855	-	-	-	-	-	-	-
Stage 2	965	853	-	960	851	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	878	785	1014	877	787	1031	1553	-	-	1567	-	-
Mov Cap-2 Maneuver	878	785	-	877	787	-	-	-	-	-	-	-
Stage 1	957	851	-	962	852	-	-	-	-	-	-	-
Stage 2	962	850	-	959	851	-	-	-	-	-	-	-





Approach	EB			WB			NB			SB		
HCM Control Delay, s	8.8			9.2			0.6			0		
HCM LOS	A			A								

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1553	-	-	941 877	1567	-	-
HCM Lane V/C Ratio	0.003	-	-	0.002 0.018	-	-	-
HCM Control Delay (s)	7.3	0	-	8.8 9.2	0	-	-
HCM Lane LOS	A	A	-	A A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0 0.1	0	-	-

HCM 6th Roundabout
21: Woodcarver Rd/Old Denver Rd & Baptist Rd

2040 Total Traffic
PM Peak Hour

Intersection				
Intersection Delay, s/veh	13.1			
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	344	967	219	384
Demand Flow Rate, veh/h	351	987	224	392
Vehicles Circulating, veh/h	484	65	679	600
Vehicles Exiting, veh/h	508	838	156	452
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	9.5	15.2	9.5	12.8
Approach LOS	A	C	A	B
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	351	987	224	392
Cap Entry Lane, veh/h	842	1291	690	748
Entry HV Adj Factor	0.979	0.980	0.980	0.979
Flow Entry, veh/h	344	967	219	384
Cap Entry, veh/h	825	1265	676	732
V/C Ratio	0.417	0.764	0.324	0.524
Control Delay, s/veh	9.5	15.2	9.5	12.8
LOS	A	C	A	B
95th %tile Queue, veh	2	8	1	3

Intersection												
Int Delay, s/veh	6.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	4	2	30	8	3	3	8	28	0	6	1
Future Vol, veh/h	0	4	2	30	8	3	3	8	28	0	6	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	38	38	38	53	53	53	100	100	100	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	11	5	57	15	6	3	8	28	0	7	1
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	47	50	8	44	36	22	8	0	0	36	0	0
Stage 1	8	8	-	28	28	-	-	-	-	-	-	-
Stage 2	39	42	-	16	8	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
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	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	954	841	1074	958	856	1055	1612	-	-	1575	-	-
Stage 1	1013	889	-	989	872	-	-	-	-	-	-	-
Stage 2	976	860	-	1004	889	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	935	839	1074	943	854	1055	1612	-	-	1575	-	-
Mov Cap-2 Maneuver	935	839	-	943	854	-	-	-	-	-	-	-
Stage 1	1011	889	-	987	870	-	-	-	-	-	-	-
Stage 2	952	858	-	987	889	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	9		9.2		0.6		0					
HCM LOS	A		A									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	1612	-	-	905	931	1575	-	-				
HCM Lane V/C Ratio	0.002	-	-	0.017	0.083	-	-	-				
HCM Control Delay (s)	7.2	0	-	9	9.2	0	-	-				
HCM Lane LOS	A	A	-	A	A	A	-	-				
HCM 95th %tile Q(veh)	0	-	-	0.1	0.3	0	-	-				