

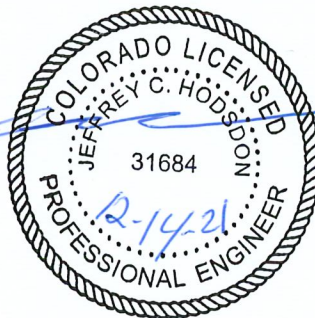


LSC TRANSPORTATION CONSULTANTS, INC.
2504 East Pikes Peak Avenue, Suite 304
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Big R Falcon Expansion Traffic Impact Study (LSC #S214260) December 14, 2021

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.



Developer's Statement

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

David C. Weis

12-14-21
Date

Big R Expansion

Traffic Impact Study

Prepared for:
T-Bone Construction
Design and Development Consultants
1310 Ford Street
Colorado Springs, CO 80915

Contact: Mr. Darin C. Weiss

DECEMBER 14, 2021

LSC Transportation Consultants, Inc.
Prepared by: Jeff Hodsdon, P.E.

LSC #S214260



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December 14, 2021

Darin C. Weiss, Architect AIA
Design and Development Consultants
T-Bone Construction
1310 Ford Street
Colorado Springs, CO 80915

RE: Big R Falcon Expansion
Traffic Impact Study
El Paso County, Colorado
LSC #S214260

Dear Mr. Weiss:

In response to your request, LSC Transportation Consultants, Inc. has prepared this traffic impact study (TIS) for the proposed expansion to the existing Falcon Big R store located south of US Highway 24 (US Hwy 24) between Judge Orr Road and Stapleton Road in El Paso County, Colorado (El Paso County parcel ID 4233000021). This report has been prepared for submittal to El Paso County and the Colorado Department of Transportation (CDOT).

REPORT CONTENTS

The preparation of this report included the following:

- An inventory of existing roadway and traffic conditions on the adjacent US Highway 24 and nearby roadway system, including surface conditions, functional classification, widths, pavement markings, traffic control signs, posted speed limits, intersection and access spacing, roadway and intersection alignments, roadway grades, auxiliary turn lanes, etc.;
- Weekday morning and evening peak-hour turning-movement traffic counts at the Big R access point;
- Estimated current average daily traffic volumes on US Hwy 24;
- Projections of 20-year background traffic volumes on US Hwy 24 adjacent to the site;
- The proposed site land use;
- Estimates of average weekday and weekday peak-hour trip generation for the proposed development;

- Assignment of the site-generated traffic to the site-access intersection and adjacent US Hwy 24;
- Projected resulting total daily and peak-hour intersection traffic volumes at the site access;
- Intersection level of service analysis at the site access for both short and long-term, background and total traffic scenarios;
- Queuing and auxiliary lane analysis at the site access; and
- Findings and recommendations.

RECENT TRAFFIC REPORTS

A traffic study was completed in July 2020 by LSC for the Falcon Kennel located northwest of the proposed development on the north side of US Hwy 24. Also, recent studies were completed in the vicinity for Waterbury Phase 1, Grandview Reserve, and the Judge Orr/Eastonville Commercial Center.

Also, a memo was prepared by LSC for this site in 2013 (September 17, 2013). That memo accompanied an access permit application to CDOT. The finalized CDOT permit number is 213058.

LAND USE AND ACCESS

The development is planned to include a 10,000 square foot expansion to the existing 43,000 square-foot Big R retail store. The existing site has one access point that will remain unchanged. The access point is located on the south side of US Hwy 24, approximately 1,900 feet southwest of the intersection of US Hwy 24 and Stapleton Road. The site access to US Hwy 24 is shared with the Falcon Auto business (planned to remain).

EXISTING ROAD AND TRAFFIC CONDITIONS

US Highway 24 (US Hwy 24) is a category EX Highway (CDOT - Expressway, Major Bypass) in the vicinity of the site that (locally) runs east/west from Colorado Springs to Calhan. The roadway has two lanes adjacent to the site with a painted median. There are westbound left-turn and eastbound right-turn deceleration lanes at the site access. Additionally, there is an eastbound right-turn acceleration lane for vehicles exiting the site onto eastbound US Hwy 24. The posted speed limit is 65 miles per hour (mph) adjacent to the site.

TRIP GENERATION

The estimates of the vehicle trips projected to be generated by the proposed development have been made using rates from the existing counts conducted at the existing Big R access. Table 1, below, presents a summary of the estimated site trip generation on a typical weekday. The table also includes ITE rates for similar type of retail use. The trip generation based on actual counts has been used as this was more conservative.

Approximately 478 total vehicle trips are projected to enter and exit the site at the access point (“driveway trips”) on the average weekday during a 24-hour period. During the morning peak hour, approximately 8 vehicles would enter and 5 vehicles would exit the site. During the evening peak hour, approximately 20 vehicles would enter and 27 vehicles would exit the site. A detailed trip-generation estimate for the development, including rates, is provided in Table 4 (attached).

Table 1: Estimated Site Vehicle-Trip Generation (Vehicles per Hour)

Analysis Period	Total Trips		
	In	Out	Total
A.M. Peak Hour	8	5	13
P.M. Peak Hour	20	27	47
Daily/24-Hour	239	239	478

BACKGROUND TRAFFIC

Short-Term Baseline Traffic Volumes

Baseline/Background traffic is traffic without additional trips associated with the proposed expansion. Short-term baseline traffic was developed from 2021 traffic volumes. Due to the COVID-19 pandemic, traffic volumes in March 2021 were lower than typically would be expected on US Hwy 24. To account for the pandemic’s impact on traffic, October 2021 traffic volumes on US Hwy 24 just east of the site were used to adjust US Highway 24 traffic volumes.

Figure 4 presents the resulting short-term baseline volumes.

Long-Term Background Traffic Volumes

Figure 5 shows the projected 20-year background traffic volumes for the year 2040. The long-term-scenario background volumes have been estimated based on the projected 2040 volume in the US Highway 24 Planning and Environmental Linkage (PEL) Study. The long-term background traffic assumes a growth rate of approximately 4 percent per year for through traffic on US Hwy 24.

An additional long-term “aggressive-growth” scenario has been provided. This scenario assumes buildout of the Grandview Reserve and Waterbury developments located to the northeast. The volumes for this scenario have been based on the projected long-term total volumes shown in the recent study for Waterbury (with some minor adjustments for variations in the peak-hour time periods). The aggressive-growth scenario volumes are presented in Appendix Figure 1 (which actually reflects **total** traffic volumes as referenced in the total traffic paragraph below).

TRIP DISTRIBUTION AND ASSIGNMENT

Trip Directional Distribution

Estimation of the directional distribution of site-generated vehicle trips to the study-area roads and intersections is a necessary component in determining the site's traffic impacts. Figure 6 shows the morning and afternoon directional-distribution estimates for the proposed development. Estimates were based on the existing traffic patterns at the existing Big R access intersection.

Expansion-Project-Generated Traffic

Additional trips resulting from the proposed building expansion are presented in the Trip Generation section and are shown in Table 1. The expansion-generated traffic volumes at the site access intersection have been calculated by applying the directional-distribution percentages estimated by LSC (from Figure 6) to those trip-generation estimates from Table 1. Figure 6 shows these resultant additional traffic volumes.

Short-Term Total Traffic Volumes

Figure 7 shows the sum of the short-term baseline traffic volumes (from Figure 4) and the expansion-generated traffic volumes (shown in Figure 6). These volumes represent the projected short-term total traffic following completion of the store expansion.

Long-Term Total Traffic Volumes

Figure 8 shows the projected 2040 total traffic volumes, which are the sum of 2040 background traffic volumes (from Figure 5) plus the site-generated traffic volumes (from Figure 6).

The 2040 aggressive-growth-scenario (total) volumes are presented in Appendix Figure 1.

LEVEL OF SERVICE ANALYSIS

The site access has been analyzed to determine the projected intersection levels of service for total traffic scenarios for the morning and afternoon peak-hour periods. Level of service (LOS) is a quantitative measure of the level of congestion or delay at an intersection and is indicated on a scale from "A" to "F." LOS A is indicative of little congestion or delay. LOS F indicates a high level of congestion or delay. Table 2 shows the level of service delay ranges for signalized and unsignalized intersections.

Table 2: Intersection Levels of Service Delay Ranges

Level of Service	Signalized Intersections	Unsignalized Intersections
	Average Control Delay (seconds per vehicle)	Average Control Delay (seconds per vehicle) ⁽¹⁾
A	10.0 sec or less	10.0 sec or less
B	10.1-20.0 sec	10.1-15.0 sec
C	20.1-35.0 sec	15.1-25.0 sec
D	35.1-55.0 sec	25.1-35.0 sec
E	55.1-80.0 sec	35.1-50.0 sec
F	80.1 sec or more	50.1 sec or more
(1) For unsignalized intersections, if V/C ratio is greater than 1.0 the level of service is LOS F, regardless of the projected average control delay per vehicle.		

The intersection of US Hwy 24/Big R access has been analyzed to determine the projected control delay and corresponding levels of service for turning movements. Figure 3 provides the March 2021 calculated levels of service and existing baseline levels of service are shown in Figure 4. Figure 5 presents the 2040 background levels of service for the long-term scenario. Figure 7 and Figure 8 provide the levels of service of the existing baseline-plus-expansion-generated traffic and long-term total traffic scenarios, respectively. Appendix Figure 1 presents the levels of service for the 2040 aggressive-growth scenario (total volumes).

The southwest left-turning movement currently operates at and is projected to remain at LOS B or better through the 20-year horizon, with or without the addition of site-generated traffic. As shown in Figure 8, the northwest-bound approach would operate at LOS D or better through the long term, assuming average growth on US Hwy 24. As shown in Appendix Figure 1, the levels of service for the 2040 aggressive-growth scenario (total volumes) indicate LOS F for the northwest-bound single-lane exiting approach.

ACCELERATION AND DECELERATION LANES

Currently, on US Hwy 24 there are westbound left-turn and eastbound right-turn deceleration lanes at the site access. There is also a right-turn acceleration lane for vehicles exiting the site. It is our recollection that the existing auxiliary lanes were originally constructed to the CDOT Access Code criteria for a 55-mph speed limit and the current speed limit is 65 mph. As such, they do not meet State Highway Access Code Design Standards for 65 mph. Table 3 (attached) provides a comparison of the existing, prescribed, and proposed auxiliary lane lengths for the site access.

As shown in Table 3 (attached), the eastbound right-turn deceleration lane does not meet CDOT access-code design standards. The standard on an EX-Highway with a 65-mph speed limit is an 800-foot lane plus a 300-foot taper. There is currently an “intersection ahead” warning sign with a “60-mph” supplemental plate. The additional right-turning trips are estimated to be 11 compared

to existing counts and 13 compared to the right-turn volume in the September 17, 2013 memo that accompanied the access permit. LSC suggests consideration that the upgrade to this lane occur as part of a future US Hwy 24 widening project.

The westbound left-turn does not meet CDOT access-code design standards. This left-turn is back-to-back with the eastbound left-turn at Stapleton Road and could not (practically/reasonably) be lengthened without a shortening of the eastbound left-turn lane approaching the Stapleton intersection, which is not advisable. As a result, it is recommended that this lane remain as is.

The existing right-turn acceleration lane extends to Stapleton Drive and is configured as a continuous acceleration/deceleration lane and is sufficient. No changes are recommended.

