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Flying Horse North
Updated Traffic Impact Analysis
(LSC #164050)

July 21, 2016

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 7/21/16

Developer's Statement

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


Drew Balsick
PRI #2, LLC
6385 Corporate Drive
Colorado Springs, CO 80919

Date 7-21-16

2
VERSION: 7/26/16
DATE: _____



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July 21, 2016

Mr. Drew Balsick
PRI #2, LLC
6385 Corporate Drive
Colorado Springs, CO 80919

RE: Flying Horse North
El Paso County, Colorado
Updated Traffic Impact Analysis
LSC #164050

Dear Drew:

LSC Transportation Consultants, Inc. has prepared this updated traffic impact study for the proposed Flying Horse North at Shamrock Ranch development. As shown in Figure 1, the site is located generally south of Hodgen Road and west of Black Forest Road in El Paso County, Colorado.

LAND USE AND ACCESS

The Flying Horse North at Shamrock Ranch site is located south of Hodgen Road and west of Black Forest Road. A narrow portion of the site extends west to State Highway 83/Stagecoach Road. At buildout, the site is planned to contain 283 single-family homes and an 18-hole golf course. The site plan is shown in Figure 2a.

Access

Access is proposed via a new east/west road (Stagecoach Road) that would extend from SH 83 at an existing full-movement access for the Westcott Fire Station No. 2, which aligns with Stagecoach Road, to Black Forest Road aligning with the north intersection of Terra Ridge Circle. Access would also be provided via an extension of Holmes Road into the site.

Additionally, full-movement access is proposed to Hodgen Road about 1,340 feet west of Black Forest Road. Three full-movement access points are proposed to Black Forest Road aligning with Monty Place, aligning with Alpaca Heights, and about 725 feet south of Black Forest/Terra Ridge Circle (south). Per the *El Paso County Engineering Criteria Manual (ECM)* the minimum intersection spacing on both Hodgen Road and Black Forest Road is 1,320 feet. The south access point to Black Forest Road will require a deviation to this criteria.

Phasing

The project would be completed in phases. The phasing plan is shown in Figure 2b. Stagecoach Road is initially planned to be built east from SH 83 about two miles to serve Phase 1 and west from Black Forest Road about 1,600 feet to serve Phase 2. An emergency road will be constructed between these two sections. Stagecoach Road will be improved adjacent to Phase 3 with that phase and completed with Phase 4.

The extension of Holmes Road north through the site to Stagecoach Road is not planned until Phase 9. The proposed south full-movement access to Black Forest Road is not planned until Phase 11. The proposed full-movement site access to Hodgen Road is not planned until Phase 12. The proposed full-movement access points to Black Forest Road aligning with Alpaca Heights and Monty Place are not planned until Phase 13.

ROADWAY AND TRAFFIC CONDITIONS

Area Roadways

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

- **Hodgen Road** is a two-lane paved Rural Minor Arterial road that extends east from the intersection of Roller Coaster Road/Baptist Road to Eastonville Road. The speed limit on Hodgen Road is generally 55 miles per hour (mph) east of SH 83.
- **State Highway (SH) 83** extends from Colorado Springs north to Parker and areas of southeast Denver. In the vicinity of the site, SH 83 is classified as a Regional Highway (R-A). At this location, SH 83 is a two-lane rural highway with two- to four-foot shoulders and a speed limit of 55 miles per hour (mph). The intersection with Hodgen Road is signalized.
- **Shoup Road** is a two-lane, paved Rural Minor Arterial road that extends east from SH 85 Highway (US) 83 to just east of Vollmer Road. The posted speed limit on Shoup Road is 45 mph.
- **Black Forest Road** is a two-lane, paved Rural Minor Arterial road that extends north from Woodmen Road to County Line Road. Black Forest Road is offset about one-quarter mile to the east at Hodgen Road. In the vicinity of the site the posted speed limit on Black Forest Road is 45 mph.
- **Holmes Road** is a rural local paved two-lane road that extends north from Shoup Road to just north of Vessey Road. Holmes Road is planned to be extended north into the site as part of this development. The posted speed limit on Homes Road is 30 mph.
- **Vessey Road** is a rural local paved two-lane road that extends east from the Cathedral Pines development to Black Forest Road.

Existing Traffic Conditions

Figure 3 shows the existing traffic volumes at the intersection of SH 83/Stagecoach based on traffic counts conducted by LSC in January 2016 and at the intersection of Hodgen/Black Forest (west) based on traffic counts conducted by LSC in December 2014. The traffic counts at Hodgen/Black Forest have not been recounted in 2016 due to the closure of Black Forest Road at Kettle Creek. The traffic count reports are attached. Figure 3 also shows CDOT annual average daily traffic volumes and LSC estimates of average daily traffic on County roads.

Existing Level of Service

Level of service (LOS) is a quantitative measure of the level of 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
	Control Delay (seconds per vehicle)	
A	10 sec or less	10 sec or less
B	10-20 sec	10-15 sec
C	20-35 sec	15-25 sec
D	35-55 sec	25-35 sec
E	55-80 sec	35-50 sec
F	80 sec or more	50 sec or more

The intersections of SH 83/Stagecoach and Hodgen/Black Forest (west) were analyzed to determine the existing levels of service during the peak hours based on the unsignalized method of analysis procedures outlined in the *Highway Capacity Manual, 2010 Edition* by the Transportation Research Board. The results of the level of service analysis are shown in Figure 2. The level of service reports are attached.

As shown on Figure 3, all movements at the intersections of SH 83/Stagecoach and Hodgen/Black Forest (west) are currently operating at level of service C or better during the peak hours.

BACKGROUND TRAFFIC

Background traffic is the traffic estimated for the existing and planned future roadways in the study area. These include the new roadways planned for Flying Horse North including Stagecoach Road

between SH 83 and Black Forest Road (completed with Phase 4) and the Holmes Road extension north to Stagecoach Road (not until Phase 9). Although background traffic estimates include the new on-site roadways, they do not include traffic to be generated by the site land uses (283 single-family homes and the golf course). Background traffic has been presented in this manner to clearly show estimates of non-site traffic volumes on the new roadway connections through this proposed development. Most of the traffic using the on-site roads—Stagecoach and Holmes north of its current terminus—represents a shift of local traffic volume from other current travel routes with the new routes through the Flying Horse North site. LSC does not anticipate use of the new on-site road connections by non-local-area traffic/through traffic.

Short Term

Flying Horse North is projected to plat about 10 to 20 lots per year. Based on this rate of development Phases One through Six are estimated to be built out between six and fourteen years, therefore a short-term horizon of 10 years was selected for the traffic analysis. Figure 4 shows the short-term (year 2026) background traffic volumes on the area roadway segments and at the intersections in the vicinity of the site. The short-term background traffic volumes assume Stagecoach Road built east from SH 83 about two miles to serve Phase 1 and west from Black Forest Road about 1,600 feet to serve Phase 2 only with a gravel pilot road/ungated emergency road between these two sections. The short-term background volumes also assume Holmes Road has not been extended north to Stagecoach Road. The background traffic volumes on SH 83 are estimates by LSC based on the Colorado Department of Transportation (CDOT) twenty-year growth factors for the section of SH 83 adjacent to the site. The background traffic volumes on Hodgen Road and Black Forest Road assume a growth rate of two percent per year. The short-term background traffic volumes on Hodgen Road and Black Forest assume the existing alignment of Black Forest Road at Hodgen Road.

Long Term

Figure 5 shows the 2040 background traffic volumes on the roadway segments and the intersections in the study area. The 2040 background traffic volumes assume completion of Stagecoach Road from SH 83 to Black Forest Road and the extension of Holmes Road north to Stagecoach Road. The background traffic volumes on SH 83 are estimates by LSC based on the Colorado Department of Transportation (CDOT) twenty-year growth factors for the section of SH 83 adjacent to the site. The background traffic volumes on Hodgen Road and Black Forest Road assume a growth rate of two percent per year. The 2040 background traffic volumes on Hodgen Road and Black Forest assume the existing alignment of Black Forest Road at Hodgen Road.

Level of Service Analysis

Figures 4 and 5 also present the results of the background traffic level of service analysis. The figures indicate LSC assumptions for the background condition, intersection traffic control, and lane geometry.

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 site's average weekday, morning peak-hour, and afternoon peak-hour trip generation estimates for Phases 1 and 2, Phases 1 through 6, and at buildout.

At buildout, the Flying Horse North at Shamrock Ranch site could be expected to generate about 3,337 new 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 typically occurs for one hour between 6:30 and 8:30 a.m., about 82 vehicles would enter and 167 vehicles would exit the site. During the afternoon peak hour, which typically occurs for one hour between 4:30 and 6:30 p.m., about 205 vehicles would enter and 130 vehicles would exit the site.

DIRECTIONAL DISTRIBUTION AND ASSIGNMENT

The directional distribution of the site-generated trips on the area roadway network is an important factor in determining the site's traffic impacts. Figure 6 shows directional distribution estimates for the site-generated trips. The estimates have been based on the following factors: the site's land uses, the roadway network and access connections, and the site's location with respect to the nearby employment, commercial centers, other residential areas, and the balance of the Colorado Springs metropolitan area.

When the distribution percentages in Figure 6 are applied to the trip generation estimates shown in Table 2, the site-generated traffic volumes on the area roadways can be determined. The site-generated traffic volumes are shown in Figures 7, 8, 9a, and 9b. The figures also show average weekday traffic volumes on the internal and off-site roadways.

Figure 7 shows the Phase 1 and Phase 2 site-generated traffic volumes. The Phase 1 and Phase 2 site-generated traffic volume estimates assume Stagecoach Road built east from SH 83 about two miles to serve Phase 1 and west from Black Forest Road about 1,600 feet to serve Phase 2 with a gravel pilot road/ungated emergency road between these two sections. No traffic was estimated to use the gravel pilot road. These volumes assume no direct access to Hodgen Road and access to Black Forest Road via Stagecoach Road only. Figure 8 shows the site-generated traffic volumes through Phase 6 (including the golf course). The Phase 1 to Phase 6 site-generated traffic volume estimates assume Stagecoach Road has been completed between SH 83 and Black Forest Road but assumes Holmes Road has not been extended north through the site to Stagecoach Road. These volumes also assume no direct access to Hodgen Road or access to Black Forest Road via Stagecoach Road only.

Figure 9a shows the buildout site-generated traffic volumes at all of the proposed site access points and at the adjacent intersections. Figure 9b shows the buildout site-generated traffic volumes at three off-site intersections: Black Forest Road/Vessey Road, Vessey Road/Holmes Road, and Shoup Road/Holmes Road. The buildout site-generated traffic volumes assume Stagecoach Road has been extended from SH 83 to Black Forest Road and Holmes Road has been extended north through the

site to Stagecoach Road. These volumes also assume the full-movement access to Hodgen Road and the three full-movement access points to Black Forest Road are all constructed and open.

EXISTING PLUS PHASE 1 AND 2 SITE-GENERATED TRAFFIC

Figure 10 shows the sum of the existing traffic volumes from Figure 3 plus the Phase 1 and Phase 2 site-generated traffic volumes from Figure 7. These volumes represent the short-term Phase 1 and Phase 2-only impacts of this development.

SHORT-TERM TOTAL TRAFFIC

Figure 11 shows the short-term total traffic volumes at the intersections in the vicinity of the site assuming buildout of Phases 1 through 6 of the Flying Horse North at Shamrock Ranch and the golf course (assumed to occur during Phase 3). These volumes are the sum of the short-term background traffic volumes from Figure 4 plus the Phase 1 through Phase 6 site-generated traffic volumes from Figure 8.

2040 TOTAL TRAFFIC

Figure 12 shows the 2040 total traffic volumes at the intersection in the vicinity of the site. These volumes are the sum of the 2040 background volumes from Figure 5 plus the buildout site-generated traffic volumes from Figure 9a.

PROJECTED LEVEL OF SERVICE

The intersections in the vicinity of the site have been analyzed to determine the projected level of service based on the unsignalized method of analysis procedures outlined in the *Highway Capacity Manual, 2010 Edition* by the Transportation Research Board.

The intersections of Hogden/Black Forest, the full-movement site access to Hodgen Road, and both full-movement access points to Black Forest Road are all projected to operate at level of service C or better during the peak hours for all movements as Stop-sign-controlled intersections based on the projected existing plus Phase 1 and Phase 2 site-generated, short-term total, and 2040 total traffic volumes.

All movements at the Stop-sign-controlled intersection of SH 83/Stagecoach are projected to operate at level of service C or better during the peak hours based on the existing plus Phase 1 and Phase 2 site-generated traffic. Prior to completion of Phase 6 a southbound left-turn acceleration lane will be required on SH 83 at Stagecoach Road. A simulation was performed using Synchro/SimTraffic to determine the impact of this lane. The simulation was run five times and the results averaged. The average delay for each movement was then compared to the delay showed in Table 1 to determine the projected level of service. The 2040 analysis indicates the westbound approach left-turn movement at this intersection is projected to operate at LOS E during the afternoon peak hour. It is unlikely a traffic signal warrant will be met based on the projected traffic volumes and assuming the intersection laneage shown in Figure 12.

TRAFFIC SIGNAL WARRANT ANALYSIS

The intersection of SH 83/Stagecoach was analyzed to determine if a Four-Hour Vehicular Volume Traffic Signal Warrant would be met or close to being met based on the projected 2040 total traffic volumes and lane geometry. As shown in Figure 13 this intersection is not projected to meet the thresholds for a Four-Hour Vehicular Volume Traffic Signal Warrant during the morning and afternoon peak hours based on the short-term scenario.

AVERAGE DAILY TRAFFIC IMPACTS

At buildout, Flying Horse North is projected to add about 185 vehicles per day to Holmes Road just south of Vessey Road. However, with the extension of Holmes Road north to Stagecoach Road about 400 trips generated by the existing land uses south of the site are projected to be rerouted to use this new connection. The net impact to Holmes Road south of Vessey Road is therefore negligible.

CONCLUSIONS

Trip Generation

- At buildout the Flying Horse North at Shamrock Ranch site could be expected to generate about 3,337 new 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 82 vehicles would enter and 167 vehicles would exit the site. During the afternoon peak hour about 205 vehicles would enter and 130 vehicles would exit the site.

Traffic Volume Impacts

- At buildout the site is projected to add about 185 vehicle-trips per day to Holmes Road just north of Shoup Road. However, a portion of the existing traffic using Holmes Road just north of Shoup would instead use the new Phase 9 extension of Holmes to Stagecoach through Flying Horse North at Shamrock Ranch.
- At buildout the site is projected to add about 1,340 vehicle trips per day to SH 83 just south of Stagecoach Road. This represents an increase of about seven percent above the projected 2040 background traffic volume.
- At buildout the site is projected to add about 400 vehicle-trips per day to Hodgen Road just west of the proposed site access point. This represents an increase of about 4.3 percent above the projected 2040 background traffic volume.
- At buildout the site is projected to add about 345 vehicle-trips per day to Black Forest Road just south of Hodgen Road. This represents an increase of about 10.6 percent above the projected 2040 background traffic volume.

Level of Service

- The intersections of Hogden/Black Forest, the full-movement site access to Hodgen Road, and both full-movement access points to Black Forest Road are all projected to operate at level of service C or better during the peak hours for all movements as Stop-sign-controlled intersections based on the projected existing plus Phase 1 site-generated, short-term total, and 2040 total traffic volumes.
- All movements at the Stop-sign-controlled intersection of SH 83/Stagecoach are projected to operate at level of service C or better during the peak hours based on the existing plus Phase 1 and Phase 2 site-generated traffic and short-term total traffic (through Phase 6). The 2040 analysis indicates the westbound approach left-turn movement at this intersection is projected to operate at LOS E during the afternoon peak hour. It is unlikely a traffic signal warrant will be met based on the projected traffic volumes and assuming the intersection laneage shown in Figure 12 including a southbound left-turn acceleration lane on SH 83.

Traffic Signal Warrants

- The projected 2040 peak-hour total traffic volumes and lane geometry at the intersection of SH 83/Stagecoach Road are not projected to meet the thresholds for a Four-Hour Vehicular Volume Traffic Signal Warrant.

Auxiliary Turn Lanes

- Table 3 shows a summary of the auxiliary turn lanes that will be required by phase of this project.

Phases 1 and 2

- No auxiliary turn lanes will be required based on the projected existing plus Phase 1 and Phase 2 site-generated traffic volumes.

Phase 3

- Based on the projected short-term total traffic volumes and the criteria contained in the *State of Colorado Highway Access Code*, a northbound right-turn deceleration lane would be required on SH 83 approaching Stagecoach Road. The short-term total traffic volumes assume buildout of Flying Horse North at Shamrock Ranch through Phase 6 and the golf course and assumes the construction of Stagecoach Road from SH 83 to Black Forest Road. This lane should be 378 feet long plus a 222-foot-long taper.
- Based on the short-term total traffic volumes and the criteria contained in the *State of Colorado Highway Access Code*, a northbound right-turn acceleration lane would be required on SH 83 at Stagecoach Road. The short-term total assumes buildout of Flying Horse North at Shamrock

Ranch through Phase 6 and the golf course and assumes the construction of Stagecoach Road from SH 83 to Black Forest Road. This lane should be 738 feet long plus a 222-foot-long taper.

- Based on the projected short-term total site-generated traffic volumes and the criteria contained in the *State of Colorado Highway Access Code*, a southbound left-turn lane would be required on SH 83 approaching Stagecoach Road. This lane should be 418 feet long plus a 222-foot-long taper.
- Based on comments received from the Colorado Department of Transportation a southbound left-turn acceleration lane will be required on SH 83 from Stagecoach Road. This lane should be 738 feet long plus a 222 foot taper (adjusted for grades as necessary).

Phase 7

- Based on the projected 2040 total traffic volumes and on the criteria contained in the *El Paso County Engineering Criteria Manual* a northbound left-turn lane would be required on Black Forest Road approaching the north full-movement site access (Stagecoach Road). The 2040 total volumes assume buildout of Flying Horse North at Shamrock Ranch, the construction of Stagecoach Road from SH 83 to Black Forest Road, and the extension of Holmes Road north to Stagecoach Road. Based on a design speed of 60 mph for a Rural Minor Arterial, this lane should be 340 feet long plus a 240-foot-long taper.