COUNTY TRANSPORTATION IMPROVEMENT FEE PROGRAM

This project will be required to participate in the El Paso County Road Improvement Fee Program.

The applicant will be able to join one of the two special districts or opt out of the district option. The applicant will select an option, but hypothetically, the opt-out option building permit fee would be \$2,745 per thousand square feet. A 10,000-square-foot addition would translate to a building permit fee of \$27,450.

Note: This is based on the current rate, which is subject to change. El Paso County updates this rate periodically.

DEVIATIONS

No El Paso County deviations accompany this traffic report, as the site-access intersection is under CDOT jurisdiction.

SUMMARY OF FINDINGS AND RECOMMENDATIONS

Trip Generation

- The expansion project is projected to generate approximately 13 additional morning peak-hour trips at the site-access point, with 8 inbound and 5 outbound.
- The expansion project is projected to generate approximately 47 afternoon peak-hour trips, with 20 inbound and 27 outbound.

Levels of Service

- Levels of service are anticipated to be acceptable for all turning movements for the short- and long-term future scenarios, both with and without the

expansion-project-generated traffic. Note: the level of service for the supplemental “aggressive growth” (US Hwy 24 background traffic growth) is shown as LOS F.

Auxiliary Lanes

- Please refer to the attached Table 3 and the Auxiliary Turn Lane section for evaluation and findings regarding the turn lanes at the site access.

Transportation Impact Fee Program

- This project will be required to participate in the El Paso County Road Improvement Fee Program.

Colorado State Highway Access Permit

- CDOT will likely require a new “change-in-use” access permit for the access to US Hwy 24. The current CDOT permit number is 213058.

* * * * *

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

Respectfully Submitted,

LSC TRANSPORTATION CONSULTANTS, INC.

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

JCH/CRG/JAB:jas

Enclosures: Table 3 and Table 4
Figures 1-8
Traffic Count Reports
Level of Service Reports

Tables

Table 3: Auxiliary Turn Lane Length Evaluation

Turning Movement	Existing Lane Dimensions				Prescribed by State Highway Access Code		Proposed	
	Speed Limit	Road Classification	Taper Length	Lane Length	Taper Length	Storage Length	Taper Length	Decel/Accel + Storage Length
Westbound Left-Turn	65	EX-Expressway	175	610 ⁽¹⁾	300	850	175	610 ⁽¹⁾
Eastbound Right-Turn	65	EX-Expressway	225	600	300	800	225	600 ⁽²⁾
Outbound Right-Turn Acceration Lane	65	EX-Expressway	Continuous Accel/Decel ⁽³⁾	1890	300	1380	Continuous Accel/Decel	1890
Notes: (1) Back-to-back left turns with the US 24/Stapleton Road intersection prevent a longer turn lane at this location (2) Please refer to the Auxiliary Lane section of the report for discussion regarding the proposed lane length (3) The existing acceleration lane extends as a continuous acceleration/deceleration lane to the US 24/Stapleton Road intersection, it is recommended that this lane geometry remain								
Source: LSC Transportation Consultants, Inc.								

Table 4: Trip Generation Estimate

Land Use Code	Land Use Description	Trip Generation Units	Trip Generation Rates				Total (Driveway) Trips Generated						
			Average Weekday Traffic ⁽²⁾	Morning Peak Hour		Afternoon Peak Hour		Average Weekday Traffic	Morning Peak Hour		Afternoon Peak Hour		
				In	Out	In	Out		In	Out	In	Out	
<u>Existing Big R Store - From Counts</u>			<u>Trip Generation Rates ⁽¹⁾⁽²⁾</u>										
	Existing Big R	43 KSF(3)	45.93	0.30	0.12	1.67	2.14	1,975	13	5	72	92	
<u>Big R Store - Additional Trips due to Expansion</u>													
	Future Expansion	10 KSF	45.93	0.30	0.12	1.67	2.14	459	3	1	17	21	
<u>FOR REFERENCE</u>			<u>Trip Generation Rates ⁽⁴⁾</u>										
810	Tractor Supply Store	43 KSF				0.65	0.74	---	---	---	28	32	
815	Free-Standing Discount Store	43 KSF	65.70	0.84	0.35	2.42	2.44	2,825	36	15	104	105	
Notes: PEAK HOURS OF ADJACENT STREET TRAFFIC (7AM TO 8AM AND 4:45 PM TO 5:45 PM) (4) Source: "Trip Generation, 11th Edition, 2021" by the Institute of Transportation Engineers (ITE) (1) Trip generation rates for the Big R store have been back-calculated from count data (3) KSF = 1,000 square feet (2) Average weekday trips were estimated using the same ratio as Land Use 815 Trip Generation (Daily divided by the sum of AM +PM trips)													
Source: LSC Transportation Consultants, Inc.													