Buildout

- Based the projected existing plus Phase 1 and Phase 2 site-generated traffic, short-term total, and 2040 total volumes and on the criteria contained in the *El Paso County Engineering Criteria Manual* no auxiliary turn lanes would be required on Hodgen Road approaching the proposed full-movement site access just west of Black Forest Road.
- There is an existing eastbound right-turn deceleration lane and westbound left-turn lane on Hodgen Road approaching Black Forest Road. Based on the criteria contained in the *El Paso County Engineering Criteria Manual* no additional turn lanes would be required at this intersection based on the projected existing plus Phase 1 and Phase 2 site-generated traffic, short-term total, and 2040 total traffic volumes.
- Based on the projected existing plus Phase 1 and Phase 2 site-generated traffic, short-term total, and 2040 total volumes and the criteria contained in the *El Paso County Engineering Criteria Manual* southbound right-turn deceleration lanes would not be required on Black Forest Road approaching the proposed full-movement site access points.
- Based on the projected existing plus Phase 1 and Phase 2 site-generated traffic, short-term total, and 2040 total volumes and the criteria contained in the *El Paso County Engineering Criteria Manual* no auxiliary turn lanes would be required on Black Forest Road approaching the proposed full-movement site access points.

Roadway Classifications

- Stagecoach Road should be classified as a Rural Minor Residential Collector from SH 83 to Black Forest Road. The projected traffic volume for the west portion of this roadway would exceed the *Engineering Criteria Manual* design average daily traffic criteria for Rural Minor Residential Collector roadways. A deviation request will be submitted separately.
- LSC recommends all other roadways within Flying Horse North at Shamrock Ranch be classified as Rural Local.

Other Deviations

- The proposed full-movement access to Black Forest Road, about 725 feet south of Black Forest/Terra Ridge Circle (south) proposed for Phase 11, will require a deviation to the *El Paso County Engineering Criteria Manual* (ECM) as the proposed spacing is less than the minimum intersection spacing for Minor Arterials. The proposed location was selected for the best sight distance. A deviation request will be submitted separately.

Countywide Road Impact Fee Program

- The Flying Horse North at Shamrock Ranch development will be required to participate in the Countywide Road Impact Fee program. The specific PID option (or opt-out option) as well as the specific calculated fee amount will be provided with the submittal of the Preliminary Plan or Final Plat. The fee per residential dwelling unit will be payable at the time of the building permit.

* * * * *

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

Sincerely,

LSC TRANSPORTATION CONSULTANTS, INC.

By 

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

JCH:KDF:bjwb

Enclosures: Tables 2 and 3
Figures 1-13
Traffic Count Reports
Level of Service Reports

Table 2
Trip Generation Estimate
Flying Horse at Shamrock Ranch East

Phase	Land Use Code	Land Use Description	Trip Generation Units	Trip Generation Rates ⁽¹⁾						Total Trips Generated					
				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		
1-2	210	Single-Family Detached Housing	43 DU ⁽²⁾	9.52	0.19	0.56	0.63	0.37		409	8	24	27	16	
	210 430	Single-Family Detached Housing Golf Course	136 DU 18 holes	9.52 35.74	0.19 1.63	0.56 0.43	0.63 1.49	0.37 1.43		1,295 643	26 29	77 8	86 27	50 26	
										1,938	55	84	112	76	
Buildout	210	Single-Family Detached Housing	283 DU	9.52	0.19	0.56	0.63	0.37		2,694	53	159	178	105	
	430	Golf Course	18 holes	35.74	1.63	0.43	1.49	1.43		643	29	8	27	26	
										3,337	82	167	205	130	

Notes:

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

(2) DU = dwelling unit

Source: LSC Transportation Consultants, Inc.

Table 3
Recommended Improvements
Flying Horse at Shamrock Ranch East

Intersection/Road	Improvement	Lane Length (ft)	Taper Length (ft)	Phase When Required
SH 83/Stagecoach	Northbound Right-Turn Deceleration Lane	378	222	3
	Northbound Right-Turn Acceleration Lane	738	222	3
	Southbound Left-Turn Lane	418	222	3
	Southbound Left-Turn Acceleration Lane	738	222	3
Hogden/Full-Movement Site Access	No Auxiliary Lanes Required			
Hogden/Black Forest (West)	No Additional Auxiliary Lanes Required			
Black Forest/Stagecoach	Northbound Left-Turn Lane	340	240	7
Black Forest/Site Access Points	No Auxiliary Lanes Required			
Holmes Road	Pave	N/A	N/A	9
Source: LSC Transportation Consultants, Inc.				

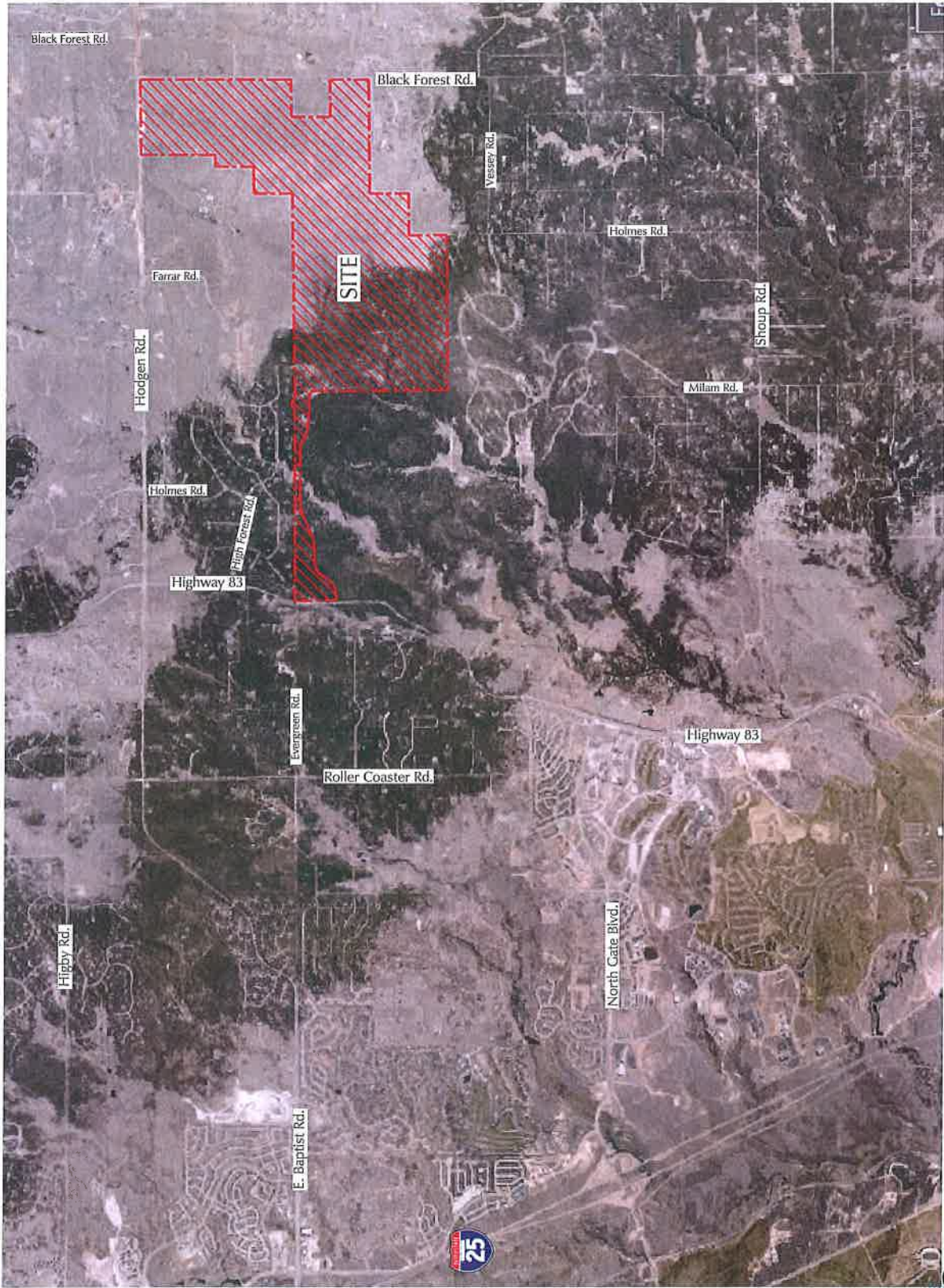


Figure 1
Vicinity
Map

Flying Horse North (LSC #164050)

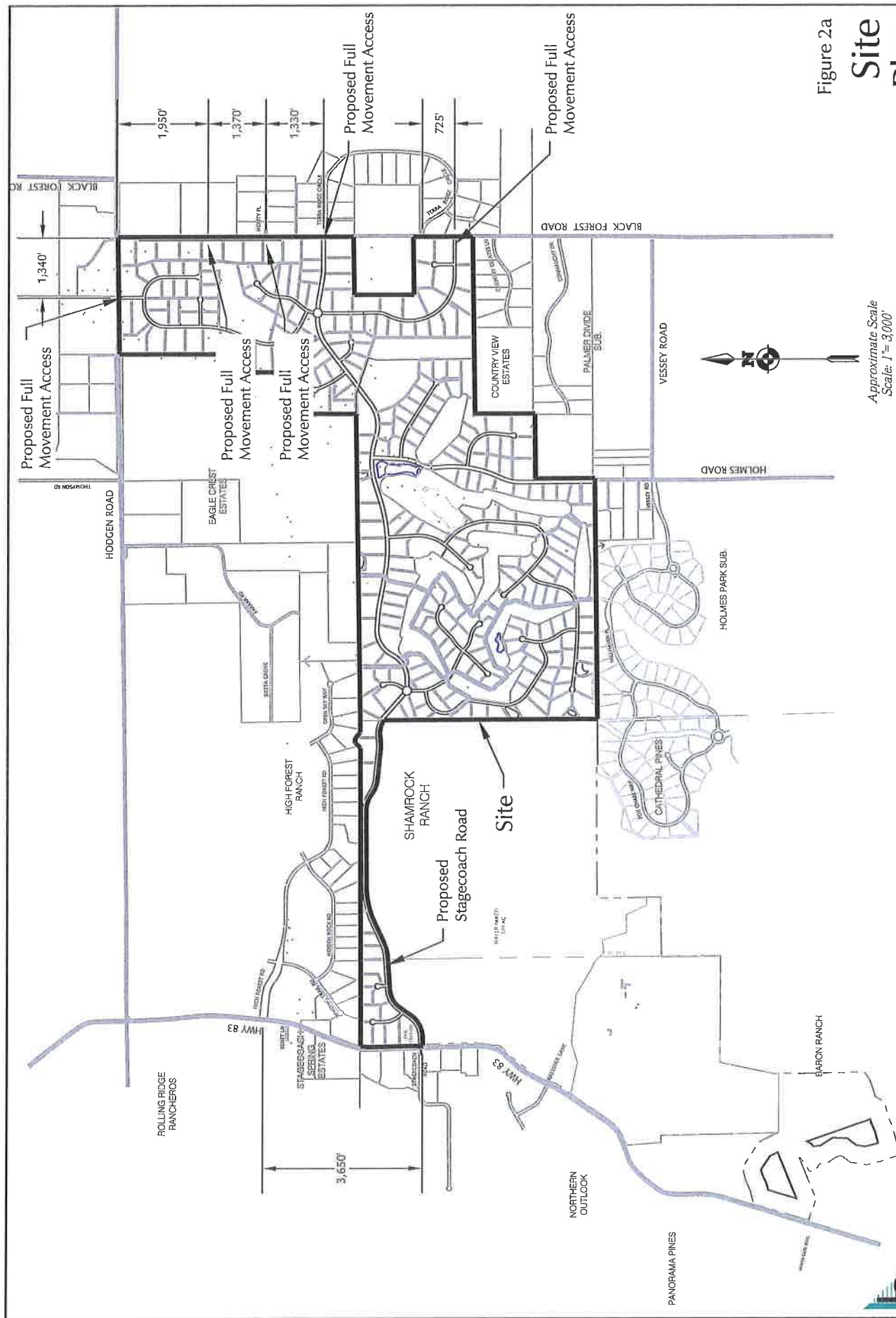


Figure 2a
Site Plan

Flying Horse North (LSC #164050)

Approximate Scale
 Scale: 1" = 3,000'

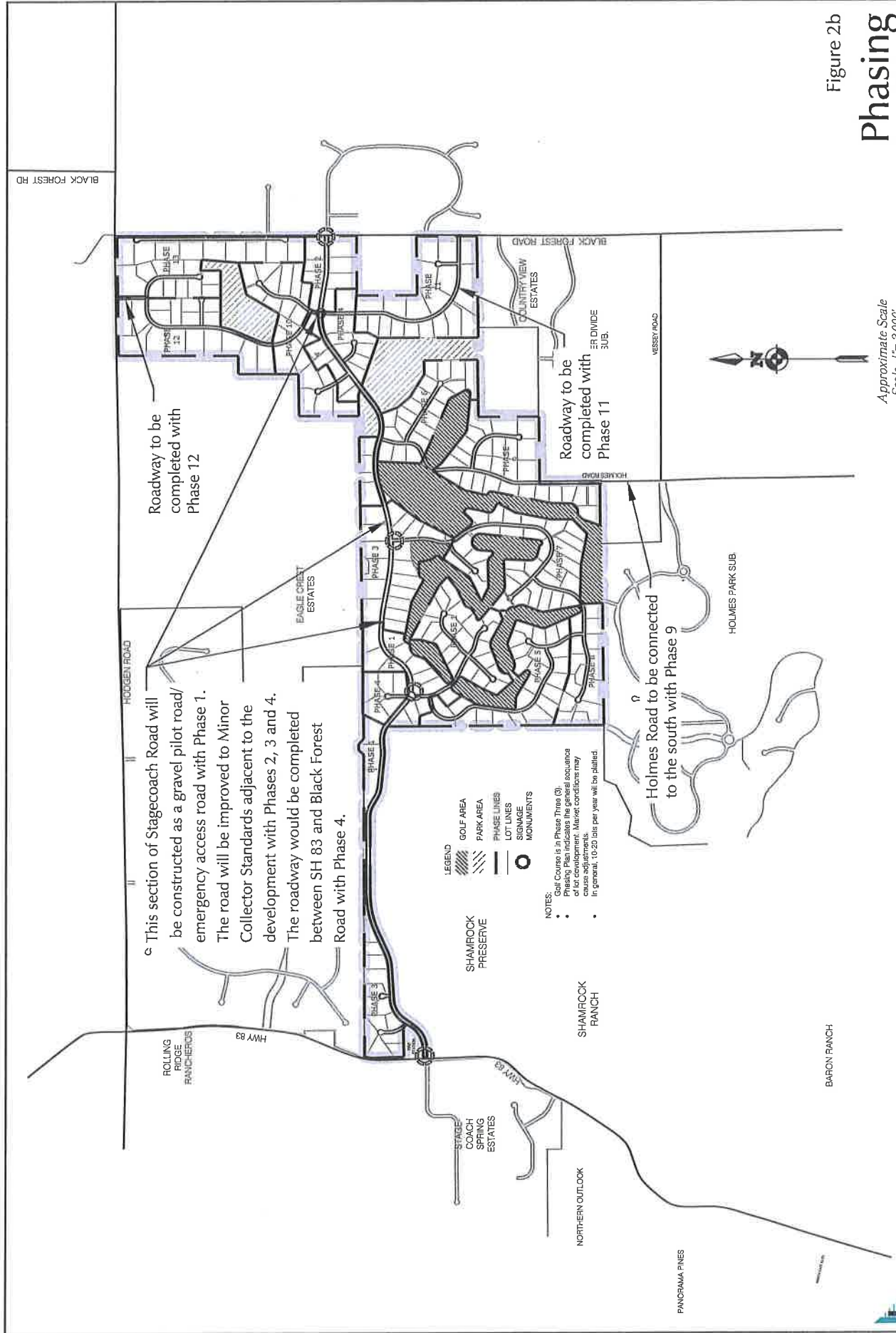
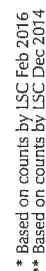


Figure 2b
Phasing Plan
 Flying Horse North (LSC #164050)

Approximate Scale
 Scale: 1" = 300'



Stop Sign

$$\frac{XX}{XX} = \frac{\text{AM Weekday Peak-Hour Traffic (vehicles per hour)}}{\text{PM Weekday Peak-Hour Traffic (vehicles per hour)}}$$

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

XXX = Average Weekday Traffic (vehicles per day)

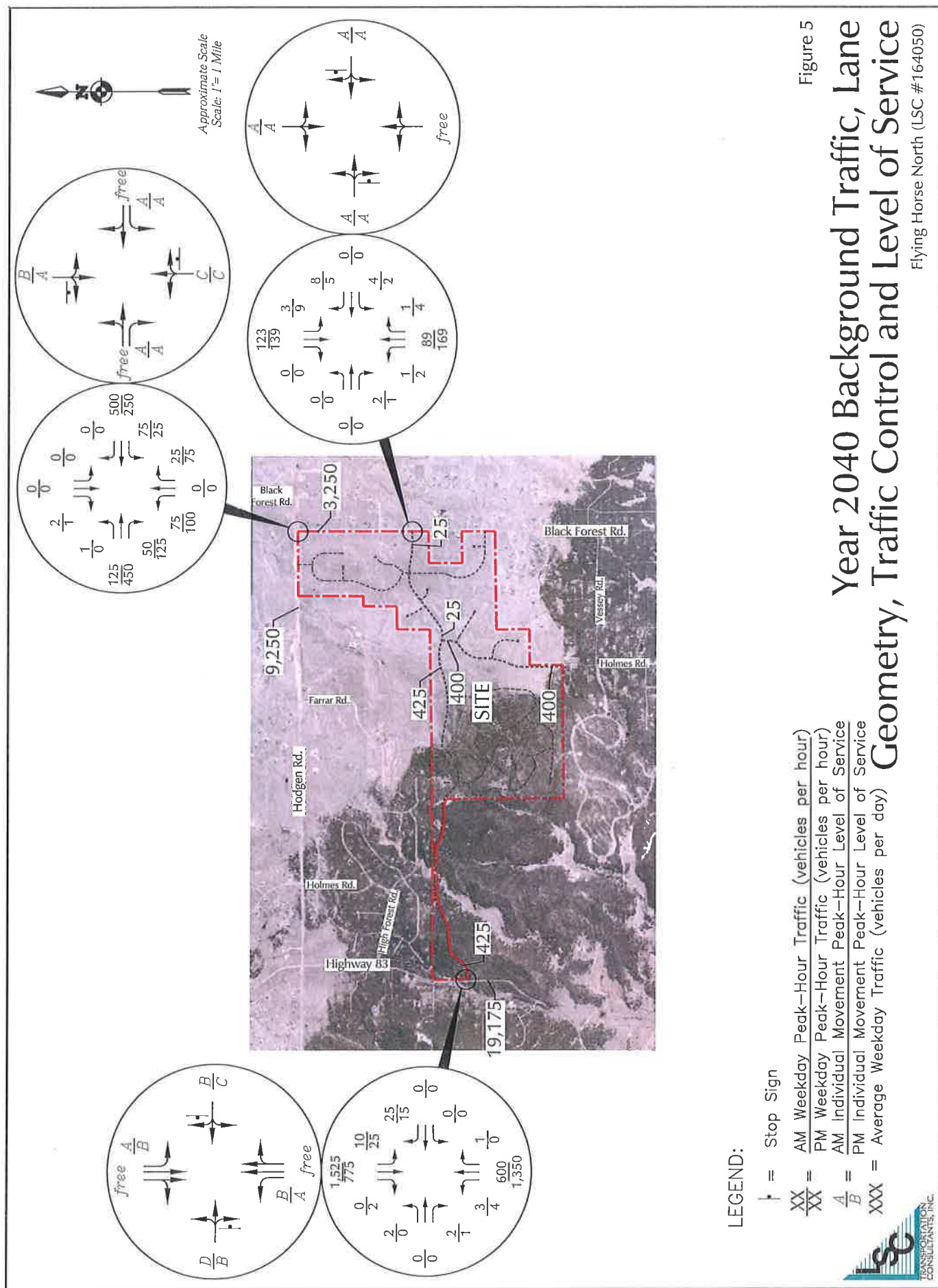
* CDOT 2014 ADT
** Estimate by LSC

Flying Horse North (LSC #164050)