12/3/2021

Figures

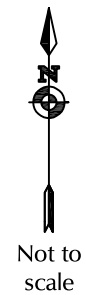
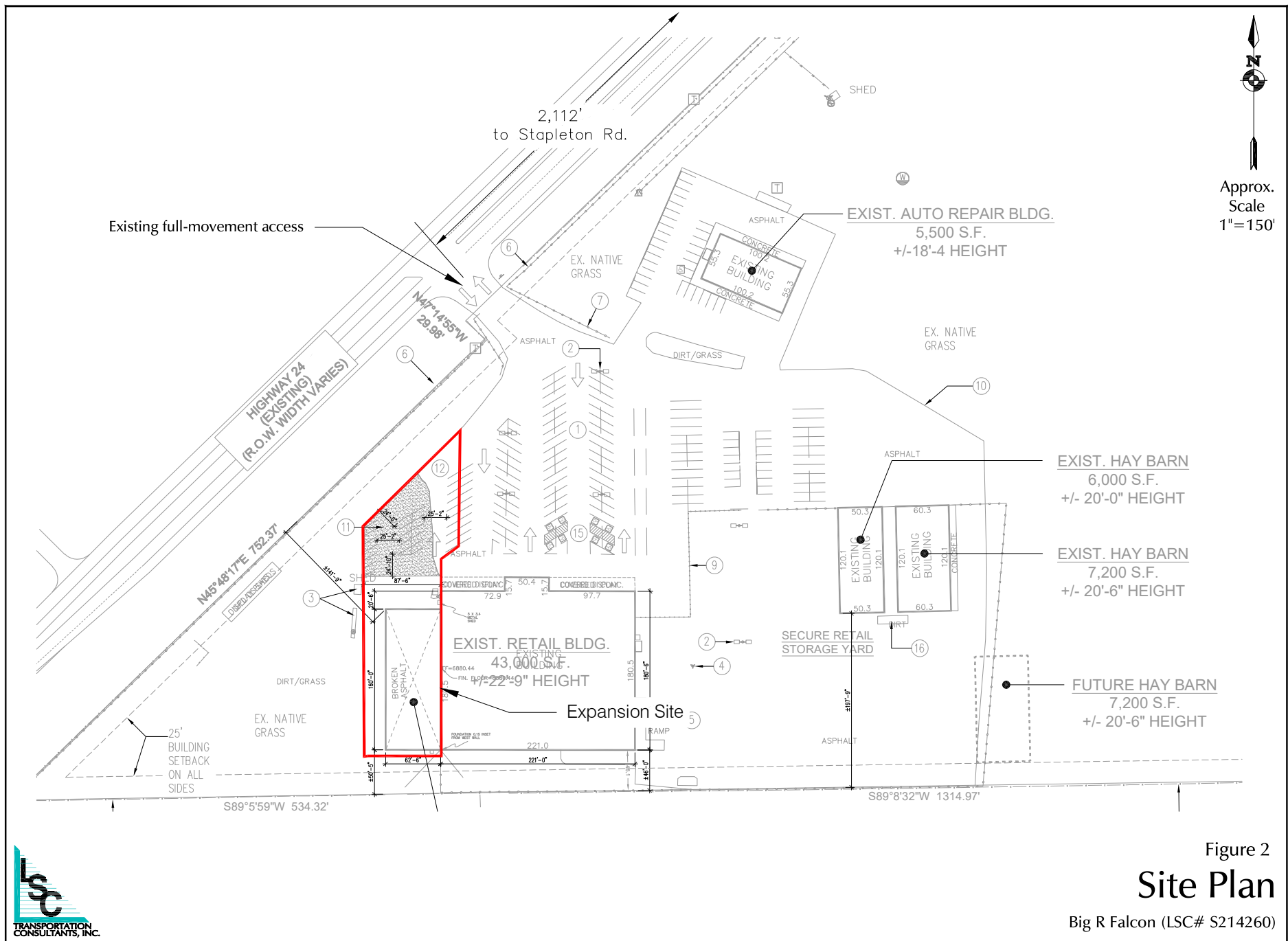
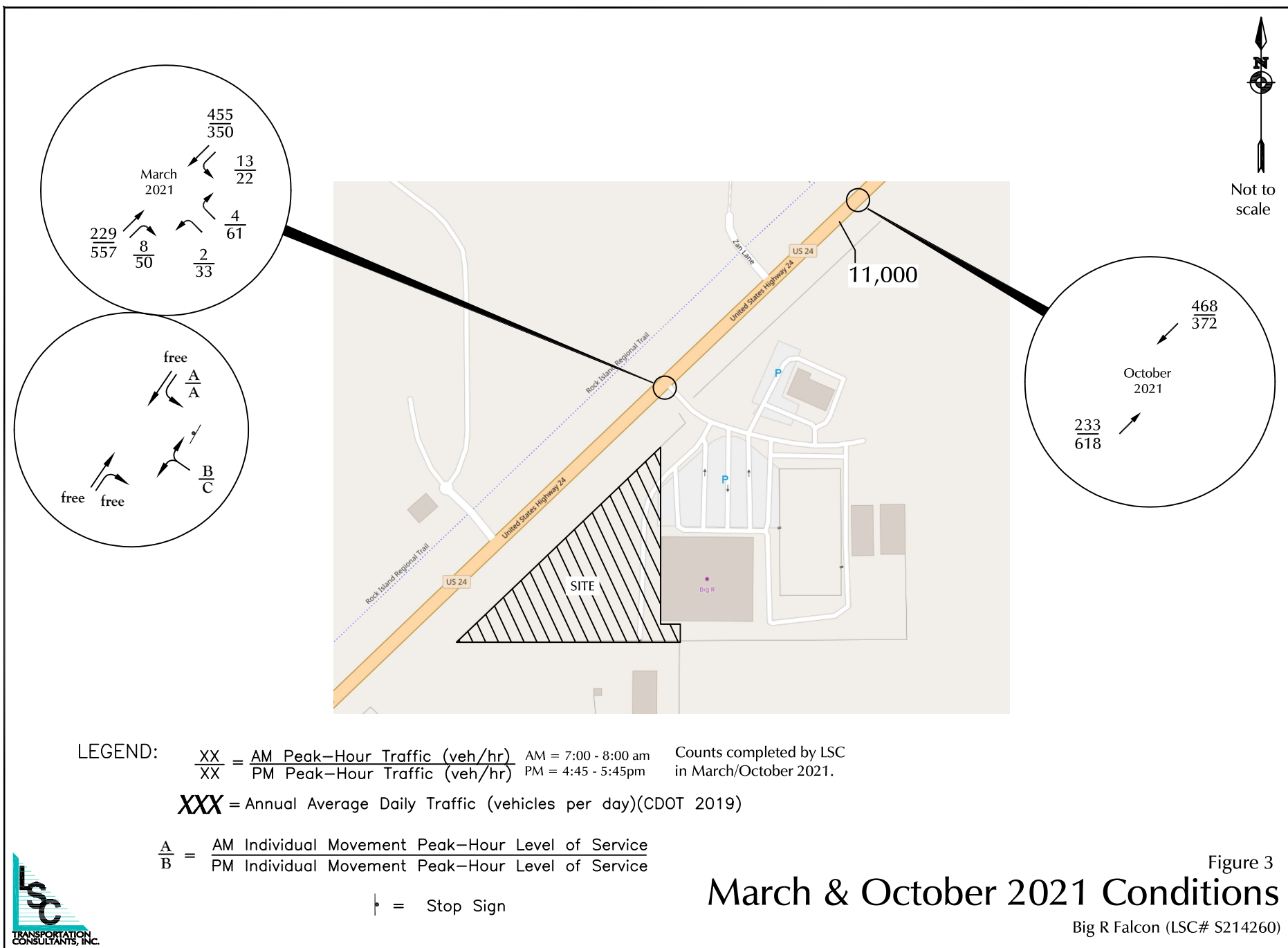
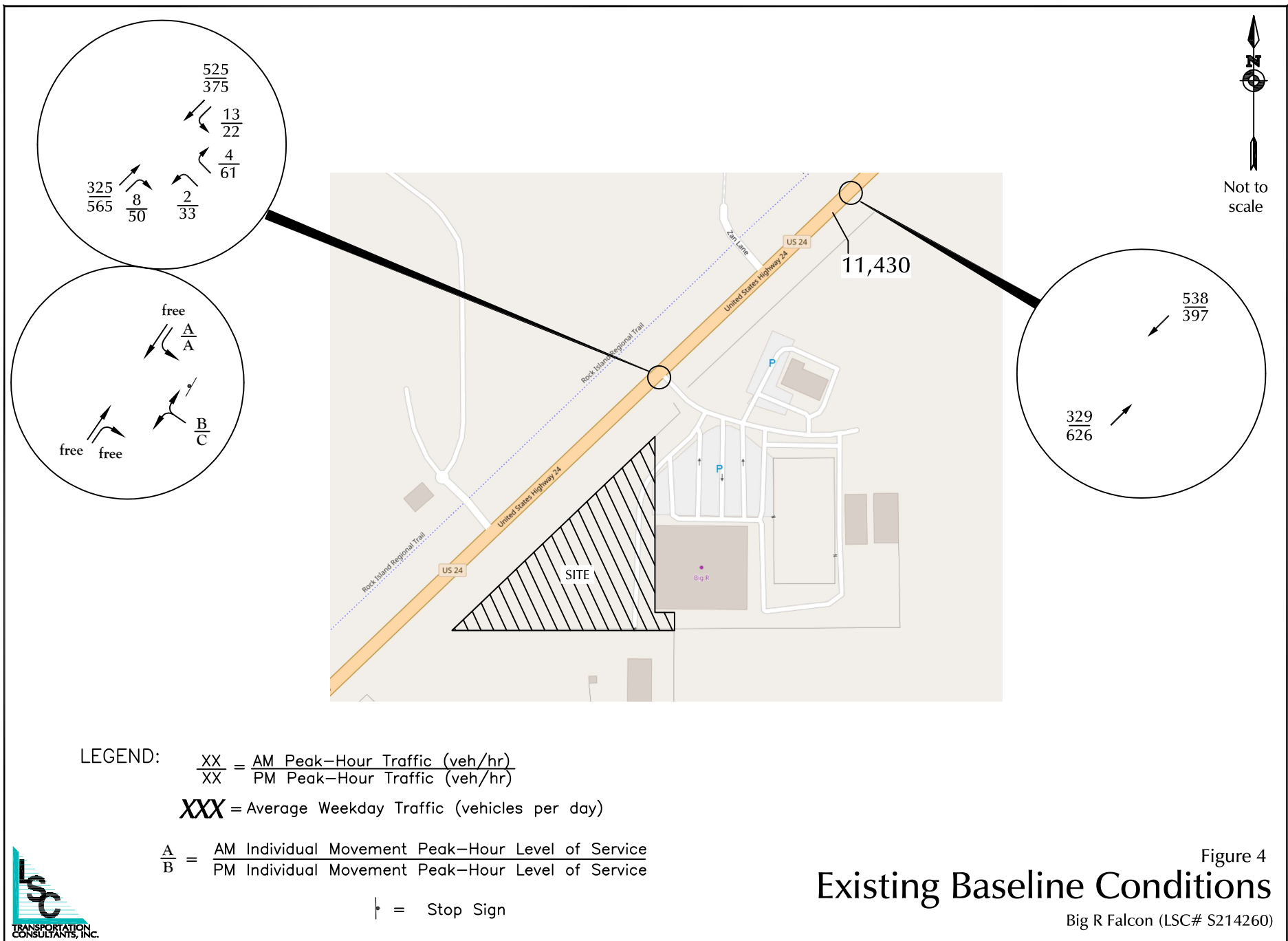
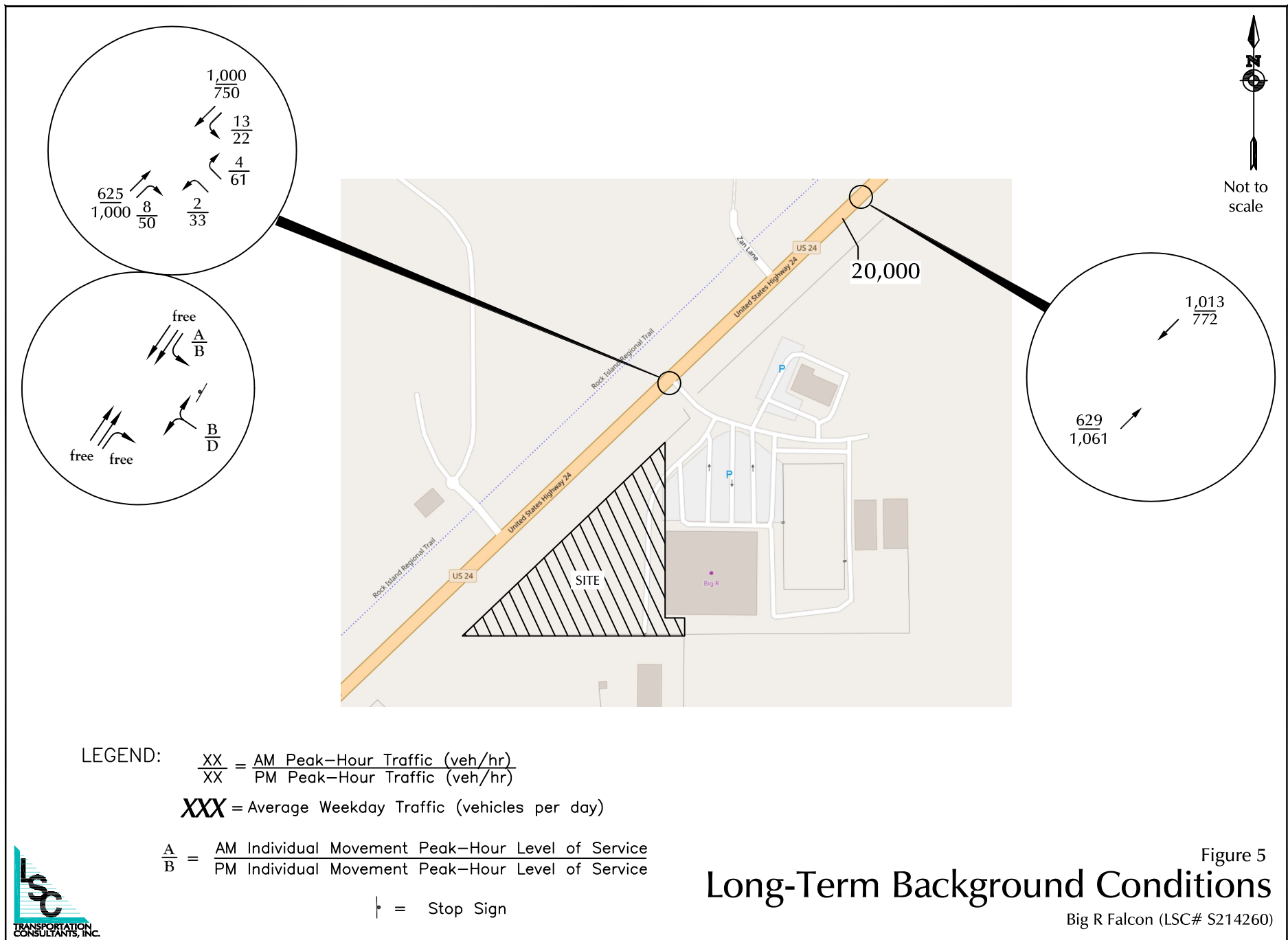


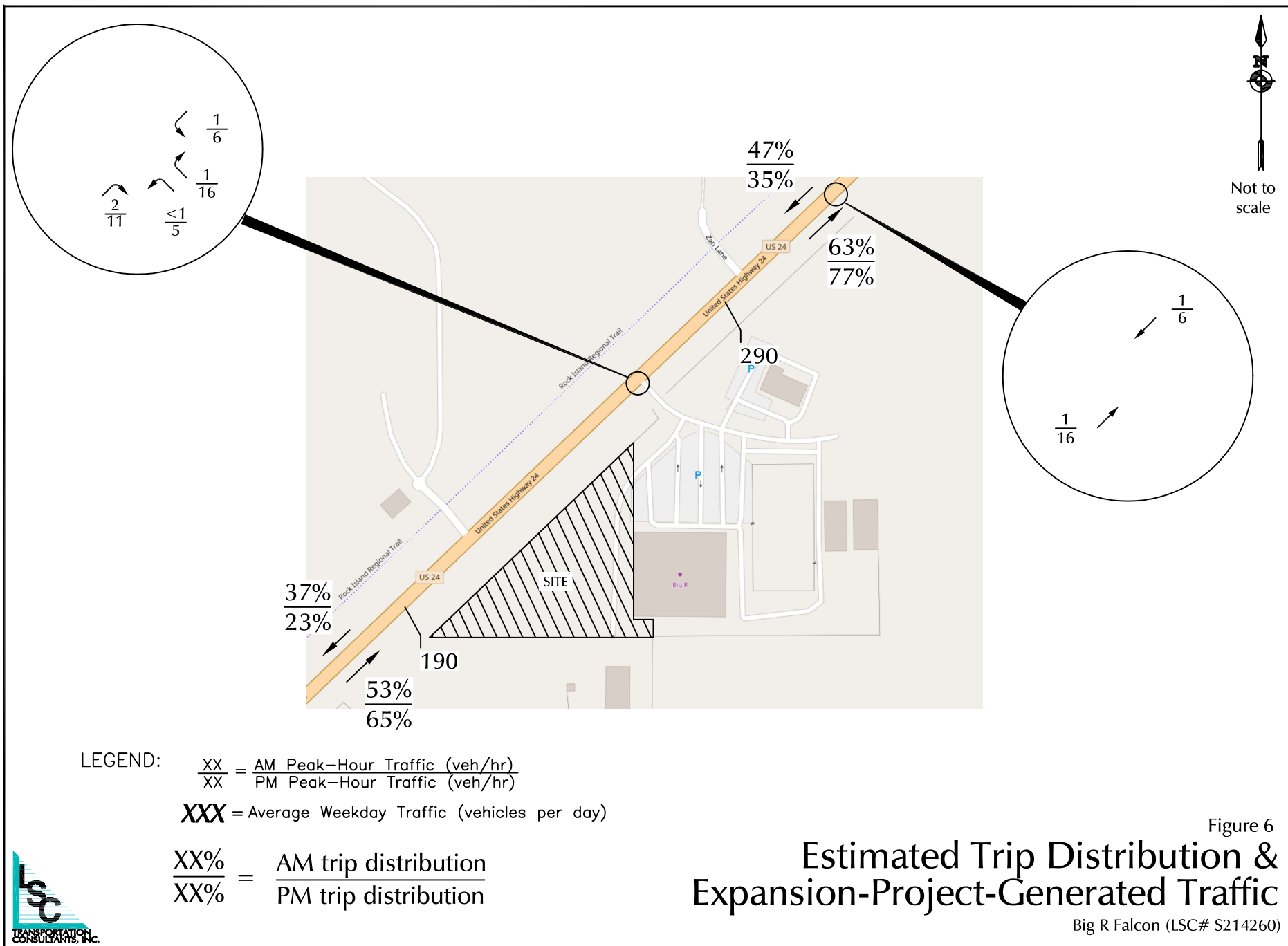
Figure 1
Vicinity Map
Big R Falcon (LSC# S214260)