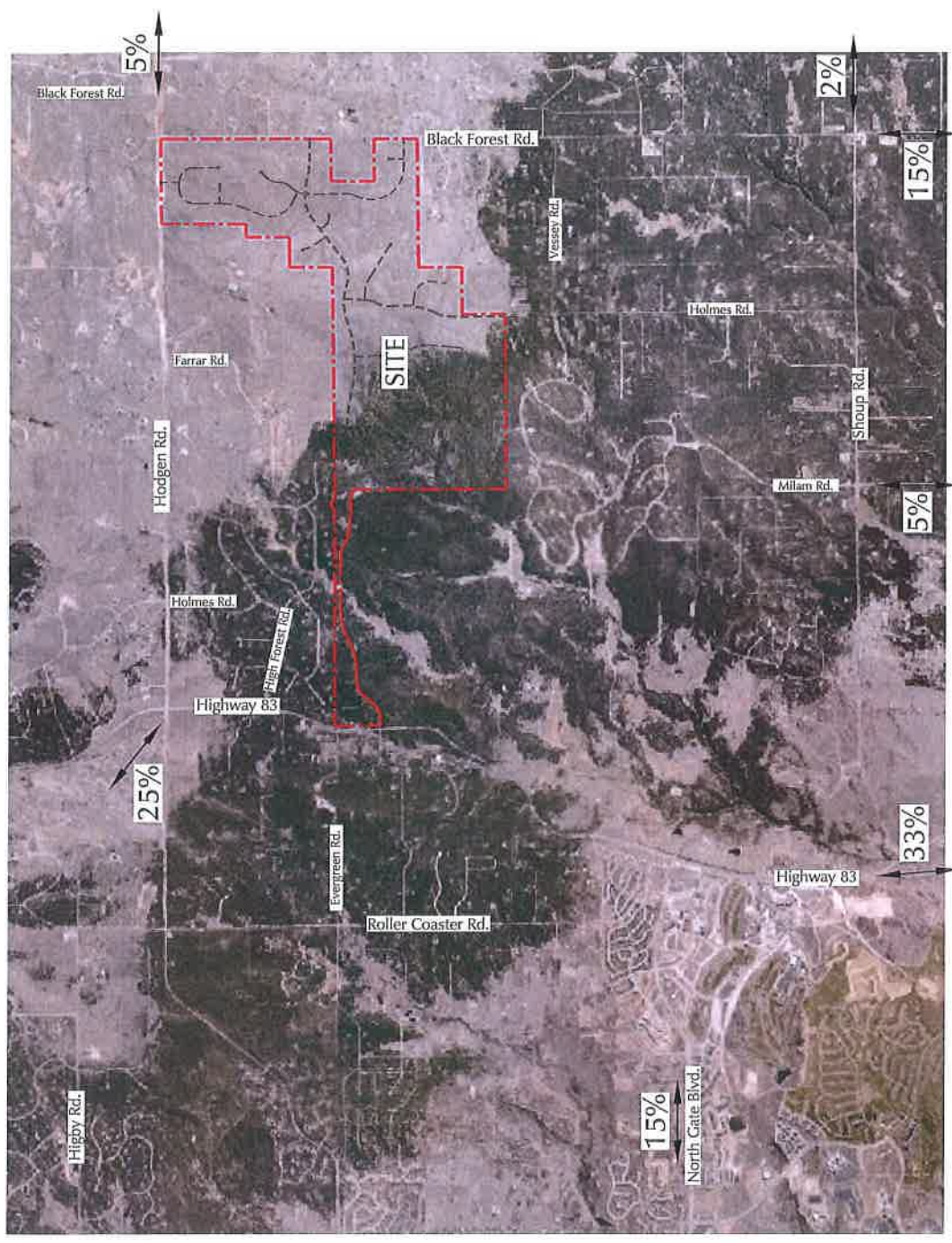
Figure 3

Existing Traffic, Lane Geometry, Traffic Control and Level of Service



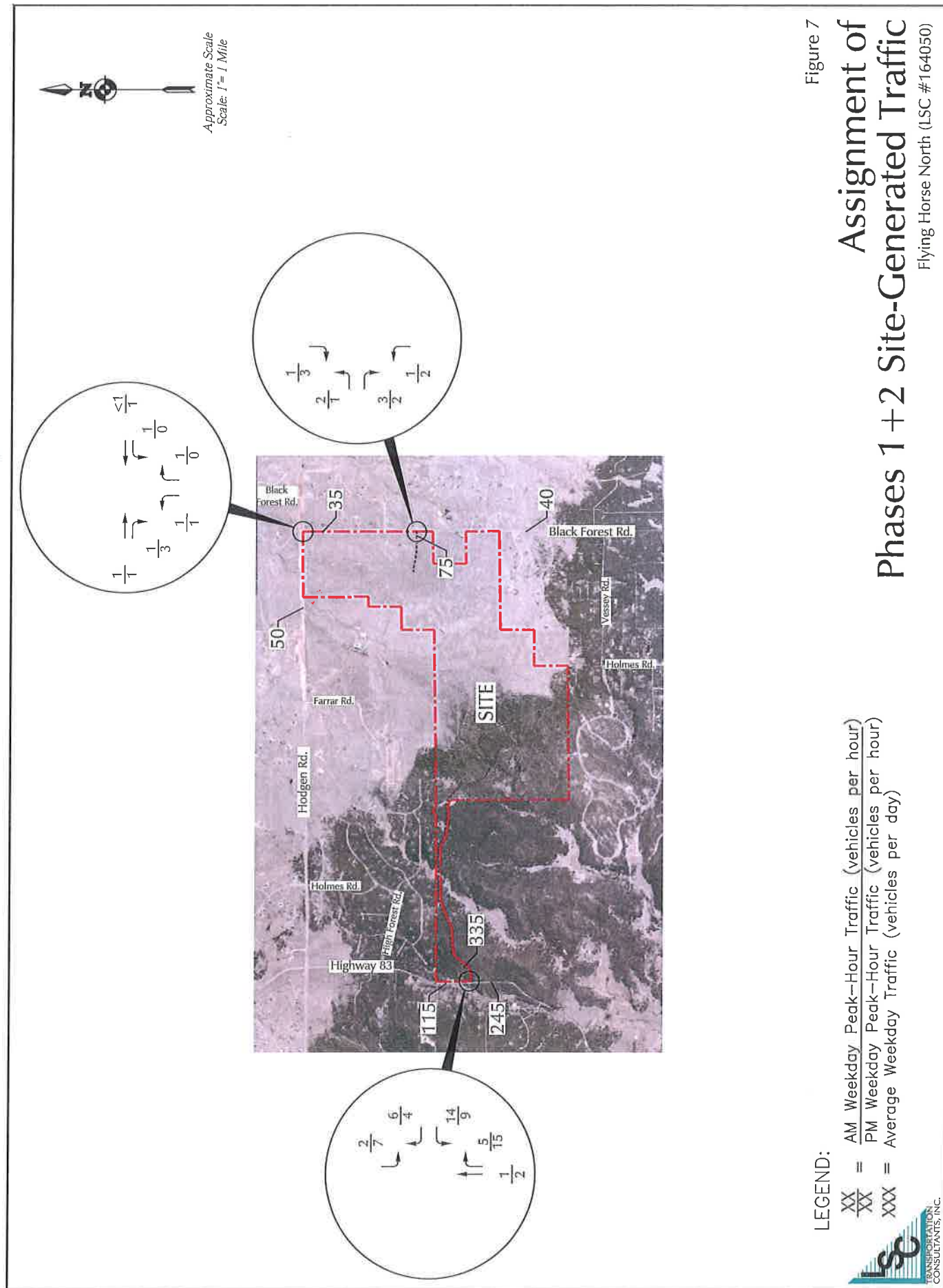


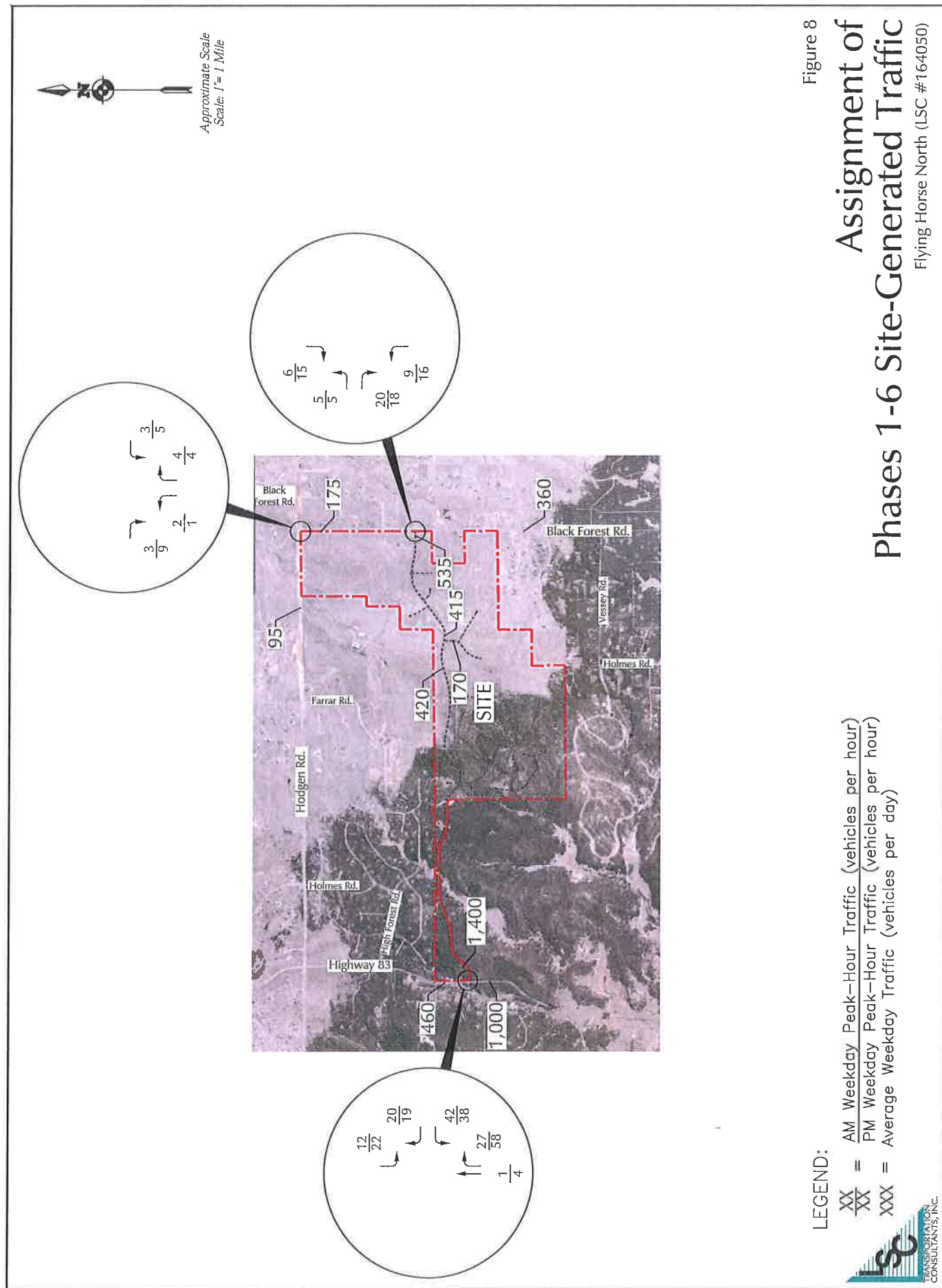
Approximate Scale
Scale: 1" = 1 Mile



LEGEND:
 = Percent Directional Distribution

Figure 6
**Directional Distribution
 of Site-Generated Traffic**
 Flying Horse North (LSC #164050)





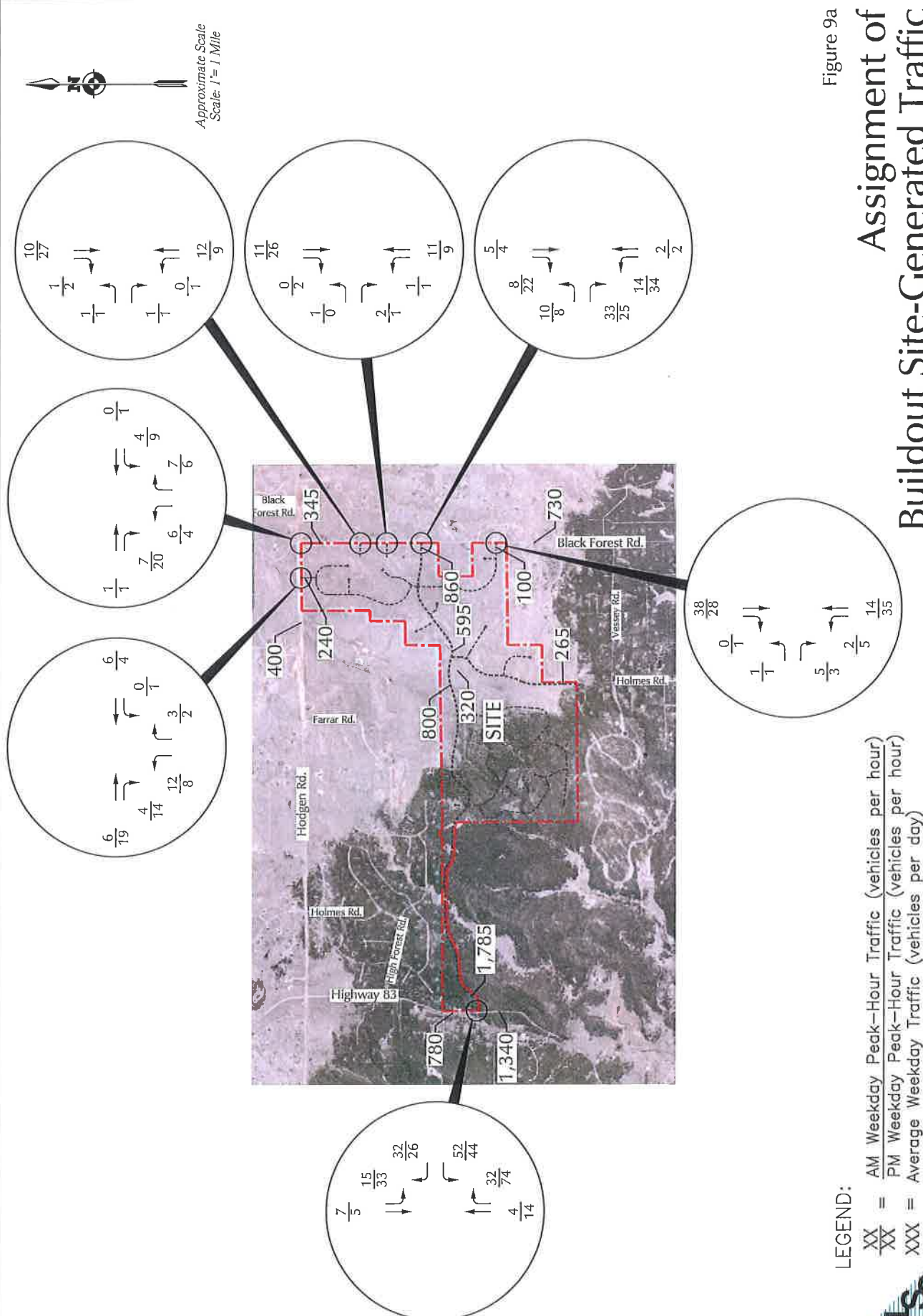
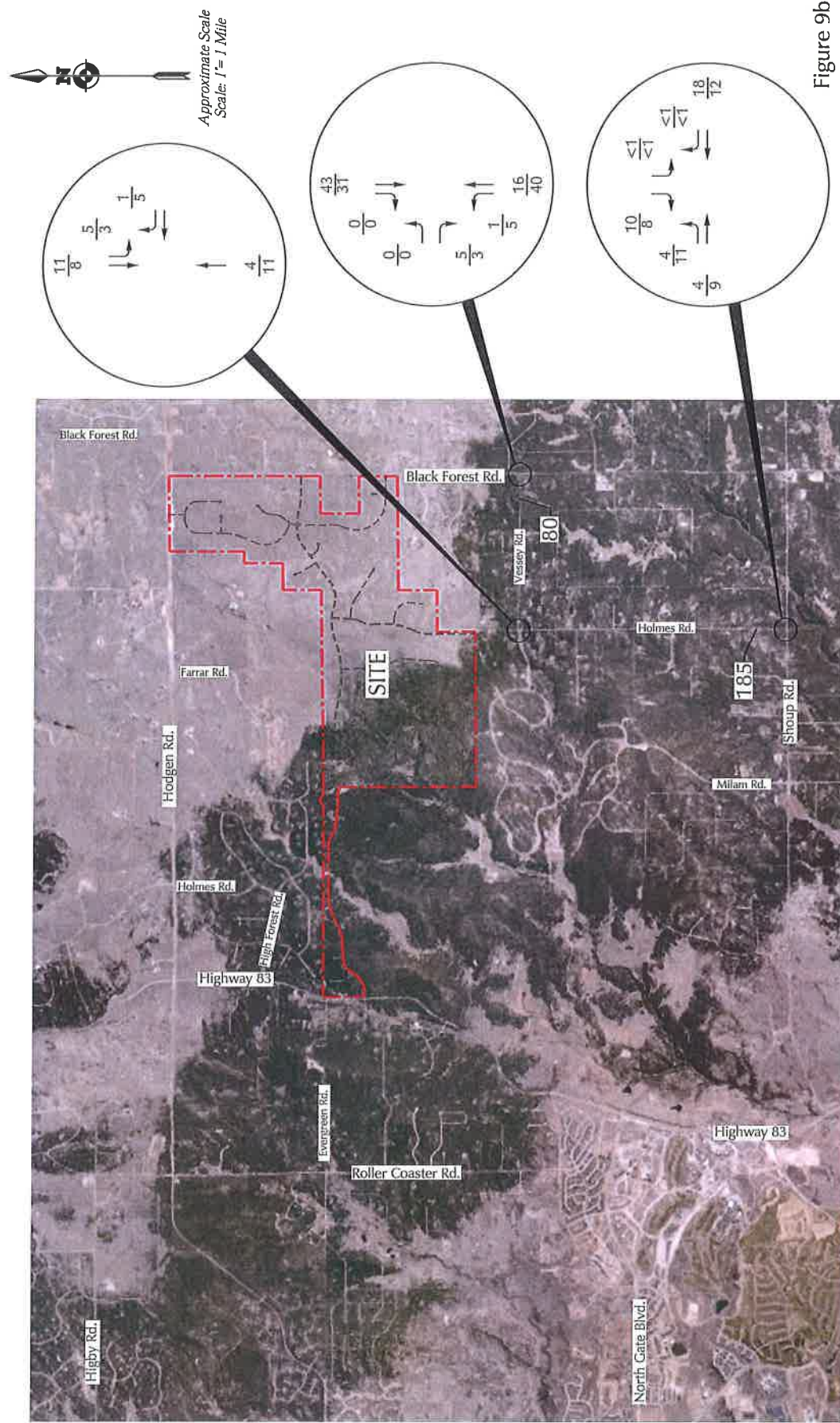


Figure 9a
**Assignment of
 Buildout Site-Generated Traffic**
 Flying Horse North (LSC #164050)



Assignment of Buildout Site-Generated Traffic- Off-Site Intersections

Flying Horse North (LSC #164050)

- LEGEND:
- $\frac{XX}{XX}$ = AM Weekday Peak-Hour Traffic (vehicles per hour)
 - $\frac{XX}{XX}$ = PM Weekday Peak-Hour Traffic (vehicles per hour)
 - XXX = Average Weekday Traffic (vehicles per day)



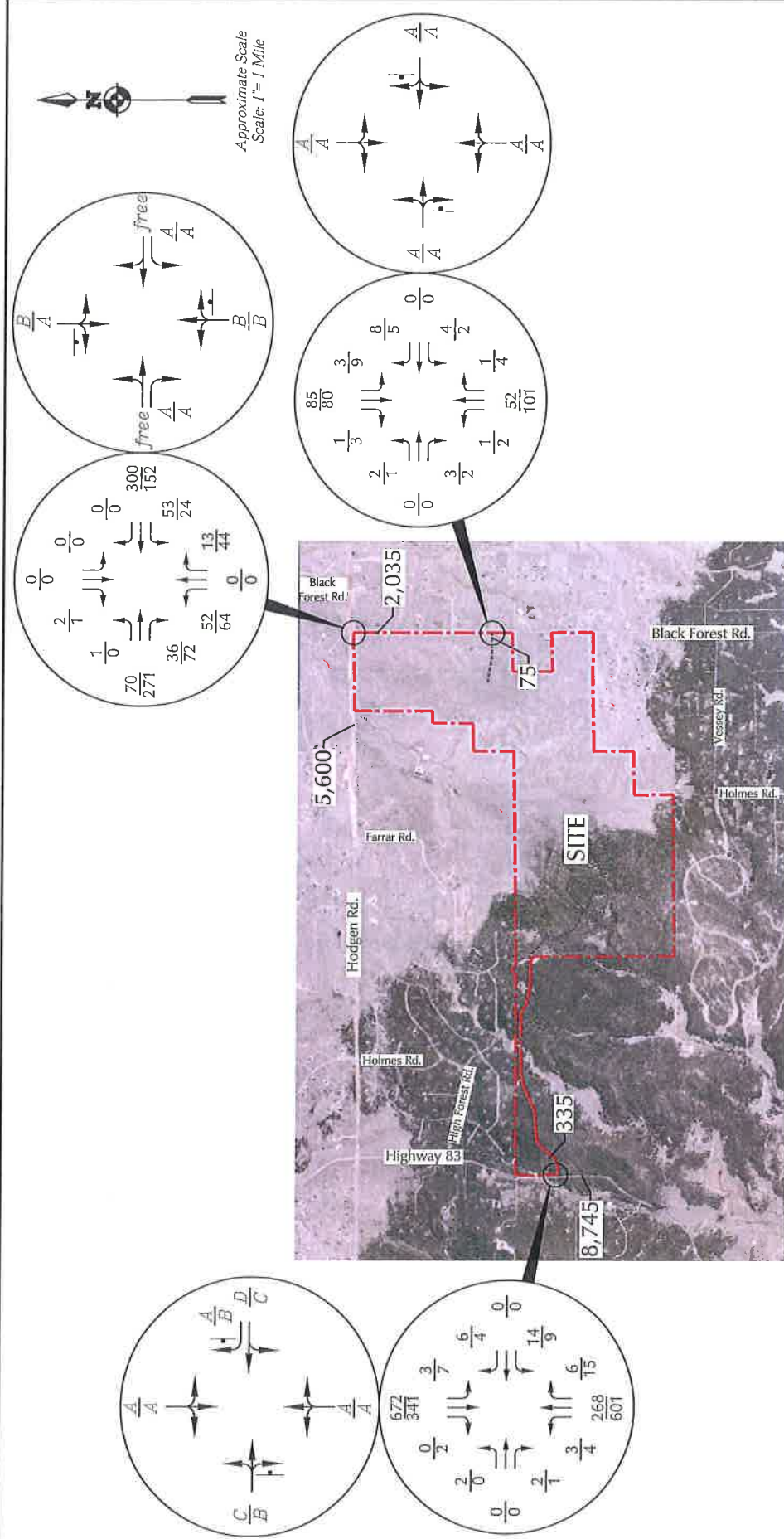
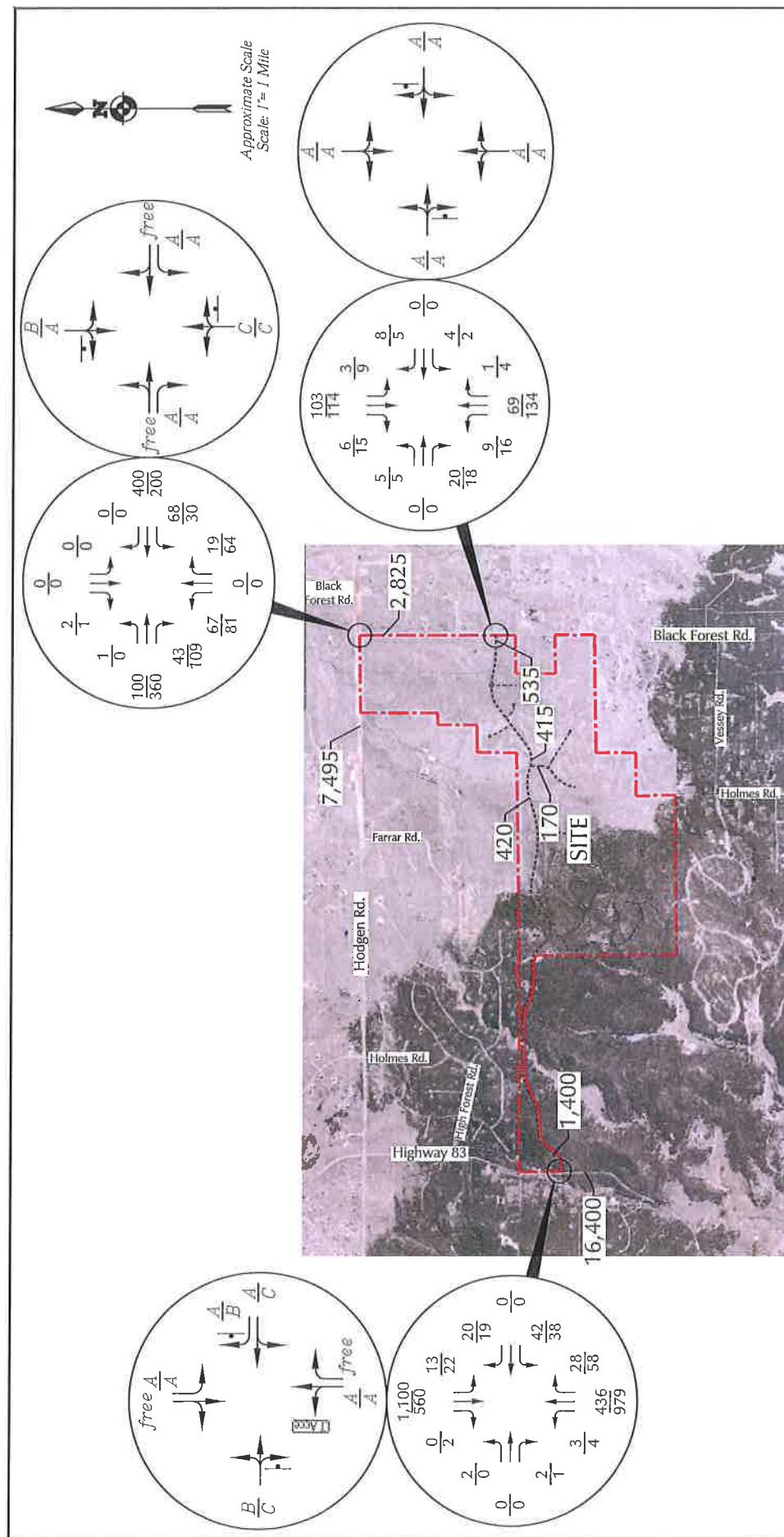


Figure 10
Existing plus Phases 1+2 Site-Generated Traffic,
Lane Geometry, Traffic Control and Level of Service
Flying Horse North (LSC #164050)



LEGEND:

Stop Sign

$$\frac{XX}{\frac{XX}{60}} = \text{AM Weekday Peak-Hour Traffic (vehicles per hour)}$$

PM Weekday Peak-Hour Traffic (vehicles per hour)
100
200
300
400
500
600
700
800
900
1000
1100
1200
1300
1400
1500
1600
1700
1800
1900
2000
2100
2200
2300
2400
2500
2600
2700
2800
2900
3000
3100
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5600
5700
5800
5900
6000
6100
6200
6300
6400
6500
6600
6700
6800
6900
7000
7100
7200
7300
7400
7500
7600
7700
7800
7900
8000
8100
8200
8300
8400
8500
8600
8700
8800
8900
9000
9100
9200
9300
9400
9500
9600
9700
9800
9900
10000

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

B_{PM} = PM Individual Movement Peak—Hour Level of Service
 XXX = Average Weekday Traffic (vehicles per day)

XXX = Average Weekday Traffic (vehicles per day)

Figure 11

Short-Term Total (Incl. Phases 1-6) Traffic, Lane Geometry, Traffic Control and Level of Service

Flying Horse North (LSC #164050)



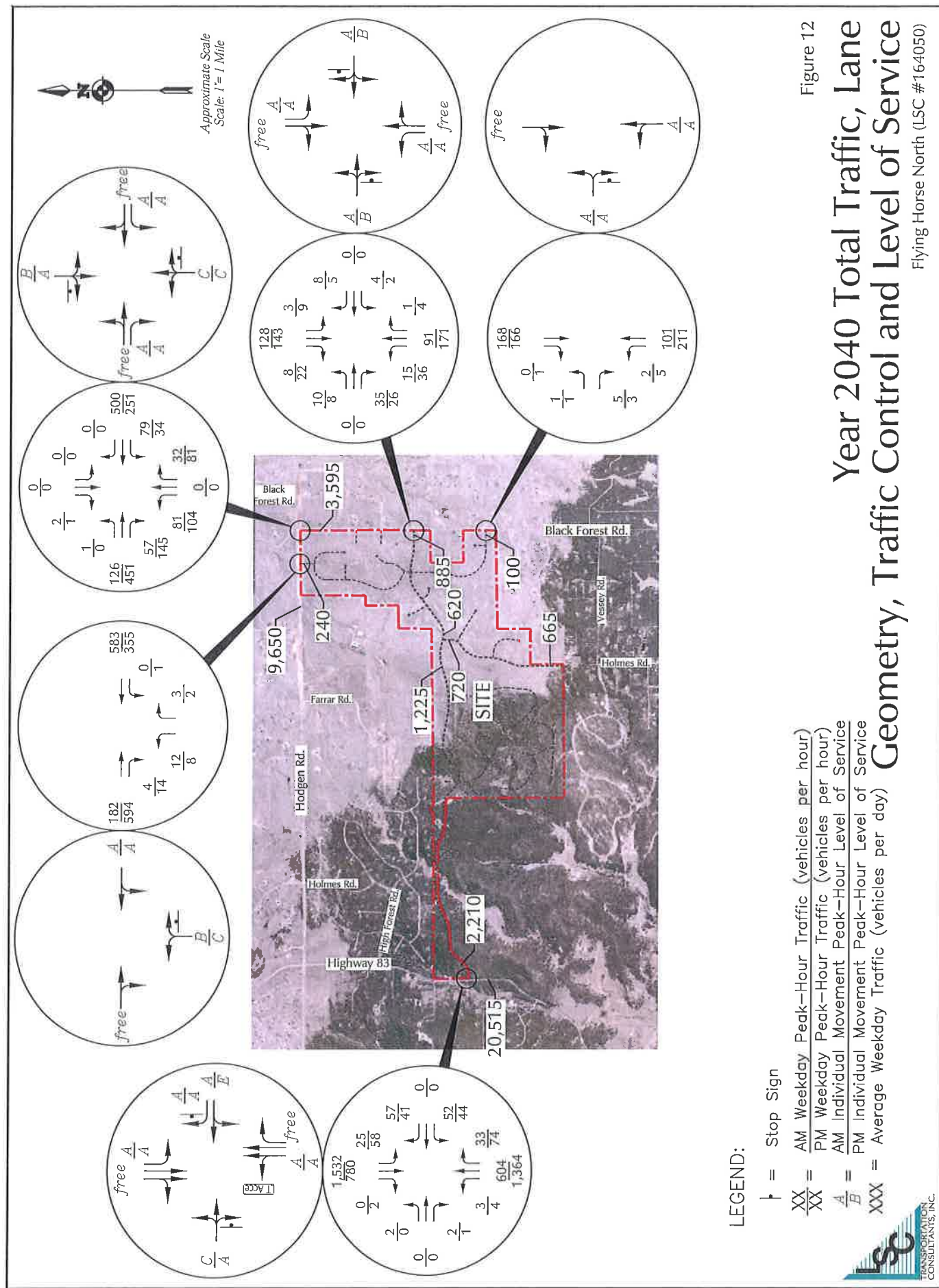
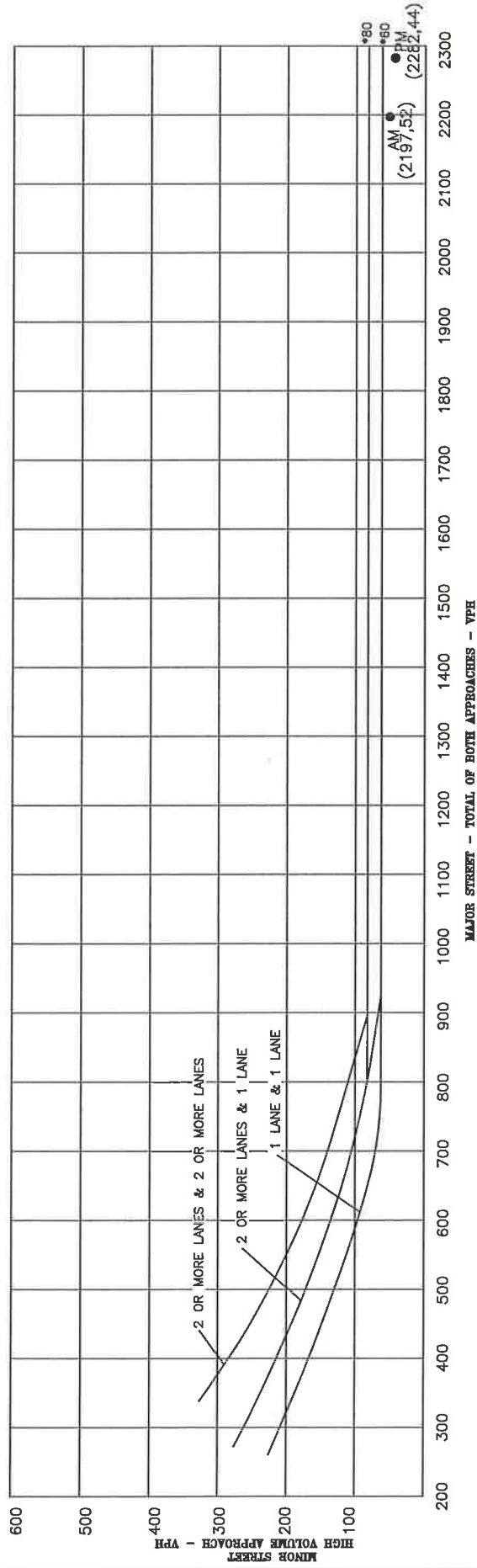


Figure 12

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

Flying Horse North (LSC #164050)

SH 83/Stage Coach Total Traffic Volume
 Figure 4C-2. Warrant 2, Peak Hour (70% Factor)
 (Community Less than 10,000 population or above 40 mph on Major Street)



* Note: 80 vph applies as the lower threshold volumes for a minor-street approach with two or more lanes and 60 vph applies as the lower threshold volume for a minor-street approach with one lane.