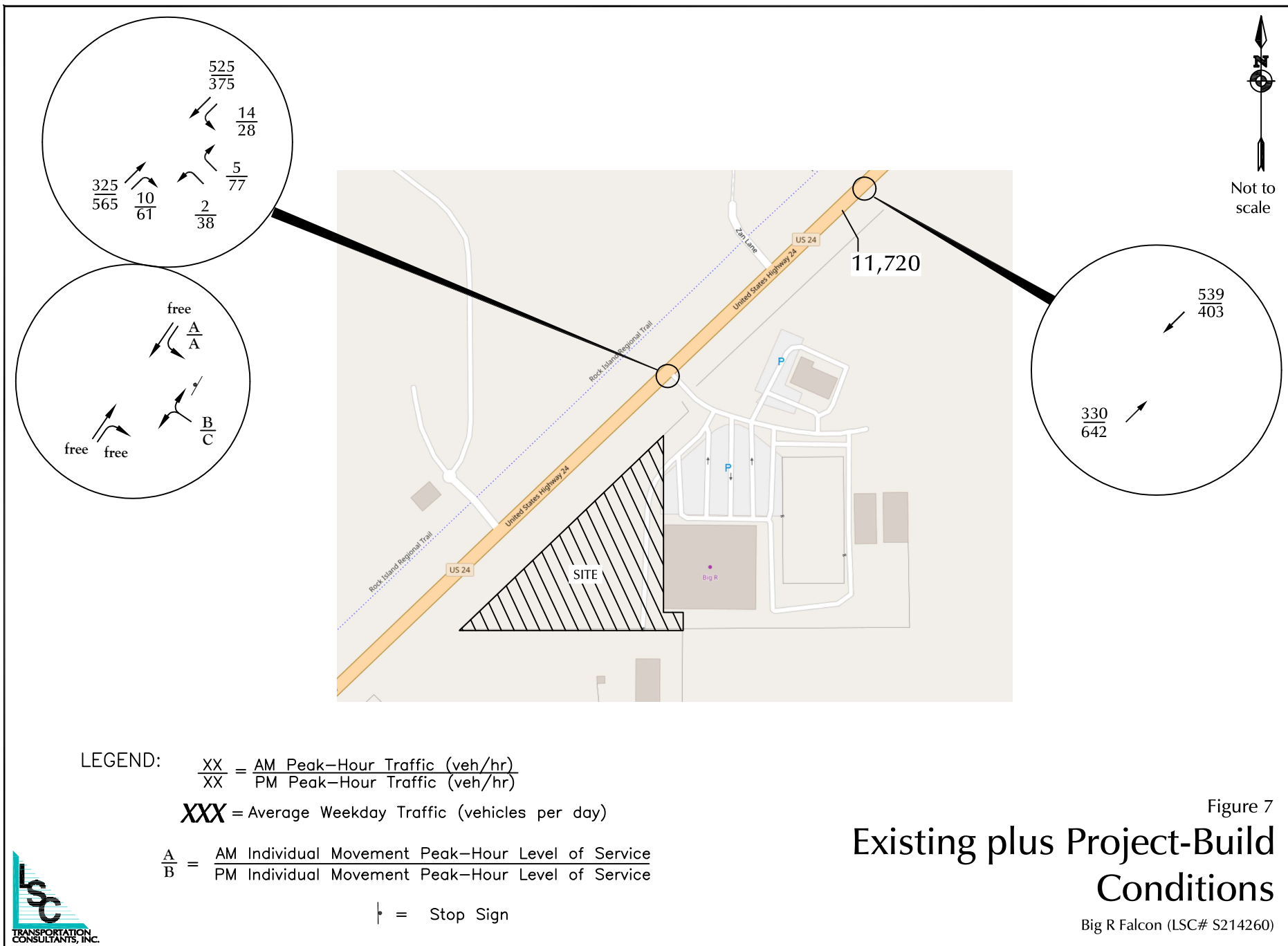
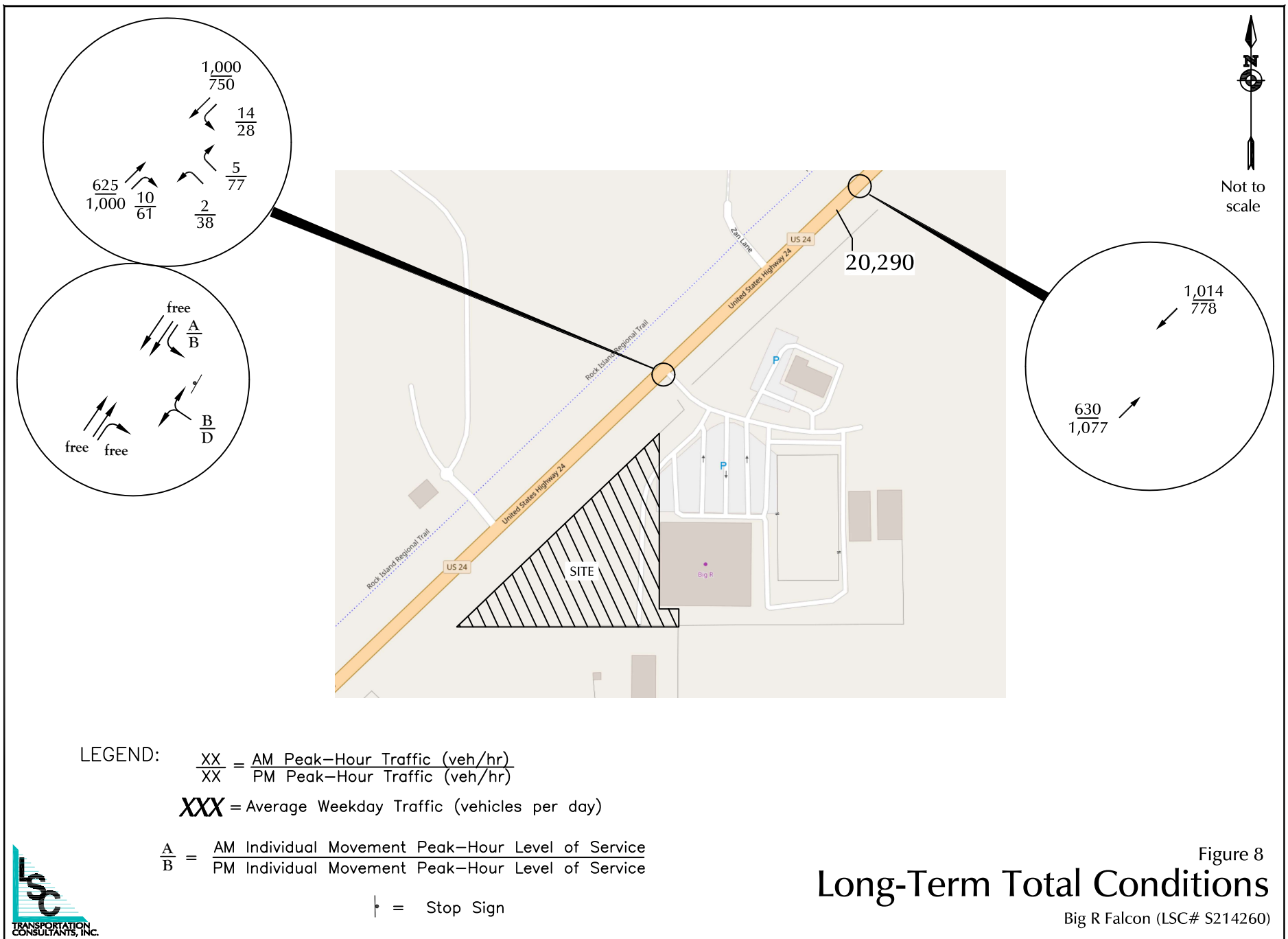
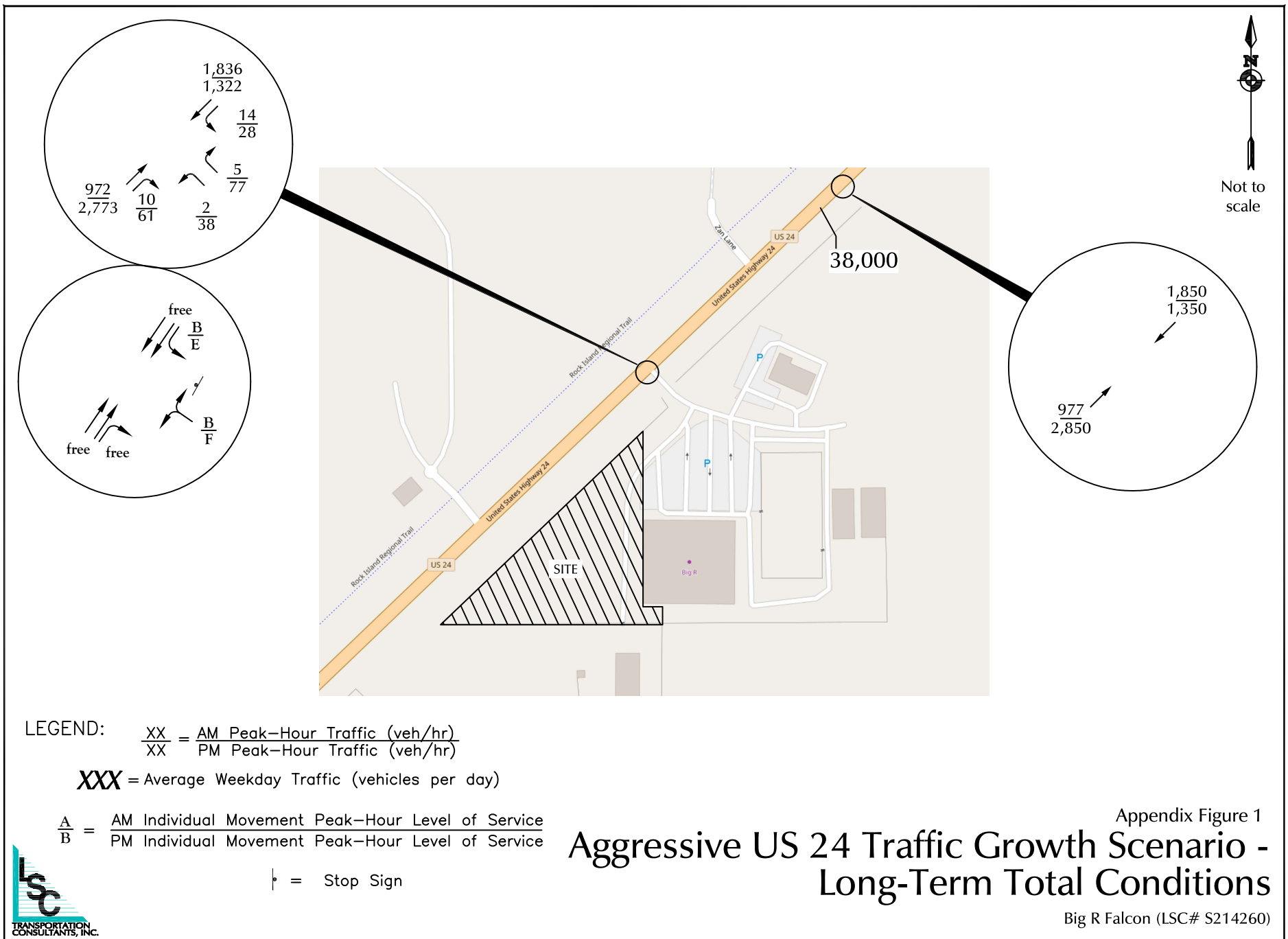