Figure 13

Traffic Signal Warrant Analysis SH 83/Stagecoach Flying Horse North (LSC #164050)

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Colorado Springs, CO

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File Name : Black Forest Rd - Hodgen Rd AM

Site Code : 00144690

Start Date : 12/04/2014

Page No : 1

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	From North				Hodgen Rd From East				Black Forest Rd From South				Hodgen 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	0	0	0	0	81	6	0	0	0	7	0	8	12	0	0	114
06:45 AM	0	0	0	0	0	71	11	0	2	0	7	0	12	18	0	0	121
Total	0	0	0	0	0	152	17	0	2	0	14	0	20	30	0	0	235
07:00 AM	0	0	0	0	0	70	16	0	3	0	10	0	6	19	0	0	124
07:15 AM	2	0	0	0	0	79	14	0	4	0	19	0	6	12	1	0	137
07:30 AM	0	0	0	0	0	80	11	0	3	0	15	0	11	20	0	0	140
07:45 AM	0	0	0	0	0	61	6	0	3	0	13	0	9	18	0	0	110
Total	2	0	0	0	0	290	47	0	13	0	57	0	32	69	1	0	511
08:00 AM	0	0	0	0	0	53	6	0	2	0	7	0	7	21	0	0	96
08:15 AM	0	0	0	0	0	46	16	0	3	0	17	0	10	21	0	0	113
Grand Total	2	0	0	0	0	541	86	0	20	0	95	0	69	141	1	0	955
Apprch %	100.0	0.0	0.0	0.0	0.0	86.3	13.7	0.0	17.4	0.0	82.6	0.0	32.7	66.8	0.5	0.0	
Total %	0.2	0.0	0.0	0.0	0.0	56.6	9.0	0.0	2.1	0.0	9.9	0.0	7.2	14.8	0.1	0.0	

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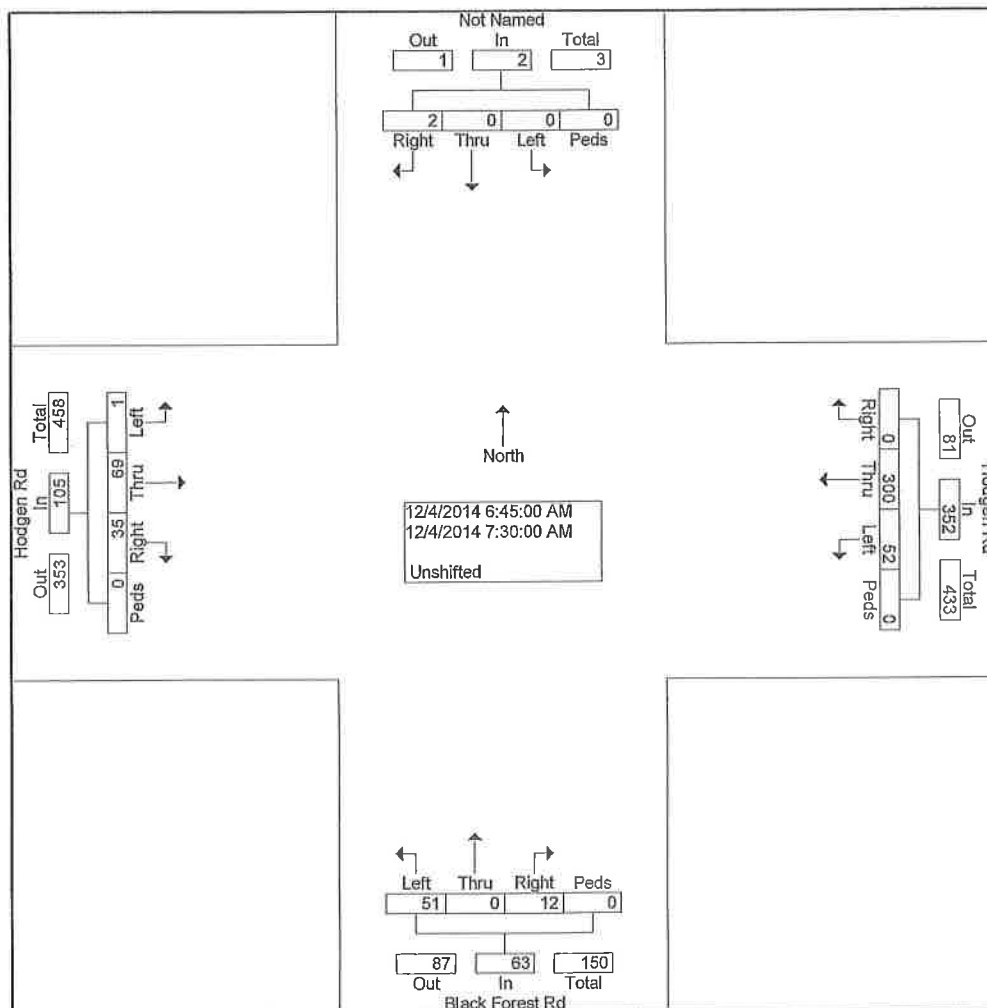
File Name : Black Forest Rd - Hodgen Rd AM

Site Code : 00144690

Start Date : 12/04/2014

Page No : 2

	From North					Hodgen Rd From East					Black Forest Rd From South					Hodgen Rd From West					
Start Time	Rig ht	Thru	Left	Ped s	App. Total	Rig ht	Thru	Left	Ped s	App. Total	Rig ht	Thru	Left	Ped s	App. Total	Rig ht	Thru	Left	Ped s	App. Total	Int. Total
Peak Hour From 06:30 AM to 08:15 AM - Peak 1 of 1																					
Intersection	06:45 AM																				
Volume	2	0	0	0	2	0	300	52	0	352	12	0	51	0	63	35	69	1	0	105	522
Percent	100	0.0	0.0	0.0		0.0	85.2	14.8	0.0		19.0	0.0	81.0	0.0		33.3	65.7	1.0	0.0		
07:30 Volume	0	0	0	0	0	0	80	11	0	91	3	0	15	0	18	11	20	0	0	31	140
Peak Factor																					0.932
High Int.	07:15 AM					07:15 AM					07:15 AM					07:30 AM					
Volume	2	0	0	0	2	0	79	14	0	93	4	0	19	0	23	11	20	0	0	31	
Peak Factor	0.25					0.94					0.68					0.84					7
	0					6					5										



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Site Code : 00144690

Start Date : 12/04/2014

Page No : 1

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Start Time	From North				Hodgen Rd From East				Black Forest Rd From South				Hodgen Rd From West				Int. Total
	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	0	0	0	0	28	9	0	10	0	8	0	18	57	0	0	130
04:15 PM	0	0	0	0	0	33	4	0	8	0	14	0	13	64	0	0	136
04:30 PM	0	0	0	0	0	33	7	0	14	0	14	0	20	66	0	0	154
04:45 PM	1	0	0	0	0	28	2	0	8	0	19	0	17	68	0	0	143
Total	1	0	0	0	0	122	22	0	40	0	55	0	68	255	0	0	563
05:00 PM	0	0	0	0	0	46	9	0	9	0	15	0	17	69	0	0	165
05:15 PM	0	0	0	0	0	44	4	0	13	0	15	0	15	67	0	0	158
05:30 PM	0	0	0	0	0	22	7	0	16	0	9	0	14	78	0	0	146
05:45 PM	0	0	0	0	0	20	5	0	7	0	10	0	10	58	0	0	110
Total	0	0	0	0	0	132	25	0	45	0	49	0	56	272	0	0	579
Grand Total	1	0	0	0	0	254	47	0	85	0	104	0	124	527	0	0	1142
Apprch %	100.0	0.0	0.0	0.0	0.0	84.4	15.6	0.0	45.0	0.0	55.0	0.0	19.0	81.0	0.0	0.0	
Total %	0.1	0.0	0.0	0.0	0.0	22.2	4.1	0.0	7.4	0.0	9.1	0.0	10.9	46.1	0.0	0.0	

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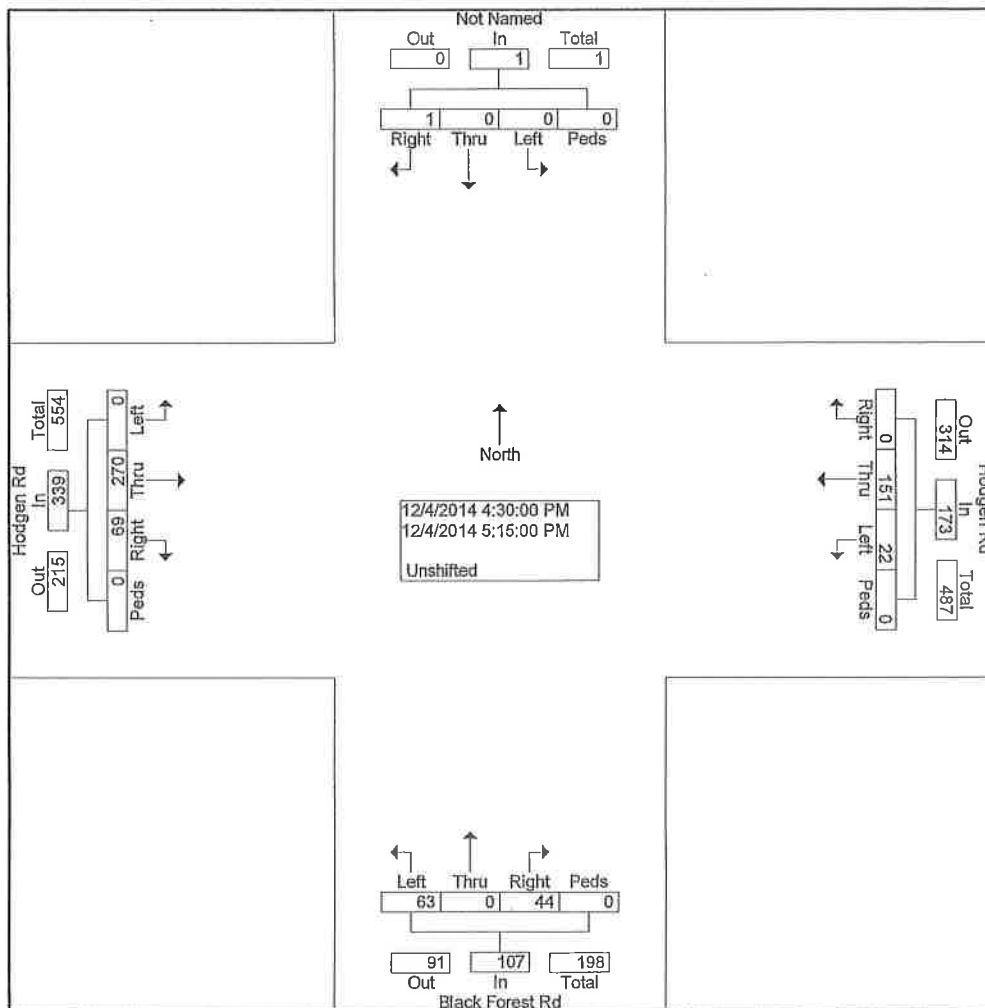
File Name : Black Forest Rd - Hodgen Rd PM

Site Code : 00144690

Start Date : 12/04/2014

Page No : 2

	From North					Hodgen Rd From East					Black Forest Rd From South					Hodgen Rd From West					
Start Time	Rig ht	Thr u	Left	Ped s	App. Total	Rig ht	Thr u	Left	Ped s	App. Total	Rig ht	Thr u	Left	Ped s	App. Total	Rig ht	Thr u	Left	Ped s	App. Total	Int. Total
Peak Hour From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Intersection	04:30 PM																				
Volume	1	0	0	0	1	0	151	22	0	173	44	0	63	0	107	69	270	0	0	339	620
Percent	100	0.0	0.0	0.0		0.0	87.3	12.7	0.0		41.1	0.0	58.9	0.0		20.4	79.6	0.0	0.0		
05:00 Volume	0	0	0	0	0	0	46	9	0	55	9	0	15	0	24	17	69	0	0	86	165
Peak Factor																					0.939
High Int. Volume	04:45 PM					05:00 PM					04:30 PM					04:30 PM					
Peak Factor	1	0	0	0	1	0	46	9	0	55	14	0	14	0	28	20	66	0	0	86	
					0.25					0.78					0.95					0.98	
					0					6					5					5	



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 Start Date : 01/14/2016
 Page No : 1

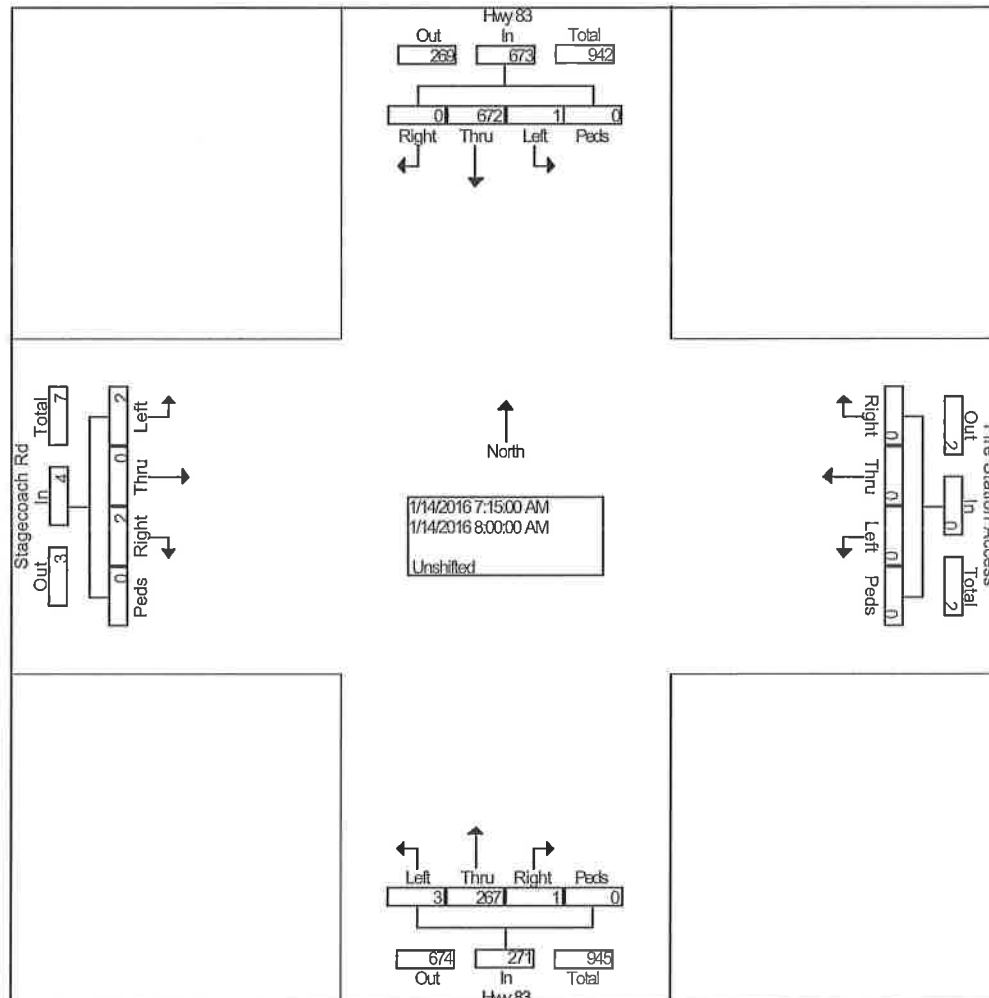
Groups Printed- Unshifted

	Hwy 83 From North				Fire Station Access From East				Hwy 83 From South				Stagecoach 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	77	0	0	0	0	0	0	0	25	0	0	0	0	0	0	102
06:45 AM	1	111	0	0	0	0	0	0	0	38	0	0	1	0	1	0	152
Total	1	188	0	0	0	0	0	0	0	63	0	0	1	0	1	0	254
07:00 AM	0	162	0	0	0	0	0	0	0	51	0	0	0	0	0	0	213
07:15 AM	0	197	0	0	0	0	0	0	0	63	1	0	0	0	0	0	261
07:30 AM	0	173	1	0	0	0	0	0	1	67	1	0	1	0	0	0	244
07:45 AM	0	159	0	0	0	0	0	0	0	61	0	0	1	0	2	0	223
Total	0	691	1	0	0	0	0	0	1	242	2	0	2	0	2	0	941
08:00 AM	0	143	0	0	0	0	0	0	0	76	1	0	0	0	0	0	220
08:15 AM	0	114	1	0	0	0	1	0	0	76	0	0	2	0	0	0	194
Grand Total	1	1136	2	0	0	0	1	0	1	457	3	0	5	0	3	0	1609
Apprch %	0.1	99.7	0.2	0.0	0.0	0.0	100.0	0.0	0.2	99.1	0.7	0.0	62.5	0.0	37.5	0.0	
Total %	0.1	70.6	0.1	0.0	0.0	0.0	0.1	0.0	0.1	28.4	0.2	0.0	0.3	0.0	0.2	0.0	

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File Name : Hwy 83 - Stagecoach AM
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Start Date : 01/14/2016
Page No : 2

	Hwy 83 From North					Fire Station Access From East					Hwy 83 From South					Stagecoach Rd From West					
Start Time	Rig ht	Thru	Left	Ped s	App. Total	Rig ht	Thru	Left	Ped s	App. Total	Rig ht	Thru	Left	Ped s	App. Total	Rig ht	Thru	Left	Ped s	App. Total	Int. Total
Peak Hour From 06:30 AM to 08:15 AM - Peak 1 of 1																					
Intersection	07:15 AM																				
Volume	0	672	1	0	673	0	0	0	0	0	1	267	3	0	271	2	0	2	0	4	948
Percent	0.0	99.9	0.1	0.0		0.0	0.0	0.0	0.0		0.4	98.5	1.1	0.0		50.0	0.0	50.0	0.0		
07:15																					
Volume	0	197	0	0	197	0	0	0	0	0	0	63	1	0	64	0	0	0	0	0	261
Peak Factor																					0.908
High Int.	07:15 AM					6:15:00 AM					08:00 AM					07:45 AM					
Volume	0	197	0	0	197	0	0	0	0	0	0	76	1	0	77	1	0	2	0	3	
Peak Factor	0.854										0.880					0.333					