Figure 7
**Existing plus Project-Build
 Conditions**

Big R Falcon (LSC# S214260)





Traffic Counts

LSC Transportation Consultants, Inc.

2504 E Pikes Peak Ave, Suite 304
Colorado Springs, CO 80909
719-633-2868

File Name : Hwy 24 - Big R Access AM
Site Code : S214260
Start Date : 3/17/2021
Page No : 1

Groups Printed- Unshifted

	Hwy 24 Southbound					Big R Access In Westbound					Hwy 24 Northbound					Eastbound					
Start Time	L	T	R	U	App. Total	L	T	R	U	App. Total	L	T	R	U	App. Total	L	T	R	U	App. Total	Int. Total
07:00 AM	1	115	0	0	116	0	0	0	0	0	0	64	1	0	65	0	0	0	0	0	181
07:15 AM	1	126	0	0	127	0	0	0	0	0	0	54	3	0	57	0	0	0	0	0	184
07:30 AM	4	147	0	0	151	2	0	0	0	2	0	63	1	0	64	0	0	0	0	0	217
07:45 AM	7	67	0	0	74	0	0	4	0	4	0	48	3	0	51	0	0	0	0	0	129
Total	13	455	0	0	468	2	0	4	0	6	0	229	8	0	237	0	0	0	0	0	711
08:00 AM	4	103	0	0	107	1	0	7	0	8	0	51	7	0	58	0	0	0	0	0	173
08:15 AM	5	85	0	0	90	2	0	7	0	9	0	53	2	0	55	0	0	0	0	0	154
08:30 AM	3	93	0	0	96	3	0	3	0	6	0	44	3	0	47	0	0	0	0	0	149
08:45 AM	4	77	0	0	81	4	0	0	0	4	0	44	6	0	50	0	0	0	0	0	135
Total	16	358	0	0	374	10	0	17	0	27	0	192	18	0	210	0	0	0	0	0	611
Grand Total	29	813	0	0	842	12	0	21	0	33	0	421	26	0	447	0	0	0	0	0	1322
Apprch %	3.4	96.6	0	0		36.4	0	63.6	0		0	94.2	5.8	0		0	0	0	0		
Total %	2.2	61.5	0	0	63.7	0.9	0	1.6	0	2.5	0	31.8	2	0	33.8	0	0	0	0	0	

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	Hwy 24 Southbound					Big R Access In Westbound					Hwy 24 Northbound					Eastbound					
Start Time	L	T	R	U	App. Total	L	T	R	U	App. Total	L	T	R	U	App. Total	L	T	R	U	App. Total	Int. Total
Peak Hour Analysis From 7:00:00 AM to 8:45:00 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 7:00:00 AM																					
7:00:00 AM	1	115	0	0	116	0	0	0	0	0	0	64	1	0	65	0	0	0	0	0	181
7:15:00 AM	1	126	0	0	127	0	0	0	0	0	0	54	3	0	57	0	0	0	0	0	184
7:30:00 AM	4	147	0	0	151	2	0	0	0	2	0	63	1	0	64	0	0	0	0	0	217
7:45:00 AM	7	67	0	0	74	0	0	4	0	4	0	48	3	0	51	0	0	0	0	0	129
Total Volume	13	455	0	0	468	2	0	4	0	6	0	229	8	0	237	0	0	0	0	0	711
% App. Total	2.8	97.2	0	0		33.3	0	66.7	0		0	96.6	3.4	0		0	0	0	0		
PHF	.464	.774	.000	.000	.775	.250	.000	.250	.000	.375	.000	.895	.667	.000	.912	.000	.000	.000	.000	.000	.819

LSC Transportation Consultants, Inc.

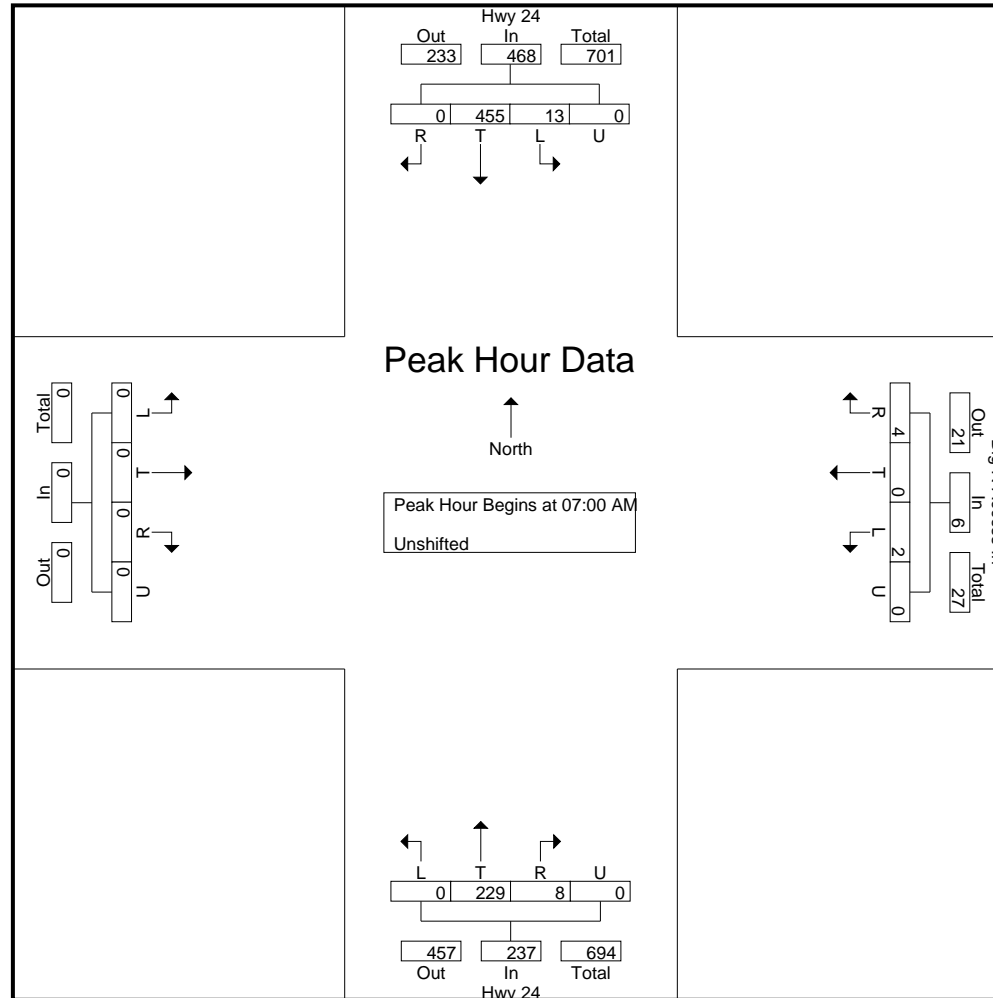
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	Hwy 24 Southbound					Big R Access In Westbound					Hwy 24 Northbound					Eastbound					
Start Time	L	T	R	U	App. Total	L	T	R	U	App. Total	L	T	R	U	App. Total	L	T	R	U	App. Total	Int. Total
Peak Hour Analysis From 7:00:00 AM to 8:45:00 AM - Peak 1 of 1																					
Peak Hour for Each Approach Begins at:																					
	7:00:00 AM					7:45:00 AM					7:00:00 AM					7:00:00 AM					
+0 mins.	1	115	0	0	116	0	0	4	0	4	0	64	1	0	65	0	0	0	0	0	
+5 mins.	1	126	0	0	127	1	0	7	0	8	0	54	3	0	57	0	0	0	0	0	
+10 mins.	4	147	0	0	151	2	0	7	0	9	0	63	1	0	64	0	0	0	0	0	
+15 mins.	7	67	0	0	74	3	0	3	0	6	0	48	3	0	51	0	0	0	0	0	
Total Volume	13	455	0	0	468	6	0	21	0	27	0	229	8	0	237	0	0	0	0	0	
% App. Total	2.8	97.2	0	0		22.2	0	77.8	0		0	96.6	3.4	0		0	0	0	0		
PHF	.464	.774	.000	.000	.775	.500	.000	.750	.000	.750	.000	.895	.667	.000	.912	.000	.000	.000	.000	.000	

LSC Transportation Consultants, Inc.

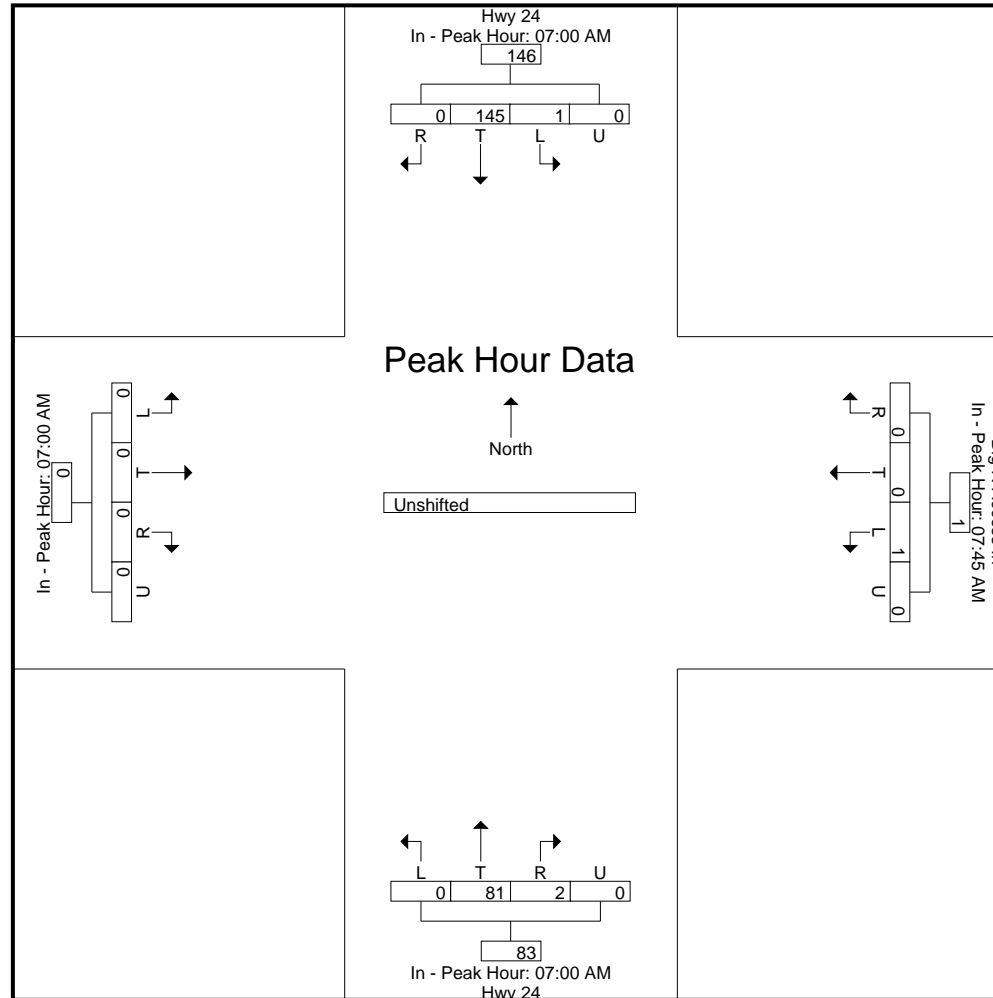
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File Name : Hwy 24 - Big R Access PM
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Page No : 1

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Start Time	L	T	R	U	App. Total	L	T	R	U	App. Total	L	T	R	U	App. Total	L	T	R	U	App. Total	Int. Total
04:00 PM	10	54	0	0	64	10	0	9	0	19	0	89	15	0	104	0	0	0	0	0	187
04:15 PM	5	82	0	0	87	8	0	23	0	31	0	127	17	0	144	0	0	0	0	0	262
04:30 PM	11	85	0	0	96	2	0	19	0	21	0	130	12	0	142	0	0	0	0	0	259
04:45 PM	7	85	0	0	92	8	0	20	0	28	0	130	15	0	145	0	0	0	0	0	265
Total	33	306	0	0	339	28	0	71	0	99	0	476	59	0	535	0	0	0	0	0	973
05:00 PM	6	105	0	0	111	8	0	23	0	31	0	125	9	0	134	0	0	0	0	0	276
05:15 PM	5	88	0	0	93	11	0	8	0	19	0	151	8	0	159	0	0	0	0	0	271
05:30 PM	4	72	0	0	76	6	0	10	0	16	0	151	18	0	169	0	0	0	0	0	261
05:45 PM	4	84	0	0	88	5	0	11	0	16	0	134	7	0	141	0	0	0	0	0	245
Total	19	349	0	0	368	30	0	52	0	82	0	561	42	0	603	0	0	0	0	0	1053
Grand Total	52	655	0	0	707	58	0	123	0	181	0	1037	101	0	1138	0	0	0	0	0	2026
Apprch %	7.4	92.6	0	0		32	0	68	0		0	91.1	8.9	0		0	0	0	0		
Total %	2.6	32.3	0	0	34.9	2.9	0	6.1	0	8.9	0	51.2	5	0	56.2	0	0	0	0	0	

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2504 E Pikes Peak Ave, Suite 304
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719-633-2868

File Name : Hwy 24 - Big R Access PM
Site Code : S214260
Start Date : 3/17/2021
Page No : 2

	Hwy 24 Southbound					Big R Access In Westbound					Hwy 24 Northbound					Eastbound					
Start Time	L	T	R	U	App. Total	L	T	R	U	App. Total	L	T	R	U	App. Total	L	T	R	U	App. Total	Int. Total
Peak Hour Analysis From 4:00:00 PM to 5:45:00 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 4:45:00 PM																					
4:45:00 PM	7	85	0	0	92	8	0	20	0	28	0	130	15	0	145	0	0	0	0	0	265
5:00:00 PM	6	105	0	0	111	8	0	23	0	31	0	125	9	0	134	0	0	0	0	0	276
5:15:00 PM	5	88	0	0	93	11	0	8	0	19	0	151	8	0	159	0	0	0	0	0	271
5:30:00 PM	4	72	0	0	76	6	0	10	0	16	0	151	18	0	169	0	0	0	0	0	261
Total Volume	22	350	0	0	372	33	0	61	0	94	0	557	50	0	607	0	0	0	0	0	1073
% App. Total	5.9	94.1	0	0		35.1	0	64.9	0		0	91.8	8.2	0		0	0	0	0		
PHF	.786	.833	.000	.000	.838	.750	.000	.663	.000	.758	.000	.922	.694	.000	.898	.000	.000	.000	.000	.000	.972

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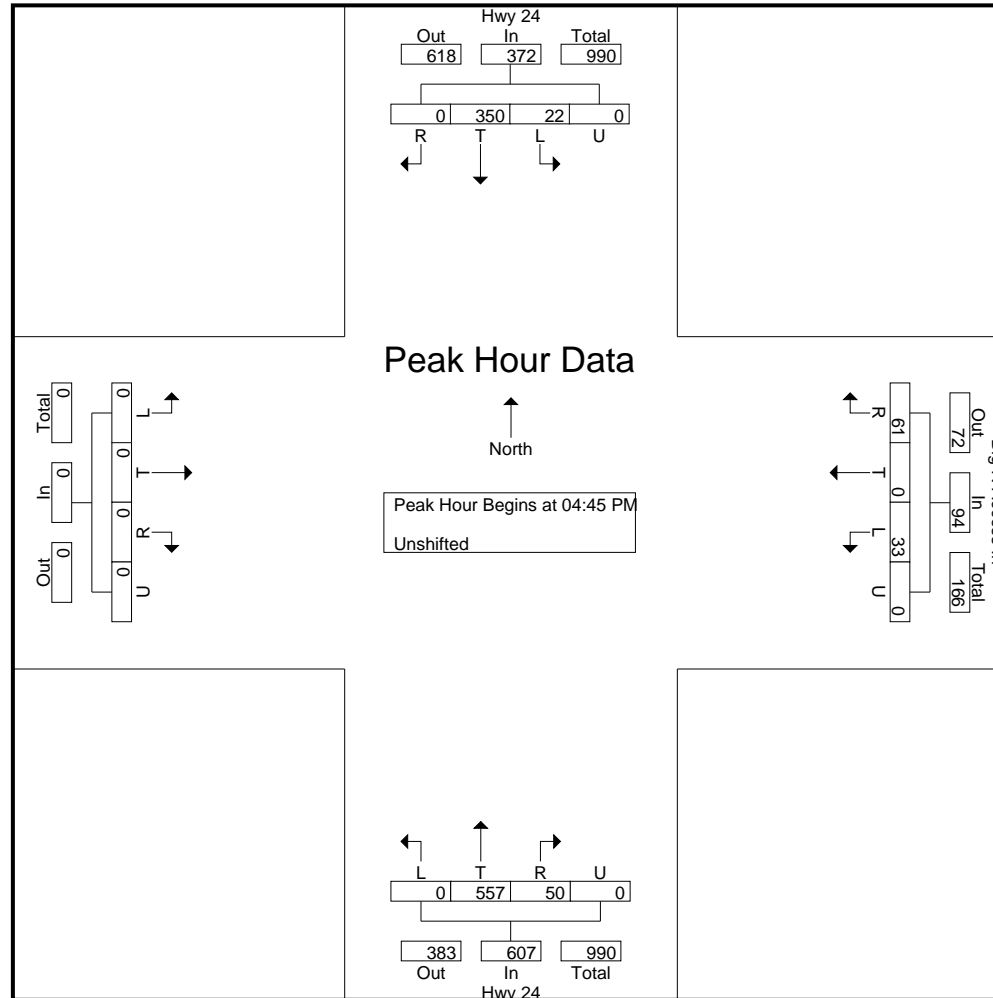
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719-633-2868

File Name : Hwy 24 - Big R Access PM

Site Code : S214260

Start Date : 3/17/2021

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719-633-2868

File Name : Hwy 24 - Big R Access PM
Site Code : S214260
Start Date : 3/17/2021
Page No : 4

	Hwy 24 Southbound					Big R Access In Westbound					Hwy 24 Northbound					Eastbound					
Start Time	L	T	R	U	App. Total	L	T	R	U	App. Total	L	T	R	U	App. Total	L	T	R	U	App. Total	Int. Total
Peak Hour Analysis From 4:00:00 PM to 5:45:00 PM - Peak 1 of 1																					
Peak Hour for Each Approach Begins at:																					
	4:30:00 PM					4:15:00 PM					4:45:00 PM					4:00:00 PM					
+0 mins.	11	85	0	0	96	8	0	23	0	31	0	130	15	0	145	0	0	0	0	0	
+5 mins.	7	85	0	0	92	2	0	19	0	21	0	125	9	0	134	0	0	0	0	0	
+10 mins.	6	105	0	0	111	8	0	20	0	28	0	151	8	0	159	0	0	0	0	0	
+15 mins.	5	88	0	0	93	8	0	23	0	31	0	151	18	0	169	0	0	0	0	0	
Total Volume	29	363	0	0	392	26	0	85	0	111	0	557	50	0	607	0	0	0	0	0	
% App. Total	7.4	92.6	0	0		23.4	0	76.6	0		0	91.8	8.2	0		0	0	0	0		
PHF	.659	.864	.000	.000	.883	.813	.000	.924	.000	.895	.000	.922	.694	.000	.898	.000	.000	.000	.000	.000	