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 Site Code : 00164050
 Start Date : 01/20/2016
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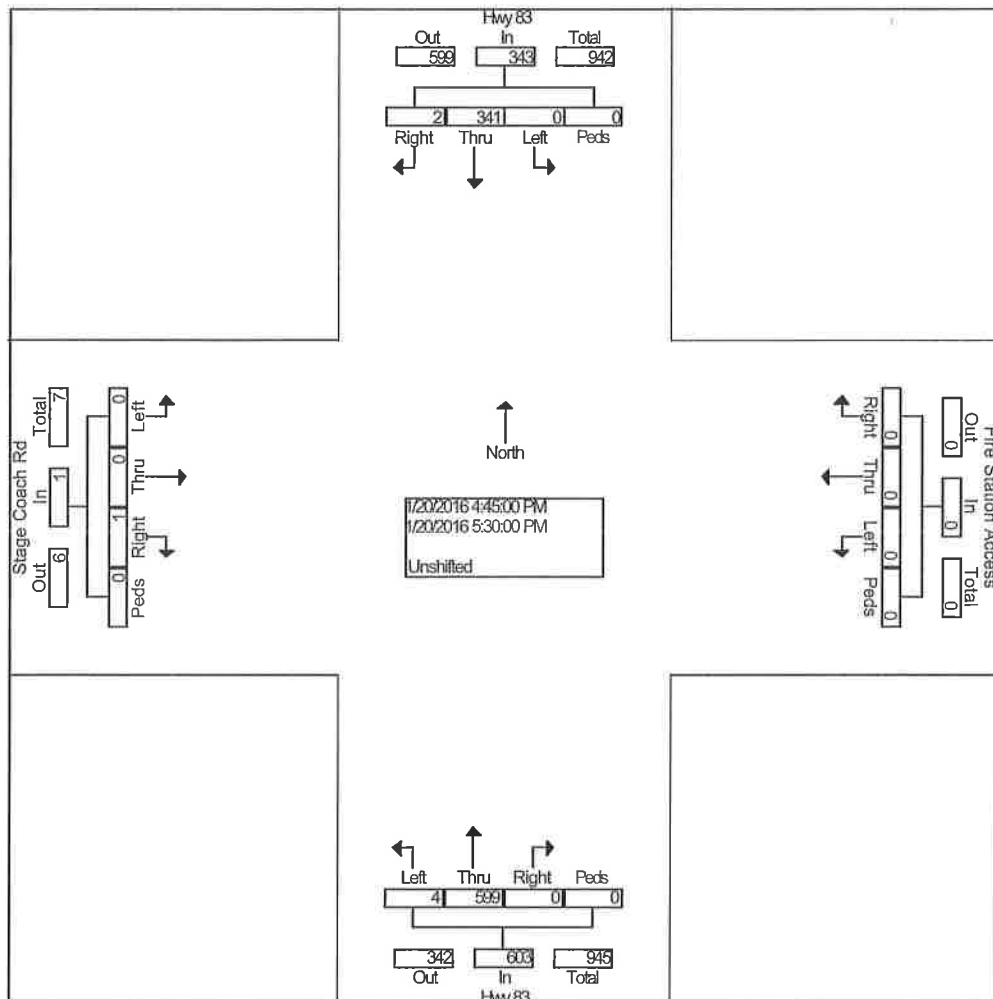
Groups Printed- Unshifted

	Hwy 83 From North				Fire Station Access From East				Hwy 83 From South				Stage Coach 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	73	0	0	0	0	0	0	0	97	2	0	0	0	1	0	174
04:15 PM	0	105	0	0	0	0	0	0	0	127	1	0	0	0	0	0	233
04:30 PM	0	97	0	0	0	0	0	0	0	118	0	0	0	0	1	0	216
04:45 PM	1	82	0	0	0	0	0	0	0	143	0	0	0	0	0	0	226
Total	2	357	0	0	0	0	0	0	0	485	3	0	0	0	2	0	849
05:00 PM	1	85	0	0	0	0	0	0	0	152	1	0	1	0	0	0	240
05:15 PM	0	85	0	0	0	0	0	0	0	164	2	0	0	0	0	0	251
05:30 PM	0	89	0	0	0	0	0	0	0	140	1	0	0	0	0	0	230
05:45 PM	1	79	0	0	0	0	0	0	0	132	1	0	0	0	0	0	213
Total	2	338	0	0	0	0	0	0	0	588	5	0	1	0	0	0	934
Grand Total	4	695	0	0	0	0	0	0	0	1073	8	0	1	0	2	0	1783
Apprch %	0.6	99.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	99.3	0.7	0.0	33.3	0.0	66.7	0.0	
Total %	0.2	39.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	60.2	0.4	0.0	0.1	0.0	0.1	0.0	

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Site Name : Hwy 83 - Stagecoach Rd 1-20 -16 PM
 Site Code : 00164050
 Start Date : 01/20/2016
 Page No : 2

	Hwy 83 From North					Fire Station Access From East					Hwy 83 From South					Stage Coach Rd From West					
Start Time	Rig ht	Thr u	Left	Ped s	App. Total	Rig ht	Thr u	Left	Ped s	App. Total	Rig ht	Thr u	Left	Ped s	App. Total	Rig ht	Thr u	Left	Ped s	App. Total	Int. Total
Peak Hour From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Intersection	04:45 PM																				
Volume	2	341	0	0	343	0	0	0	0	0	0	599	4	0	603	1	0	0	0	1	947
Percent	0.6	99.4	0.0	0.0		0.0	0.0	0.0	0.0		0.0	99.3	0.7	0.0		100.0	0.0	0.0	0.0		
05:15																					
Volume	0	85	0	0	85	0	0	0	0	0	0	164	2	0	166	0	0	0	0	0	251
Peak Factor																					0.943
High Int.	05:30 PM					3:45:00 PM					05:15 PM					05:00 PM					
Volume	0	89	0	0	89	0	0	0	0	0	0	164	2	0	166	1	0	0	0	1	
Peak Factor	0.963										0.908					0.250					



Intersection												
Int Delay, s/veh	2.5											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	1	69	35	52	300	0	51	0	12	0	0	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	240	290	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	97	97	97	88	88	88	25	25	25
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	81	41	54	309	0	58	0	14	0	0	8

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	309	0	0	81	0	0	504	500	81	506	500	309
Stage 1	-	-	-	-	-	-	84	84	-	416	416	-
Stage 2	-	-	-	-	-	-	420	416	-	90	84	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1252	-	-	1517	-	-	478	473	979	477	473	731
Stage 1	-	-	-	-	-	-	924	825	-	614	592	-
Stage 2	-	-	-	-	-	-	611	592	-	917	825	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1252	-	-	1517	-	-	460	456	979	457	456	731
Mov Cap-2 Maneuver	-	-	-	-	-	-	460	456	-	457	456	-
Stage 1	-	-	-	-	-	-	923	824	-	613	571	-
Stage 2	-	-	-	-	-	-	583	571	-	903	824	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	1.1	13.2	10
HCM LOS	B	B	B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	512	1252	-	-	1517	-	-	731
HCM Lane V/C Ratio	0.14	0.001	-	-	0.035	-	-	0.011
HCM Control Delay (s)	13.2	7.9	0	-	7.5	-	-	10
HCM Lane LOS	B	A	A	-	A	-	-	B
HCM 95th %tile Q(veh)	0.5	0	-	-	0.1	-	-	0

Intersection												
Int Delay, s/veh	0.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	2	0	2	0	0	0	3	267	1	1	672	0
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	92	92	92	92	92	92	100	100	100	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	0	2	0	0	0	3	267	1	1	791	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1067	1067	791	1068	1067	268	791	0	0	268	0	0
Stage 1	793	793	-	274	274	-	-	-	-	-	-	-
Stage 2	274	274	-	794	793	-	-	-	-	-	-	-
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	200	222	390	199	222	771	829	-	-	1296	-	-
Stage 1	382	400	-	732	683	-	-	-	-	-	-	-
Stage 2	732	683	-	381	400	-	-	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	199	221	390	197	221	771	829	-	-	1296	-	-
Mov Cap-2 Maneuver	199	221	-	197	221	-	-	-	-	-	-	-
Stage 1	380	400	-	729	680	-	-	-	-	-	-	-
Stage 2	729	680	-	378	400	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	18.9	0	0.1	0
HCM LOS	C	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	829	-	-	264	-	1296	-	-
HCM Lane V/C Ratio	0.004	-	-	0.016	-	0.001	-	-
HCM Control Delay (s)	9.4	0	-	18.9	0	7.8	0	-
HCM Lane LOS	A	A	-	C	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	-	0	-	-

HCM 2010 TWSC
2: Black Forest Rd (West)/Driveway & Hodgen Rd

Existing Traffic
PM Peak Hour

Intersection

Int Delay, s/veh 2.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	0	270	69	22	151	0	63	0	44	0	0	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	240	290	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	99	99	99	79	79	79	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	273	70	28	191	0	63	0	44	0	0	1

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	191	0	0	273	0	0	520	520	273	542	520	191
Stage 1	-	-	-	-	-	-	273	273	-	247	247	-
Stage 2	-	-	-	-	-	-	247	247	-	295	273	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1383	-	-	1290	-	-	467	461	766	451	461	851
Stage 1	-	-	-	-	-	-	733	684	-	757	702	-
Stage 2	-	-	-	-	-	-	757	702	-	713	684	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1383	-	-	1290	-	-	459	451	766	418	451	851
Mov Cap-2 Maneuver	-	-	-	-	-	-	459	451	-	418	451	-
Stage 1	-	-	-	-	-	-	733	684	-	757	687	-
Stage 2	-	-	-	-	-	-	740	687	-	672	684	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	1	13.1	9.2
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	550	1383	-	-	1290	-	-	851
HCM Lane V/C Ratio	0.195	-	-	-	0.022	-	-	0.001
HCM Control Delay (s)	13.1	0	-	-	7.9	-	-	9.2
HCM Lane LOS	B	A	-	-	A	-	-	A
HCM 95th %tile Q(veh)	0.7	0	-	-	0.1	-	-	0

HCM 2010 TWSC
126: SH 83 & Stagecoach Rd

Existing Traffic
PM Peak Hour

Intersection												
Int Delay, s/veh	0.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	0	0	1	0	0	0	4	599	0	0	341	2
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	92	92	92	92	92	92	91	91	91	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	1	0	0	0	4	658	0	0	341	2

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1009	1009	342	1010	1010	658	343	0	0	658	0	0
Stage 1	342	342	-	667	667	-	-	-	-	-	-	-
Stage 2	667	667	-	343	343	-	-	-	-	-	-	-
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	219	240	701	218	240	464	1216	-	-	930	-	-
Stage 1	673	638	-	448	457	-	-	-	-	-	-	-
Stage 2	448	457	-	672	637	-	-	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	218	239	701	217	239	464	1216	-	-	930	-	-
Mov Cap-2 Maneuver	218	239	-	217	239	-	-	-	-	-	-	-
Stage 1	670	638	-	446	455	-	-	-	-	-	-	-
Stage 2	446	455	-	671	637	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.1	0	0.1	0
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1216	-	-	701	-	930	-	-
HCM Lane V/C Ratio	0.004	-	-	0.002	-	-	-	-
HCM Control Delay (s)	8	0	-	10.1	0	0	-	-
HCM Lane LOS	A	A	-	B	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0	-	0	-	-

HCM 2010 TWSC
2: Black Forest Rd (West)/Driveway & Hodgen Rd

Existing Plus Phases 1&2 Generated Traffic
AM Peak Hour

Intersection

Int Delay, s/veh 2.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	1	70	36	53	300	0	52	0	13	0	0	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	240	290	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	97	97	97	92	92	92	25	25	25
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	82	42	55	309	0	57	0	14	0	0	8

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	309	0	0	82	0	0	508	504	82	511	504	309
Stage 1	-	-	-	-	-	-	85	85	-	419	419	-
Stage 2	-	-	-	-	-	-	423	419	-	92	85	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1252	-	-	1515	-	-	475	470	978	473	470	731
Stage 1	-	-	-	-	-	-	923	824	-	612	590	-
Stage 2	-	-	-	-	-	-	609	590	-	915	824	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1252	-	-	1515	-	-	456	452	978	453	452	731
Mov Cap-2 Maneuver	-	-	-	-	-	-	456	452	-	453	452	-
Stage 1	-	-	-	-	-	-	922	823	-	611	569	-
Stage 2	-	-	-	-	-	-	580	569	-	901	823	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	1.1	13.2	10
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	510	1252	-	-	1515	-	-	731
HCM Lane V/C Ratio	0.139	0.001	-	-	0.036	-	-	0.011
HCM Control Delay (s)	13.2	7.9	0	-	7.5	-	-	10
HCM Lane LOS	B	A	A	-	A	-	-	B
HCM 95th %tile Q(veh)	0.5	0	-	-	0.1	-	-	0

Intersection												
Int Delay, s/veh	1.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	2	0	3	4	0	8	1	52	1	3	85	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	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	0	3	4	0	9	1	57	1	3	92	1
Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	163	159	93	160	159	57	93	0	0	58	0	0
Stage 1	99	99	-	59	59	-	-	-	-	-	-	-
Stage 2	64	60	-	101	100	-	-	-	-	-	-	-
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	802	733	964	806	733	1009	1501	-	-	1546	-	-
Stage 1	907	813	-	953	846	-	-	-	-	-	-	-
Stage 2	947	845	-	905	812	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	793	731	964	801	731	1009	1501	-	-	1546	-	-
Mov Cap-2 Maneuver	793	731	-	801	731	-	-	-	-	-	-	-
Stage 1	906	811	-	952	845	-	-	-	-	-	-	-
Stage 2	938	844	-	900	810	-	-	-	-	-	-	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	9.1			8.9			0.1			0.2		
HCM LOS	A			A								
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR				
Capacity (veh/h)	1501	-	-	887	929	1546	-	-				
HCM Lane V/C Ratio	0.001	-	-	0.006	0.014	0.002	-	-				
HCM Control Delay (s)	7.4	0	-	9.1	8.9	7.3	0	-				
HCM Lane LOS	A	A	-	A	A	A	A	-				
HCM 95th %tile Q(veh)	0	-	-	0	0	0	-	-				

Intersection

Int Delay, s/veh 0.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	2	0	2	14	0	6	3	268	6	3	672	0
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	-	-	-	-	-	0	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	100	100	100	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	0	2	15	0	7	3	268	6	4	791	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1075	1078	791	1076	1075	271	791	0	0	274	0	0
Stage 1	798	798	-	277	277	-	-	-	-	-	-	-
Stage 2	277	280	-	799	798	-	-	-	-	-	-	-
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	197	219	390	197	220	768	829	-	-	1289	-	-
Stage 1	380	398	-	729	681	-	-	-	-	-	-	-
Stage 2	729	679	-	379	398	-	-	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	194	217	390	194	218	768	829	-	-	1289	-	-
Mov Cap-2 Maneuver	194	217	-	194	218	-	-	-	-	-	-	-
Stage 1	378	396	-	726	678	-	-	-	-	-	-	-
Stage 2	720	676	-	375	396	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	19.1	20.5	0.1	0
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	829	-	-	259	194	768	1289	-	-
HCM Lane V/C Ratio	0.004	-	-	0.017	0.078	0.008	0.003	-	-
HCM Control Delay (s)	9.4	0	-	19.1	25.1	9.7	7.8	0	-
HCM Lane LOS	A	A	-	C	D	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.3	0	0	-	-

HCM 2010 TWSC
2: Black Forest Rd (West)/Driveway & Hodgen Rd

Existing Plus Phases 1&2 Generated Traffic
PM Peak Hour

Intersection												
Int Delay, s/veh	2.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	0	271	72	24	152	0	64	0	44	0	0	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	240	290	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	99	99	99	79	79	79	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	274	73	30	192	0	64	0	44	0	0	1
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	192	0	0	274	0	0	528	527	274	549	527	192
Stage 1	-	-	-	-	-	-	274	274	-	253	253	-
Stage 2	-	-	-	-	-	-	254	253	-	296	274	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1381	-	-	1289	-	-	461	456	765	446	456	850
Stage 1	-	-	-	-	-	-	732	683	-	751	698	-
Stage 2	-	-	-	-	-	-	750	698	-	712	683	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1381	-	-	1289	-	-	452	445	765	413	445	850
Mov Cap-2 Maneuver	-	-	-	-	-	-	452	445	-	413	445	-
Stage 1	-	-	-	-	-	-	732	683	-	751	682	-
Stage 2	-	-	-	-	-	-	732	682	-	671	683	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0			1.1			13.3			9.2		
HCM LOS							B			A		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	542	1381	-	-	1289	-	-	850				
HCM Lane V/C Ratio	0.199	-	-	-	0.024	-	-	0.001				
HCM Control Delay (s)	13.3	0	-	-	7.9	-	-	9.2				
HCM Lane LOS	B	A	-	-	A	-	-	A				
HCM 95th %tile Q(veh)	0.7	0	-	-	0.1	-	-	0				

Intersection

Int Delay, s/veh 0.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	1	0	2	2	0	5	2	101	4	9	80	3
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	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	0	2	2	0	5	2	110	4	10	87	3

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	227	226	89	225	226	112	90	0	0	114	0	0
Stage 1	108	108	-	116	116	-	-	-	-	-	-	-
Stage 2	119	118	-	109	110	-	-	-	-	-	-	-
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	728	673	969	730	673	941	1505	-	-	1475	-	-
Stage 1	897	806	-	889	800	-	-	-	-	-	-	-
Stage 2	885	798	-	896	804	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	719	668	969	724	668	941	1505	-	-	1475	-	-
Mov Cap-2 Maneuver	719	668	-	724	668	-	-	-	-	-	-	-
Stage 1	896	800	-	888	799	-	-	-	-	-	-	-
Stage 2	879	797	-	888	798	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.2	9.2	0.1	0.7
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1505	-	-	868	867	1475	-	-
HCM Lane V/C Ratio	0.001	-	-	0.004	0.009	0.007	-	-
HCM Control Delay (s)	7.4	0	-	9.2	9.2	7.5	0	-
HCM Lane LOS	A	A	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0	0	-	-

Intersection												
Int Delay, s/veh	0.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	0	0	1	9	0	4	4	601	15	7	341	2
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	-	-	-	-	-	0	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	91	91	91	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	1	10	0	4	4	660	16	7	341	2
Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1033	1042	342	1034	1034	669	343	0	0	677	0	0
Stage 1	356	356	-	677	677	-	-	-	-	-	-	-
Stage 2	677	686	-	357	357	-	-	-	-	-	-	-
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	211	230	701	210	232	458	1216	-	-	915	-	-
Stage 1	661	629	-	443	452	-	-	-	-	-	-	-
Stage 2	443	448	-	661	628	-	-	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	207	227	701	207	229	458	1216	-	-	915	-	-
Mov Cap-2 Maneuver	207	227	-	207	229	-	-	-	-	-	-	-
Stage 1	658	623	-	441	450	-	-	-	-	-	-	-
Stage 2	437	446	-	654	622	-	-	-	-	-	-	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	10.1			20.1			0.1			0.2		
HCM LOS	B			C								
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR			
Capacity (veh/h)	1216	-	-	701	207	458	915	-	-			
HCM Lane V/C Ratio	0.004	-	-	0.002	0.047	0.009	0.008	-	-			
HCM Control Delay (s)	8	0	-	10.1	23.3	12.9	9	0	-			
HCM Lane LOS	A	A	-	B	C	B	A	A	-			
HCM 95th %tile Q(veh)	0	-	-	0	0.1	0	0	-	-			

Intersection

Int Delay, s/veh 2.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	1	100	40	65	400	0	65	0	15	0	0	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	240	290	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	97	97	97	92	92	92	25	25	25
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	118	47	67	412	0	71	0	16	0	0	8

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	412	0	0	118	0	0	670	666	118	674	666	412
Stage 1	-	-	-	-	-	-	120	120	-	546	546	-
Stage 2	-	-	-	-	-	-	550	546	-	128	120	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1147	-	-	1470	-	-	371	380	934	368	380	640
Stage 1	-	-	-	-	-	-	884	796	-	522	518	-
Stage 2	-	-	-	-	-	-	519	518	-	876	796	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1147	-	-	1470	-	-	353	362	934	349	362	640
Mov Cap-2 Maneuver	-	-	-	-	-	-	353	362	-	349	362	-
Stage 1	-	-	-	-	-	-	883	795	-	521	494	-
Stage 2	-	-	-	-	-	-	489	494	-	860	795	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	1.1	16.5	10.7
HCM LOS			C	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	400	1147	-	-	1470	-	-	640
HCM Lane V/C Ratio	0.217	0.001	-	-	0.046	-	-	0.013
HCM Control Delay (s)	16.5	8.1	0	-	7.6	-	-	10.7
HCM Lane LOS	C	A	A	-	A	-	-	B
HCM 95th %tile Q(veh)	0.8	0	-	-	0.1	-	-	0

Intersection												
Int Delay, s/veh	0.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	2	0	2	0	0	0	3	435	1	1	1100	0
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	92	92	92	92	92	92	100	100	100	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	0	2	0	0	0	3	435	1	1	1294	0
Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1738	1738	1294	1740	1738	436	1294	0	0	436	0	0
Stage 1	1296	1296	-	442	442	-	-	-	-	-	-	-
Stage 2	442	442	-	1298	1296	-	-	-	-	-	-	-
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	68	87	199	68	87	620	536	-	-	1124	-	-
Stage 1	199	232	-	594	576	-	-	-	-	-	-	-
Stage 2	594	576	-	199	232	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	67	86	199	67	86	620	536	-	-	1124	-	-
Mov Cap-2 Maneuver	67	86	-	67	86	-	-	-	-	-	-	-
Stage 1	198	231	-	590	572	-	-	-	-	-	-	-
Stage 2	590	572	-	196	231	-	-	-	-	-	-	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	42.6			0			0.1			0		
HCM LOS	E			A								
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR				
Capacity (veh/h)	536	-	-	100	-	1124	-	-				
HCM Lane V/C Ratio	0.006	-	-	0.043	-	0.001	-	-				
HCM Control Delay (s)	11.8	0	-	42.6	0	8.2	0	-				
HCM Lane LOS	B	A	-	E	A	A	A	-				
HCM 95th %tile Q(veh)	0	-	-	0.1	-	0	-	-				

HCM 2010 TWSC
2: Black Forest Rd (West)/Driveway & Hodgen Rd

Short-Term Background Traffic
PM Peak Hour

Intersection

Int Delay, s/veh 2.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	0	360	100	25	200	0	80	0	60	0	0	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	240	290	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	99	99	99	79	79	79	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	364	101	32	253	0	80	0	60	0	0	1

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	253	0	0	364	0	0	681	680	364	710	680	253
Stage 1	-	-	-	-	-	-	364	364	-	316	316	-
Stage 2	-	-	-	-	-	-	317	316	-	394	364	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1312	-	-	1195	-	-	364	373	681	348	373	786
Stage 1	-	-	-	-	-	-	655	624	-	695	655	-
Stage 2	-	-	-	-	-	-	694	655	-	631	624	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1312	-	-	1195	-	-	356	363	681	311	363	786
Mov Cap-2 Maneuver	-	-	-	-	-	-	356	363	-	311	363	-
Stage 1	-	-	-	-	-	-	655	624	-	695	637	-
Stage 2	-	-	-	-	-	-	675	637	-	575	624	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0.9	16.6	9.6
HCM LOS			C	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	448	1312	-	-	1195	-	-	786
HCM Lane V/C Ratio	0.313	-	-	-	0.026	-	-	0.001
HCM Control Delay (s)	16.6	0	-	-	8.1	-	-	9.6
HCM Lane LOS	C	A	-	-	A	-	-	A
HCM 95th %tile Q(veh)	1.3	0	-	-	0.1	-	-	0

Intersection												
Int Delay, s/veh	0											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	0	0	1	0	0	0	4	975	0	0	560	2
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, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	91	91	91	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	1	0	0	0	4	1071	0	0	560	2
Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1641	1641	561	1642	1642	1071	562	0	0	1071	0	0
Stage 1	561	561	-	1080	1080	-	-	-	-	-	-	-
Stage 2	1080	1080	-	562	562	-	-	-	-	-	-	-
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	80	100	527	80	100	268	1009	-	-	651	-	-
Stage 1	512	510	-	264	294	-	-	-	-	-	-	-
Stage 2	264	294	-	512	510	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	79	99	527	79	99	268	1009	-	-	651	-	-
Mov Cap-2 Maneuver	189	210	-	189	209	-	-	-	-	-	-	-
Stage 1	507	510	-	261	291	-	-	-	-	-	-	-
Stage 2	261	291	-	511	510	-	-	-	-	-	-	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	11.8			0			0			0		
HCM LOS	B			A								
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR				
Capacity (veh/h)	1009	-	-	527	-	651	-	-				
HCM Lane V/C Ratio	0.004	-	-	0.002	-	-	-	-				
HCM Control Delay (s)	8.6	0	-	11.8	0	0	-	-				
HCM Lane LOS	A	A	-	B	A	A	-	-				
HCM 95th %tile Q(veh)	0	-	-	0	-	0	-	-				

HCM 2010 TWSC
2: Black Forest Rd (West)/Driveway & Hodgen Rd

Short-Term Total (Phase 6) Traffic
AM Peak Hour

Intersection

Int Delay, s/veh 2.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	1	100	43	68	400	0	67	0	19	0	0	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	240	290	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	97	97	97	92	92	92	25	25	25
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	118	51	70	412	0	73	0	21	0	0	8

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	412	0	0	118	0	0	677	673	118	683	673	412
Stage 1	-	-	-	-	-	-	120	120	-	553	553	-
Stage 2	-	-	-	-	-	-	557	553	-	130	120	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1147	-	-	1470	-	-	367	377	934	363	377	640
Stage 1	-	-	-	-	-	-	884	796	-	517	514	-
Stage 2	-	-	-	-	-	-	515	514	-	874	796	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1147	-	-	1470	-	-	349	359	934	342	359	640
Mov Cap-2 Maneuver	-	-	-	-	-	-	349	359	-	342	359	-
Stage 1	-	-	-	-	-	-	883	795	-	516	490	-
Stage 2	-	-	-	-	-	-	484	490	-	854	795	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	1.1	16.5	10.7
HCM LOS			C	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	405	1147	-	-	1470	-	-	640
HCM Lane V/C Ratio	0.231	0.001	-	-	0.048	-	-	0.013
HCM Control Delay (s)	16.5	8.1	0	-	7.6	-	-	10.7
HCM Lane LOS	C	A	A	-	A	-	-	B
HCM 95th %tile Q(veh)	0.9	0	-	-	0.1	-	-	0

Intersection												
Int Delay, s/veh		1.9										
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	5	0	20	4	0	8	9	69	1	3	103	6
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	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	0	22	4	0	9	10	75	1	3	112	7
Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	221	218	115	228	220	76	118	0	0	76	0	0
Stage 1	122	122	-	95	95	-	-	-	-	-	-	-
Stage 2	99	96	-	133	125	-	-	-	-	-	-	-
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	735	680	937	727	678	985	1470	-	-	1523	-	-
Stage 1	882	795	-	912	816	-	-	-	-	-	-	-
Stage 2	907	815	-	870	792	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	724	674	937	705	672	985	1470	-	-	1523	-	-
Mov Cap-2 Maneuver	724	674	-	705	672	-	-	-	-	-	-	-
Stage 1	876	793	-	906	810	-	-	-	-	-	-	-
Stage 2	893	809	-	848	790	-	-	-	-	-	-	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	9.2			9.2			0.9			0.2		
HCM LOS	A			A								
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR				
Capacity (veh/h)	1470	-	-	885	870	1523	-	-				
HCM Lane V/C Ratio	0.007	-	-	0.031	0.015	0.002	-	-				
HCM Control Delay (s)	7.5	0	-	9.2	9.2	7.4	0	-				
HCM Lane LOS	A	A	-	A	A	A	A	-				
HCM 95th %tile Q(veh)	0	-	-	0.1	0	0	-	-				

SimTraffic Performance Report

126: SH 83 & Stagecoach Rd Performance by lane Interval #1 7:00

Lane	EB	WB	WB	NB	NB	SB	SB	All
Movements Served	LTR	LT	R	LT	R	L	TR	
Stop Del/Veh (s)	13.3	4.2	4.2	0.0	0.0	2.6	0.0	0.2

126: SH 83 & Stagecoach Rd Performance by lane Interval #2 7:15

Lane	EB	WB	WB	NB	NB	SB	SB	All
Movements Served	LTR	LT	R	LT	R	L	TR	
Stop Del/Veh (s)	8.3	6.5	2.9	0.3	0.0	1.7	0.0	0.3

126: SH 83 & Stagecoach Rd Performance by lane Interval #3 7:30

Lane	EB	WB	WB	NB	NB	SB	SB	All
Movements Served	LTR	LT	R	LT	R	L	TR	
Stop Del/Veh (s)	13.5	5.2	2.8	0.0	0.0	1.0	0.0	0.2

126: SH 83 & Stagecoach Rd Performance by lane Interval #4 7:45

Lane	EB	WB	WB	NB	NB	SB	SB	All
Movements Served	LTR	LT	R	LT	R	L	TR	
Stop Del/Veh (s)	12.5	5.2	3.7	0.0	0.0	1.9	0.0	0.3

126: SH 83 & Stagecoach Rd Performance by lane Entire Run

Lane	EB	WB	WB	NB	NB	SB	SB	All
Movements Served	LTR	LT	R	LT	R	L	TR	
Stop Del/Veh (s)	11.9	5.5	3.4	0.1	0.0	1.9	0.0	0.2

HCM 2010 TWSC
2: Black Forest Rd (West)/Driveway & Hodgen Rd

Short-Term Total Traffic
PM Peak Hour

Intersection	
Int Delay, s/veh	3.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	0	360	109	30	200	0	81	0	64	0	0	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	240	290	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	99	99	99	79	79	79	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	364	110	38	253	0	81	0	64	0	0	1

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	253	0	0	364	0	0	694	693	364	725	693	253
Stage 1	-	-	-	-	-	-	364	364	-	329	329	-
Stage 2	-	-	-	-	-	-	330	329	-	396	364	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1312	-	-	1195	-	-	357	367	681	340	367	786
Stage 1	-	-	-	-	-	-	655	624	-	684	646	-
Stage 2	-	-	-	-	-	-	683	646	-	629	624	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1312	-	-	1195	-	-	348	355	681	301	355	786
Mov Cap-2 Maneuver	-	-	-	-	-	-	348	355	-	301	355	-
Stage 1	-	-	-	-	-	-	655	624	-	684	625	-
Stage 2	-	-	-	-	-	-	660	625	-	570	624	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	1.1	17	9.6
HCM LOS			C	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	444	1312	-	-	1195	-	-	786
HCM Lane V/C Ratio	0.327	-	-	-	0.032	-	-	0.001
HCM Control Delay (s)	17	0	-	-	8.1	-	-	9.6
HCM Lane LOS	C	A	-	-	A	-	-	A
HCM 95th %tile Q(veh)	1.4	0	-	-	0.1	-	-	0

HCM 2010 TWSC
5: Black Forest Rd & Stagecoach/Terra Ridge (north)

Short-Term Total Traffic
PM Peak Hour

Intersection

Int Delay, s/veh 1.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	5	0	18	2	0	5	16	134	4	9	114	15
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	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	0	20	2	0	5	17	146	4	10	124	16

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	337	337	132	344	343	148	140	0	0	150	0	0
Stage 1	152	152	-	183	183	-	-	-	-	-	-	-
Stage 2	185	185	-	161	160	-	-	-	-	-	-	-
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	617	584	917	610	579	899	1443	-	-	1431	-	-
Stage 1	850	772	-	819	748	-	-	-	-	-	-	-
Stage 2	817	747	-	841	766	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	603	572	917	587	567	899	1443	-	-	1431	-	-
Mov Cap-2 Maneuver	603	572	-	587	567	-	-	-	-	-	-	-
Stage 1	839	766	-	808	738	-	-	-	-	-	-	-
Stage 2	802	737	-	816	760	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.5	9.7	0.8	0.5
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1443	-	-	824	780	1431	-	-
HCM Lane V/C Ratio	0.012	-	-	0.03	0.01	0.007	-	-
HCM Control Delay (s)	7.5	0	-	9.5	9.7	7.5	0	-
HCM Lane LOS	A	A	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0	0	-	-

SimTraffic Performance Report

126: SH 83 & Stagecoach Rd Performance by lane Interval #1 5:00

Lane	EB	WB	WB	NB	NB	SB	SB	All
Movements Served	LTR	LT	R	LT	R	L	TR	
Stop Del/Veh (s)	1.8	14.1	13.5	0.0	0.0	9.1	0.0	0.6

126: SH 83 & Stagecoach Rd Performance by lane Interval #2 5:15

Lane	WB	WB	NB	NB	SB	SB	All
Movements Served	LT	R	LT	R	L	TR	
Stop Del/Veh (s)	18.1	9.1	0.0	0.1	10.8	0.0	0.7

126: SH 83 & Stagecoach Rd Performance by lane Interval #3 5:30

Lane	EB	WB	WB	NB	NB	SB	SB	All
Movements Served	LTR	LT	R	LT	R	L	TR	
Stop Del/Veh (s)		14.3	6.5	0.0	0.0	6.5	0.0	0.5

126: SH 83 & Stagecoach Rd Performance by lane Interval #4 5:45

Lane	EB	WB	WB	NB	NB	SB	SB	All
Movements Served	LTR	LT	R	LT	R	L	TR	
Stop Del/Veh (s)		19.4	9.0	0.0	0.0	9.6	0.0	0.7

126: SH 83 & Stagecoach Rd Performance by lane Entire Run

Lane	EB	WB	WB	NB	NB	SB	SB	All
Movements Served	LTR	LT	R	LT	R	L	TR	
Stop Del/Veh (s)	4.0	16.9	9.5	0.0	0.0	8.9	0.0	0.6

HCM 2010 TWSC
2: Black Forest Rd (West)/Driveway & Hodgen Rd

2040 Background Traffic
AM Peak Hour

Intersection												
Int Delay, s/veh	2.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	1	125	50	75	500	0	75	0	25	0	0	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	240	290	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	97	97	97	92	92	92	25	25	25
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	147	59	77	515	0	82	0	27	0	0	8
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	515	0	0	147	0	0	823	819	147	833	819	515
Stage 1	-	-	-	-	-	-	149	149	-	670	670	-
Stage 2	-	-	-	-	-	-	674	670	-	163	149	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1051	-	-	1435	-	-	292	310	900	288	310	560
Stage 1	-	-	-	-	-	-	854	774	-	446	455	-
Stage 2	-	-	-	-	-	-	444	455	-	839	774	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1051	-	-	1435	-	-	276	293	900	268	293	560
Mov Cap-2 Maneuver	-	-	-	-	-	-	353	365	-	362	361	-
Stage 1	-	-	-	-	-	-	853	773	-	446	431	-
Stage 2	-	-	-	-	-	-	414	431	-	813	773	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0			1			16.7			11.5		
HCM LOS							C			B		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	416	1051	-	-	1435	-	-	560				
HCM Lane V/C Ratio	0.261	0.001	-	-	0.054	-	-	0.014				
HCM Control Delay (s)	16.7	8.4	0	-	7.7	-	-	11.5				
HCM Lane LOS	C	A	A	-	A	-	-	B				
HCM 95th %tile Q(veh)	1	0	-	-	0.2	-	-	0				

HCM 2010 TWSC
5: Black Forest Rd & Stagecoach Rd/Terra Ridge (north)