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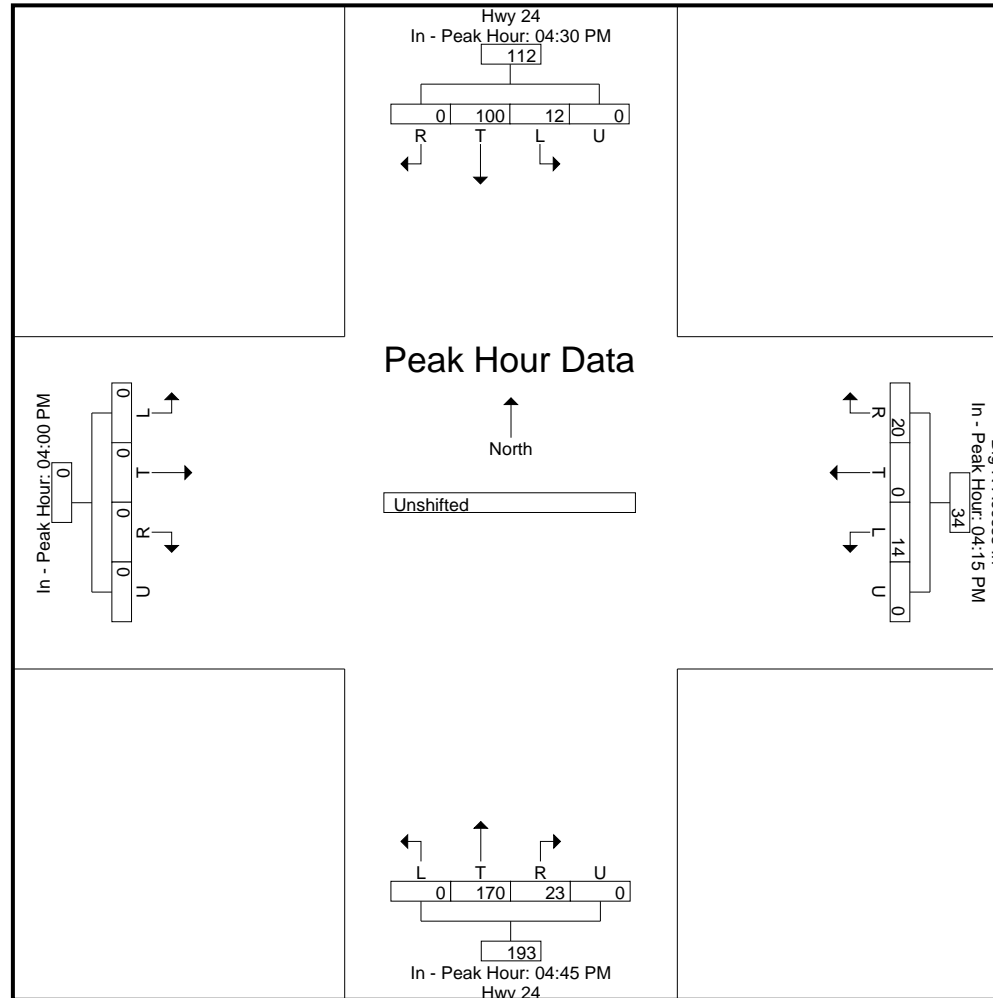
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719-633-2868

File Name : Hwy 24 - Big R Access PM

Site Code : S214260

Start Date : 3/17/2021

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2504 E Pikes Peak Ave, Suite 304
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719-633-2868

File Name : Hwy 24 - Stapleton Rd AM
Site Code : S214740
Start Date : 10/6/2021
Page No : 1

Groups Printed- Unshifted

	Hwy 24 Southbound					Stapleton Rd Westbound					Hwy 24 Northbound					Stapleton Rd Eastbound					
Start Time	L	T	R	U	App. Total	L	T	R	U	App. Total	L	T	R	U	App. Total	L	T	R	U	App. Total	Int. Total
06:30 AM	6	101	2	0	109	0	7	3	0	10	11	79	0	0	90	6	44	20	0	70	279
06:45 AM	8	112	3	0	123	2	12	2	0	16	24	77	1	0	102	6	32	36	1	75	316
Total	14	213	5	0	232	2	19	5	0	26	35	156	1	0	192	12	76	56	1	145	595
07:00 AM	9	98	8	0	115	1	27	4	0	32	17	71	1	0	89	16	41	32	1	90	326
07:15 AM	16	105	19	0	140	1	29	6	0	36	22	64	3	0	89	7	46	46	0	99	364
07:30 AM	12	111	7	0	130	0	18	5	0	23	14	42	0	0	56	4	38	32	0	74	283
07:45 AM	6	71	7	0	84	1	11	3	0	15	12	62	1	0	75	8	23	19	0	50	224
Total	43	385	41	0	469	3	85	18	0	106	65	239	5	0	309	35	148	129	1	313	1197
08:00 AM	4	95	8	0	107	0	9	3	0	12	18	59	3	0	80	1	22	15	0	38	237
08:15 AM	3	105	4	0	112	0	8	3	0	11	13	48	1	0	62	1	15	20	0	36	221
08:30 AM	4	44	4	0	52	4	4	2	0	10	4	43	0	0	47	8	9	7	0	24	133
Grand Total	68	842	62	0	972	9	125	31	0	165	135	545	10	0	690	57	270	227	2	556	2383
Apprch %	7	86.6	6.4	0		5.5	75.8	18.8	0		19.6	79	1.4	0		10.3	48.6	40.8	0.4		
Total %	2.9	35.3	2.6	0	40.8	0.4	5.2	1.3	0	6.9	5.7	22.9	0.4	0	29	2.4	11.3	9.5	0.1	23.3	

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719-633-2868

File Name : Hwy 24 - Stapleton Rd AM
Site Code : S214740
Start Date : 10/6/2021
Page No : 2

	Hwy 24 Southbound					Stapleton Rd Westbound					Hwy 24 Northbound					Stapleton Rd Eastbound					
Start Time	L	T	R	U	App. Total	L	T	R	U	App. Total	L	T	R	U	App. Total	L	T	R	U	App. Total	Int. Total
Peak Hour Analysis From 6:30:00 AM to 8:30:00 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 6:45:00 AM																					
6:45:00 AM	8	112	3	0	123	2	12	2	0	16	24	77	1	0	102	6	32	36	1	75	316
7:00:00 AM	9	98	8	0	115	1	27	4	0	32	17	71	1	0	89	16	41	32	1	90	326
7:15:00 AM	16	105	19	0	140	1	29	6	0	36	22	64	3	0	89	7	46	46	0	99	364
7:30:00 AM	12	111	7	0	130	0	18	5	0	23	14	42	0	0	56	4	38	32	0	74	283
Total Volume	45	426	37	0	508	4	86	17	0	107	77	254	5	0	336	33	157	146	2	338	1289
% App. Total	8.9	83.9	7.3	0		3.7	80.4	15.9	0		22.9	75.6	1.5	0		9.8	46.4	43.2	0.6		
PHF	.703	.951	.487	.000	.907	.500	.741	.708	.000	.743	.802	.825	.417	.000	.824	.516	.853	.793	.500	.854	.885

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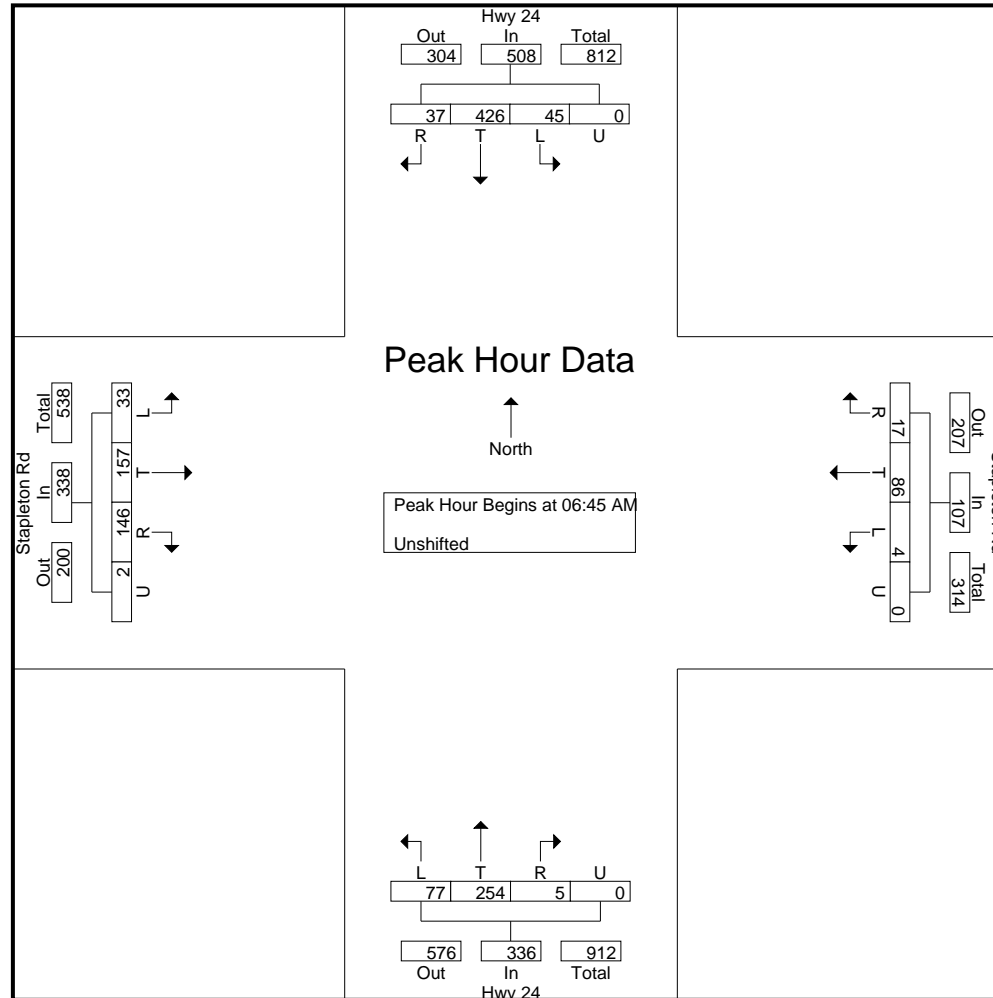
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719-633-2868

File Name : Hwy 24 - Stapleton Rd AM

Site Code : S214740

Start Date : 10/6/2021

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719-633-2868

File Name : Hwy 24 - Stapleton Rd AM
Site Code : S214740
Start Date : 10/6/2021
Page No : 4

	Hwy 24 Southbound					Stapleton Rd Westbound					Hwy 24 Northbound					Stapleton Rd Eastbound					
Start Time	L	T	R	U	App. Total	L	T	R	U	App. Total	L	T	R	U	App. Total	L	T	R	U	App. Total	Int. Total
Peak Hour Analysis From 6:30:00 AM to 8:30:00 AM - Peak 1 of 1																					
Peak Hour for Each Approach Begins at:																					
	6:45:00 AM					6:45:00 AM					6:30:00 AM					6:45:00 AM					
+0 mins.	8	112	3	0	123	2	12	2	0	16	11	79	0	0	90	6	32	36	1	75	
+5 mins.	9	98	8	0	115	1	27	4	0	32	24	77	1	0	102	16	41	32	1	90	
+10 mins.	16	105	19	0	140	1	29	6	0	36	17	71	1	0	89	7	46	46	0	99	
+15 mins.	12	111	7	0	130	0	18	5	0	23	22	64	3	0	89	4	38	32	0	74	
Total Volume	45	426	37	0	508	4	86	17	0	107	74	291	5	0	370	33	157	146	2	338	
% App. Total	8.9	83.9	7.3	0		3.7	80.4	15.9	0		20	78.6	1.4	0		9.8	46.4	43.2	0.6		
PHF	.703	.951	.487	.000	.907	.500	.741	.708	.000	.743	.771	.921	.417	.000	.907	.516	.853	.793	.500	.854	