2040 Background Traffic
AM Peak Hour

Intersection												
Int Delay, s/veh	0.7											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	0	0	2	4	0	8	1	89	1	3	123	0
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	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	2	4	0	9	1	97	1	3	134	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	244	240	134	240	239	97	134	0	0	98	0	0
Stage 1	140	140	-	99	99	-	-	-	-	-	-	-
Stage 2	104	100	-	141	140	-	-	-	-	-	-	-
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	710	661	915	714	662	959	1451	-	-	1495	-	-
Stage 1	863	781	-	907	813	-	-	-	-	-	-	-
Stage 2	902	812	-	862	781	-	-	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	702	659	915	711	660	959	1451	-	-	1495	-	-
Mov Cap-2 Maneuver	702	659	-	711	660	-	-	-	-	-	-	-
Stage 1	862	779	-	906	812	-	-	-	-	-	-	-
Stage 2	893	811	-	858	779	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	8.9	9.3	0.1	0.2
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1451	-	-	915	859	1495	-	-
HCM Lane V/C Ratio	0.001	-	-	0.002	0.015	0.002	-	-
HCM Control Delay (s)	7.5	0	-	8.9	9.3	7.4	0	-
HCM Lane LOS	A	A	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0	0	-	-

Intersection

Int Delay, s/veh 0.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	2	0	2	0	0	25	3	600	1	10	1525	0
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	-	-	-	-	-	-	403	-	-	418	-	-
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	0	2	0	0	27	3	632	1	11	1605	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1948	2265	803	1462	2264	316	1605	0	0	633	0	0
Stage 1	1626	1626	-	638	638	-	-	-	-	-	-	-
Stage 2	322	639	-	824	1626	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	39	40	326	90	40	680	403	-	-	946	-	-
Stage 1	106	159	-	431	469	-	-	-	-	-	-	-
Stage 2	664	469	-	333	159	-	-	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	37	39	326	88	39	680	403	-	-	946	-	-
Mov Cap-2 Maneuver	89	120	-	207	118	-	-	-	-	-	-	-
Stage 1	105	157	-	428	466	-	-	-	-	-	-	-
Stage 2	633	466	-	327	157	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	31.5	10.5	0.1	0.1
HCM LOS	D	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	403	-	-	140	680	946	-	-
HCM Lane V/C Ratio	0.008	-	-	0.031	0.04	0.011	-	-
HCM Control Delay (s)	14	-	-	31.5	10.5	8.8	-	-
HCM Lane LOS	B	-	-	D	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.1	0	-	-

HCM 2010 TWSC
2: Black Forest Rd (West)/Driveway & Hodgen Rd

2040 Background Traffic
PM Peak Hour

Intersection												
Int Delay, s/veh		4.3										
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	0	450	125	25	250	0	100	0	75	0	0	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	240	290	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	99	99	99	90	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	455	126	28	272	0	109	0	82	0	0	1
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	272	0	0	455	0	0	783	782	455	822	782	272
Stage 1	-	-	-	-	-	-	455	455	-	327	327	-
Stage 2	-	-	-	-	-	-	328	327	-	495	455	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1291	-	-	1106	-	-	311	326	605	293	326	767
Stage 1	-	-	-	-	-	-	585	569	-	686	648	-
Stage 2	-	-	-	-	-	-	685	648	-	556	569	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1291	-	-	1106	-	-	305	318	605	249	318	767
Mov Cap-2 Maneuver	-	-	-	-	-	-	305	318	-	249	318	-
Stage 1	-	-	-	-	-	-	585	569	-	686	632	-
Stage 2	-	-	-	-	-	-	667	632	-	481	569	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0			0.8			23			9.7		
HCM LOS							C			A		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	387	1291	-	-	1106	-	-	767				
HCM Lane V/C Ratio	0.492	-	-	-	0.025	-	-	0.001				
HCM Control Delay (s)	23	0	-	-	8.3	-	-	9.7				
HCM Lane LOS	C	A	-	-	A	-	-	A				
HCM 95th %tile Q(veh)	2.6	0	-	-	0.1	-	-	0				

HCM 2010 TWSC
5: Black Forest Rd & Stagecoach Rd/Terra Ridge (north)

2040 Background Traffic
PM Peak Hour

Intersection

Int Delay, s/veh 0.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	0	0	1	2	0	5	2	169	4	9	139	0
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	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	1	2	0	5	2	184	4	10	151	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	364	363	151	361	361	186	151	0	0	188	0	0
Stage 1	171	171	-	190	190	-	-	-	-	-	-	-
Stage 2	193	192	-	171	171	-	-	-	-	-	-	-
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	592	565	895	595	566	856	1430	-	-	1386	-	-
Stage 1	831	757	-	812	743	-	-	-	-	-	-	-
Stage 2	809	742	-	831	757	-	-	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	584	559	895	590	560	856	1430	-	-	1386	-	-
Mov Cap-2 Maneuver	584	559	-	590	560	-	-	-	-	-	-	-
Stage 1	829	751	-	810	742	-	-	-	-	-	-	-
Stage 2	802	741	-	823	751	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9	9.8	0.1	0.5
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1430	-	-	895	758	1386	-	-
HCM Lane V/C Ratio	0.002	-	-	0.001	0.01	0.007	-	-
HCM Control Delay (s)	7.5	0	-	9	9.8	7.6	0	-
HCM Lane LOS	A	A	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0	0	-	-

Intersection												
Int Delay, s/veh	0.3											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	0	0	1	0	0	15	4	1350	0	25	775	2
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	-	-	-	-	-	-	403	-	-	418	-	-
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	1	0	0	16	4	1421	0	26	816	2

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1588	2298	409	1890	2300	711	818	0	0	1421	0	0
Stage 1	869	869	-	1429	1429	-	-	-	-	-	-	-
Stage 2	719	1429	-	461	871	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	72	38	592	43	38	375	806	-	-	475	-	-
Stage 1	313	367	-	142	199	-	-	-	-	-	-	-
Stage 2	386	199	-	550	367	-	-	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	66	36	592	41	36	375	806	-	-	475	-	-
Mov Cap-2 Maneuver	179	119	-	113	130	-	-	-	-	-	-	-
Stage 1	311	347	-	141	198	-	-	-	-	-	-	-
Stage 2	368	198	-	519	347	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	11.1	15	0	0.4
HCM LOS	B	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	806	-	-	592	375	475	-	-
HCM Lane V/C Ratio	0.005	-	-	0.002	0.042	0.055	-	-
HCM Control Delay (s)	9.5	-	-	11.1	15	13	-	-
HCM Lane LOS	A	-	-	B	C	B	-	-
HCM 95th %tile Q(veh)	0	-	-	0	0.1	0.2	-	-

HCM 2010 TWSC
1: Site Access & Hodgen Rd

2040 Total Traffic
AM Peak Hour

Intersection

Int Delay, s/veh 0.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	182	4	0	583	12	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
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	198	4	0	634	13	3

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	202	0	834	200
Stage 1	-	-	-	-	200	-
Stage 2	-	-	-	-	634	-
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	-	-	1370	-	338	841
Stage 1	-	-	-	-	834	-
Stage 2	-	-	-	-	529	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1370	-	338	841
Mov Cap-2 Maneuver	-	-	-	-	338	-
Stage 1	-	-	-	-	834	-
Stage 2	-	-	-	-	529	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	14.8
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	384	-	-	1370	-
HCM Lane V/C Ratio	0.042	-	-	-	-
HCM Control Delay (s)	14.8	-	-	0	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0	-

HCM 2010 TWSC
2: Black Forest Rd (West)/Driveway & Hodgen Rd

2040 Total Traffic
AM Peak Hour

Intersection												
Int Delay, s/veh		2.9										
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	1	126	57	79	500	0	81	0	32	0	0	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	240	290	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	97	97	97	92	92	92	25	25	25
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	148	67	81	515	0	88	0	35	0	0	8
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	515	0	0	148	0	0	833	829	148	846	829	515
Stage 1	-	-	-	-	-	-	151	151	-	678	678	-
Stage 2	-	-	-	-	-	-	682	678	-	168	151	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1051	-	-	1434	-	-	288	306	899	282	306	560
Stage 1	-	-	-	-	-	-	851	772	-	442	452	-
Stage 2	-	-	-	-	-	-	440	452	-	834	772	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1051	-	-	1434	-	-	271	288	899	259	288	560
Mov Cap-2 Maneuver	-	-	-	-	-	-	348	360	-	356	357	-
Stage 1	-	-	-	-	-	-	850	771	-	442	426	-
Stage 2	-	-	-	-	-	-	409	426	-	801	771	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0			1			17			11.5		
HCM LOS							C			B		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	421	1051	-	-	1434	-	-	560				
HCM Lane V/C Ratio	0.292	0.001	-	-	0.057	-	-	0.014				
HCM Control Delay (s)	17	8.4	0	-	7.7	-	-	11.5				
HCM Lane LOS	C	A	A	-	A	-	-	B				
HCM 95th %tile Q(veh)	1.2	0	-	-	0.2	-	-	0				

Intersection

Int Delay, s/veh 2.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	10	0	35	4	0	8	15	91	1	3	128	8
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	-	-	-	-	-	-	340	-	-	340	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	0	38	4	0	9	16	99	1	3	139	9

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	286	283	143	301	286	99	148	0	0	100	0	0
Stage 1	150	150	-	132	132	-	-	-	-	-	-	-
Stage 2	136	133	-	169	154	-	-	-	-	-	-	-
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	666	626	905	651	623	957	1434	-	-	1493	-	-
Stage 1	853	773	-	871	787	-	-	-	-	-	-	-
Stage 2	867	786	-	833	770	-	-	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	653	618	905	617	615	957	1434	-	-	1493	-	-
Mov Cap-2 Maneuver	653	618	-	617	615	-	-	-	-	-	-	-
Stage 1	843	771	-	861	778	-	-	-	-	-	-	-
Stage 2	850	777	-	796	768	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.6	9.5	1.1	0.2
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1434	-	-	834	808	1493	-	-
HCM Lane V/C Ratio	0.011	-	-	0.059	0.016	0.002	-	-
HCM Control Delay (s)	7.5	-	-	9.6	9.5	7.4	-	-
HCM Lane LOS	A	-	-	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0	0	-	-

HCM 2010 TWSC
7: Black Forest Rd & South Site Access

2040 Total Traffic
AM Peak Hour

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	1	5	2	101	168	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	1	5	2	110	183	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	297	183	183	0	-	0
Stage 1	183	-	-	-	-	-
Stage 2	114	-	-	-	-	-
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	694	859	1392	-	-	-
Stage 1	848	-	-	-	-	-
Stage 2	911	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	693	859	1392	-	-	-
Mov Cap-2 Maneuver	693	-	-	-	-	-
Stage 1	848	-	-	-	-	-
Stage 2	909	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.4	0.1	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1392	-	826	-	-
HCM Lane V/C Ratio	0.002	-	0.008	-	-
HCM Control Delay (s)	7.6	0	9.4	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

SimTraffic Performance Report

126: SH 83 & Stagecoach Rd Performance by lane Interval #1 7:00

Lane	EB	WB	WB	NB	NB	NB	SB	SB	SB	All
Movements Served	LTR	LT	R	LT	T	R	L	T	TR	
Stop Del/Veh (s)	16.4	6.0	3.2	0.1	0.0	0.0	0.9	0.0	0.0	0.3

126: SH 83 & Stagecoach Rd Performance by lane Interval #2 7:15

Lane	EB	WB	WB	NB	NB	NB	SB	SB	SB	All
Movements Served	LTR	LT	R	LT	T	R	L	T	TR	
Stop Del/Veh (s)	8.3	6.5	3.7	0.0	0.0	0.0	1.5	0.0	0.0	0.3

126: SH 83 & Stagecoach Rd Performance by lane Interval #3 7:30

Lane	EB	WB	WB	NB	NB	NB	SB	SB	SB	All
Movements Served	LTR	LT	R	LT	T	R	L	T	TR	
Stop Del/Veh (s)		7.7	3.0	0.0	0.0	0.0	1.7	0.0	0.0	0.4

126: SH 83 & Stagecoach Rd Performance by lane Interval #4 7:45

Lane	EB	WB	WB	NB	NB	NB	SB	SB	SB	All
Movements Served	LTR	LT	R	LT	T	R	L	T	TR	
Stop Del/Veh (s)	13.0	6.0	3.0	0.1	0.0	0.0	1.7	0.0	0.0	0.3

126: SH 83 & Stagecoach Rd Performance by lane Entire Run

Lane	EB	WB	WB	NB	NB	NB	SB	SB	SB	All
Movements Served	LTR	LT	R	LT	T	R	L	T	TR	
Stop Del/Veh (s)	22.1	6.7	3.3	0.1	0.0	0.0	1.5	0.0	0.0	0.3

HCM 2010 TWSC
1: Site Access & Hodgen Rd

2040 Total Traffic
PM Peak Hour

Intersection	
Int Delay, s/veh	0.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	594	14	1	355	8	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
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	646	15	1	386	9	2

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	661	0	1041	653
Stage 1	-	-	-	-	653	-
Stage 2	-	-	-	-	388	-
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	-	-	927	-	255	467
Stage 1	-	-	-	-	518	-
Stage 2	-	-	-	-	686	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	927	-	255	467
Mov Cap-2 Maneuver	-	-	-	-	255	-
Stage 1	-	-	-	-	518	-
Stage 2	-	-	-	-	685	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	18.4
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	280	-	-	927	-
HCM Lane V/C Ratio	0.039	-	-	0.001	-
HCM Control Delay (s)	18.4	-	-	8.9	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection

Int Delay, s/veh 4.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	0	451	145	34	251	0	104	0	81	0	0	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	240	290	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	99	99	99	90	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	456	146	38	273	0	113	0	88	0	0	1

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	273	0	0	456	0	0	805	804	456	848	804	273
Stage 1	-	-	-	-	-	-	456	456	-	348	348	-
Stage 2	-	-	-	-	-	-	349	348	-	500	456	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1290	-	-	1105	-	-	301	316	604	281	316	766
Stage 1	-	-	-	-	-	-	584	568	-	668	634	-
Stage 2	-	-	-	-	-	-	667	634	-	553	568	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1290	-	-	1105	-	-	293	305	604	234	305	766
Mov Cap-2 Maneuver	-	-	-	-	-	-	293	305	-	234	305	-
Stage 1	-	-	-	-	-	-	584	568	-	668	612	-
Stage 2	-	-	-	-	-	-	643	612	-	472	568	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	1	24.8	9.7
HCM LOS			C	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	378	1290	-	-	1105	-	-	766
HCM Lane V/C Ratio	0.532	-	-	-	0.034	-	-	0.001
HCM Control Delay (s)	24.8	0	-	-	8.4	-	-	9.7
HCM Lane LOS	C	A	-	-	A	-	-	A
HCM 95th %tile Q(veh)	3	0	-	-	0.1	-	-	0

Intersection												
Int Delay, s/veh		1.8										
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	8	0	26	2	0	5	36	171	4	9	143	22
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	-	-	-	-	-	-	340	-	-	340	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	9	0	28	2	0	5	39	186	4	10	155	24
Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	456	455	167	467	465	188	179	0	0	190	0	0
Stage 1	187	187	-	266	266	-	-	-	-	-	-	-
Stage 2	269	268	-	201	199	-	-	-	-	-	-	-
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	515	501	877	506	495	854	1397	-	-	1384	-	-
Stage 1	815	745	-	739	689	-	-	-	-	-	-	-
Stage 2	737	687	-	801	736	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	498	483	877	477	478	854	1397	-	-	1384	-	-
Mov Cap-2 Maneuver	498	483	-	477	478	-	-	-	-	-	-	-
Stage 1	792	740	-	718	670	-	-	-	-	-	-	-
Stage 2	712	668	-	770	731	-	-	-	-	-	-	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	10.1			10.2			1.3			0.4		
HCM LOS	B			B								
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR				
Capacity (veh/h)	1397	-	-	744	697	1384	-	-				
HCM Lane V/C Ratio	0.028	-	-	0.05	0.011	0.007	-	-				
HCM Control Delay (s)	7.7	-	-	10.1	10.2	7.6	-	-				
HCM Lane LOS	A	-	-	B	B	A	-	-				
HCM 95th %tile Q(veh)	0.1	-	-	0.2	0	0	-	-				

HCM 2010 TWSC
7: Black Forest Rd & South Site Access

2040 Total Traffic
PM Peak Hour

Intersection

Int Delay, s/veh 0.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Vol, veh/h	1	3	5	211	166	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	1	3	5	229	180	1

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	421	181	182 0
Stage 1	181	-	- -
Stage 2	240	-	- -
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	589	862	1393 -
Stage 1	850	-	- -
Stage 2	800	-	- -
Platoon blocked, %			- -
Mov Cap-1 Maneuver	587	862	1393 -
Mov Cap-2 Maneuver	587	-	- -
Stage 1	850	-	- -
Stage 2	797	-	- -

Approach	EB	NB	SB
HCM Control Delay, s	9.7	0.2	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1393	-	772	-	-
HCM Lane V/C Ratio	0.004	-	0.006	-	-
HCM Control Delay (s)	7.6	0	9.7	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

SimTraffic Performance Report

126: SH 83 & Stagecoach Rd Performance by lane Interval #1 5:00

Lane	WB	WB	NB	NB	NB	SB	SB	SB	All
Movements Served	LT	R	LT	T	R	L	T	TR	
Stop Del/Veh (s)	25.4	6.3	0.0	0.0	0.0	7.9	0.0	0.0	0.7

126: SH 83 & Stagecoach Rd Performance by lane Interval #2 5:15

Lane	EB	WB	WB	NB	NB	NB	SB	SB	SB	All
Movements Served	LTR	LT	R	LT	T	R	L	T	TR	
Stop Del/Veh (s)		38.9	9.9	0.0	0.0	0.0	10.3	0.0	0.0	1.2

126: SH 83 & Stagecoach Rd Performance by lane Interval #3 5:30

Lane	EB	WB	WB	NB	NB	NB	SB	SB	SB	All
Movements Served	LTR	LT	R	LT	T	R	L	T	TR	
Stop Del/Veh (s)		26.5	7.0	0.0	0.0	0.0	8.8	0.0	0.0	0.9

126: SH 83 & Stagecoach Rd Performance by lane Interval #4 5:45

Lane	EB	WB	WB	NB	NB	NB	SB	SB	SB	All
Movements Served	LTR	LT	R	LT	T	R	L	T	TR	
Stop Del/Veh (s)		43.1	6.1	0.0	0.0	0.0	8.8	0.0	0.0	1.4

126: SH 83 & Stagecoach Rd Performance by lane Entire Run

Lane	EB	WB	WB	NB	NB	NB	SB	SB	SB	All
Movements Served	LTR	LT	R	LT	T	R	L	T	TR	
Stop Del/Veh (s)	2.2	36.6	7.2	0.0	0.0	0.0	9.0	0.0	0.0	1.1