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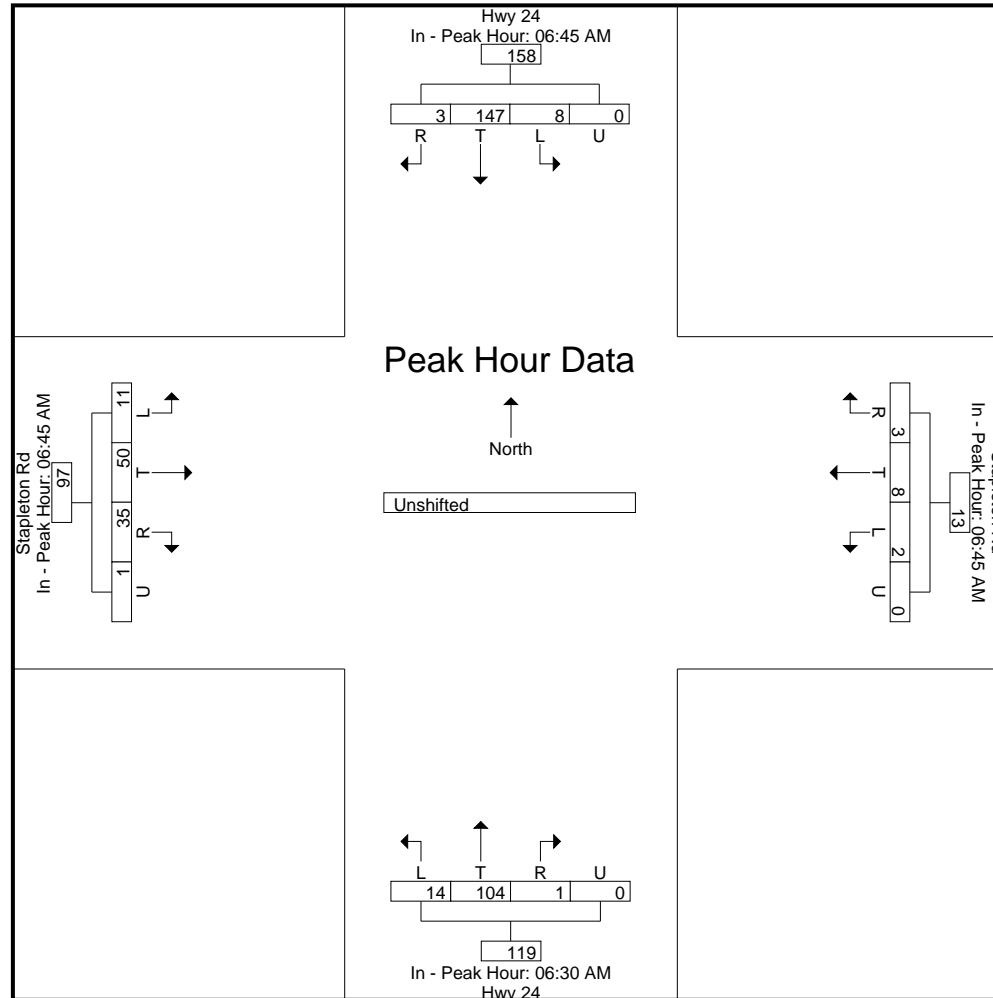
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719-633-2868

File Name : Hwy 24 - Stapleton Rd AM

Site Code : S214740

Start Date : 10/6/2021

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2504 E Pikes Peak Ave, Suite 304
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719-633-2868

File Name : Hwy 24 - Stapleton Rd PM
Site Code : S214740
Start Date : 10/6/2021
Page No : 1

Groups Printed- Unshifted

	Hwy 24 Southbound					Stapleton Rd Westbound					Hwy 24 Northbound					Stapleton Rd Eastbound					
Start Time	L	T	R	U	App. Total	L	T	R	U	App. Total	L	T	R	U	App. Total	L	T	R	U	App. Total	Int. Total
04:00 PM	2	100	10	0	112	2	27	6	0	35	32	115	2	0	149	3	11	20	0	34	330
04:15 PM	4	98	11	0	113	1	35	12	0	48	26	109	4	0	139	3	15	15	0	33	333
04:30 PM	2	101	3	0	106	2	27	9	0	38	28	124	1	0	153	5	15	16	0	36	333
04:45 PM	2	71	5	0	78	0	35	7	0	42	34	120	1	0	155	7	8	16	0	31	306
Total	10	370	29	0	409	5	124	34	0	163	120	468	8	0	596	18	49	67	0	134	1302
05:00 PM	0	73	12	0	85	0	25	7	0	32	26	112	10	0	148	5	9	24	0	38	303
05:15 PM	1	80	9	0	90	2	18	6	0	26	37	122	3	0	162	4	14	20	0	38	316
05:30 PM	6	82	6	0	94	1	26	6	0	33	29	121	4	0	154	5	9	20	0	34	315
05:45 PM	1	73	3	1	78	3	22	7	1	33	25	107	3	0	135	10	19	4	1	34	280
Total	8	308	30	1	347	6	91	26	1	124	117	462	20	0	599	24	51	68	1	144	1214
06:00 PM	3	87	2	0	92	2	18	5	0	25	18	108	9	0	135	5	8	24	0	37	289
Grand Total	21	765	61	1	848	13	233	65	1	312	255	1038	37	0	1330	47	108	159	1	315	2805
Apprch %	2.5	90.2	7.2	0.1		4.2	74.7	20.8	0.3		19.2	78	2.8	0		14.9	34.3	50.5	0.3		
Total %	0.7	27.3	2.2	0	30.2	0.5	8.3	2.3	0	11.1	9.1	37	1.3	0	47.4	1.7	3.9	5.7	0	11.2	

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719-633-2868

File Name : Hwy 24 - Stapleton Rd PM
Site Code : S214740
Start Date : 10/6/2021
Page No : 2

	Hwy 24 Southbound					Stapleton Rd Westbound					Hwy 24 Northbound					Stapleton Rd Eastbound					
Start Time	L	T	R	U	App. Total	L	T	R	U	App. Total	L	T	R	U	App. Total	L	T	R	U	App. Total	Int. Total
Peak Hour Analysis From 4:00:00 PM to 6:00:00 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 4:00:00 PM																					
4:00:00 PM	2	100	10	0	112	2	27	6	0	35	32	115	2	0	149	3	11	20	0	34	330
4:15:00 PM	4	98	11	0	113	1	35	12	0	48	26	109	4	0	139	3	15	15	0	33	333
4:30:00 PM	2	101	3	0	106	2	27	9	0	38	28	124	1	0	153	5	15	16	0	36	333
4:45:00 PM	2	71	5	0	78	0	35	7	0	42	34	120	1	0	155	7	8	16	0	31	306
Total Volume	10	370	29	0	409	5	124	34	0	163	120	468	8	0	596	18	49	67	0	134	1302
% App. Total	2.4	90.5	7.1	0		3.1	76.1	20.9	0		20.1	78.5	1.3	0		13.4	36.6	50	0		
PHF	.625	.916	.659	.000	.905	.625	.886	.708	.000	.849	.882	.944	.500	.000	.961	.643	.817	.838	.000	.931	.977

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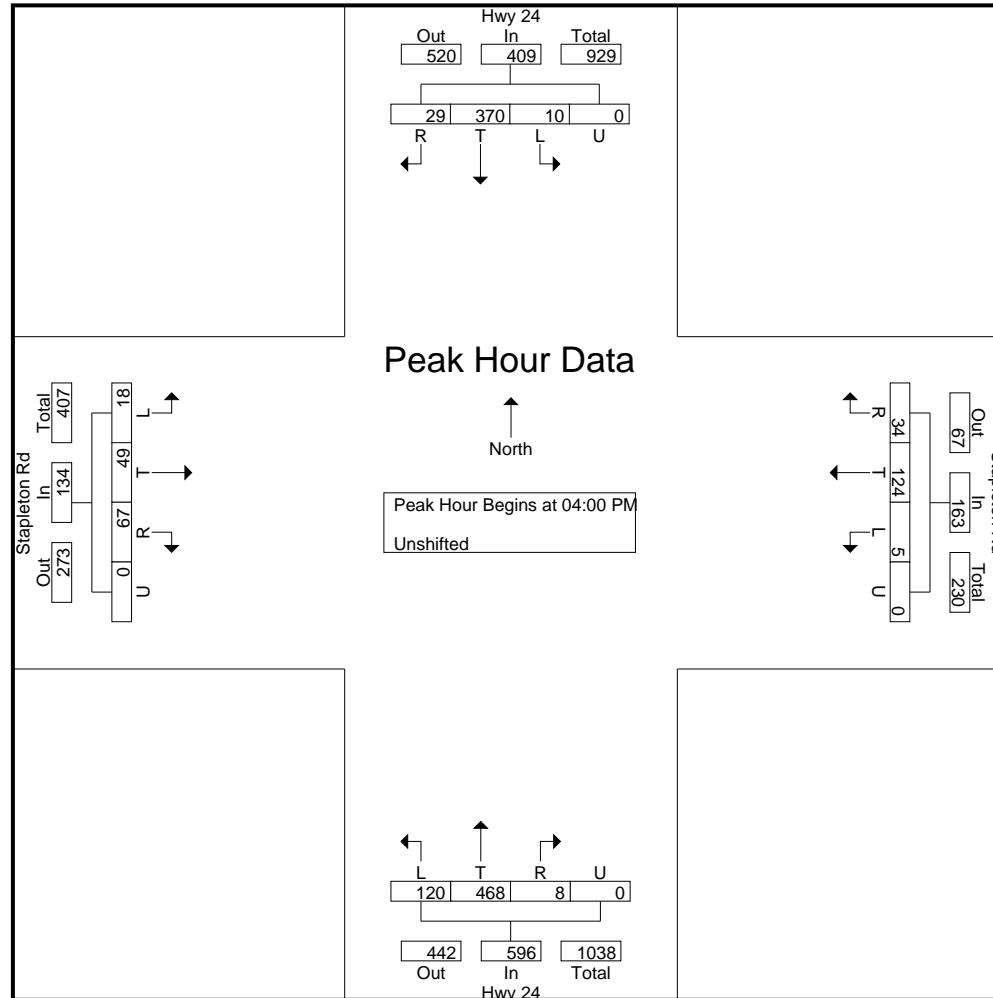
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File Name : Hwy 24 - Stapleton Rd PM

Site Code : S214740

Start Date : 10/6/2021

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719-633-2868

File Name : Hwy 24 - Stapleton Rd PM
Site Code : S214740
Start Date : 10/6/2021
Page No : 4

	Hwy 24 Southbound					Stapleton Rd Westbound					Hwy 24 Northbound					Stapleton Rd Eastbound					
Start Time	L	T	R	U	App. Total	L	T	R	U	App. Total	L	T	R	U	App. Total	L	T	R	U	App. Total	Int. Total
Peak Hour Analysis From 4:00:00 PM to 6:00:00 PM - Peak 1 of 1																					
Peak Hour for Each Approach Begins at:																					
	4:00:00 PM					4:00:00 PM					4:45:00 PM					5:00:00 PM					
+0 mins.	2	100	10	0	112	2	27	6	0	35	34	120	1	0	155	5	9	24	0	38	
+5 mins.	4	98	11	0	113	1	35	12	0	48	26	112	10	0	148	4	14	20	0	38	
+10 mins.	2	101	3	0	106	2	27	9	0	38	37	122	3	0	162	5	9	20	0	34	
+15 mins.	2	71	5	0	78	0	35	7	0	42	29	121	4	0	154	10	19	4	1	34	
Total Volume	10	370	29	0	409	5	124	34	0	163	126	475	18	0	619	24	51	68	1	144	
% App. Total	2.4	90.5	7.1	0		3.1	76.1	20.9	0		20.4	76.7	2.9	0		16.7	35.4	47.2	0.7		
PHF	.625	.916	.659	.000	.905	.625	.886	.708	.000	.849	.851	.973	.450	.000	.955	.600	.671	.708	.250	.947	

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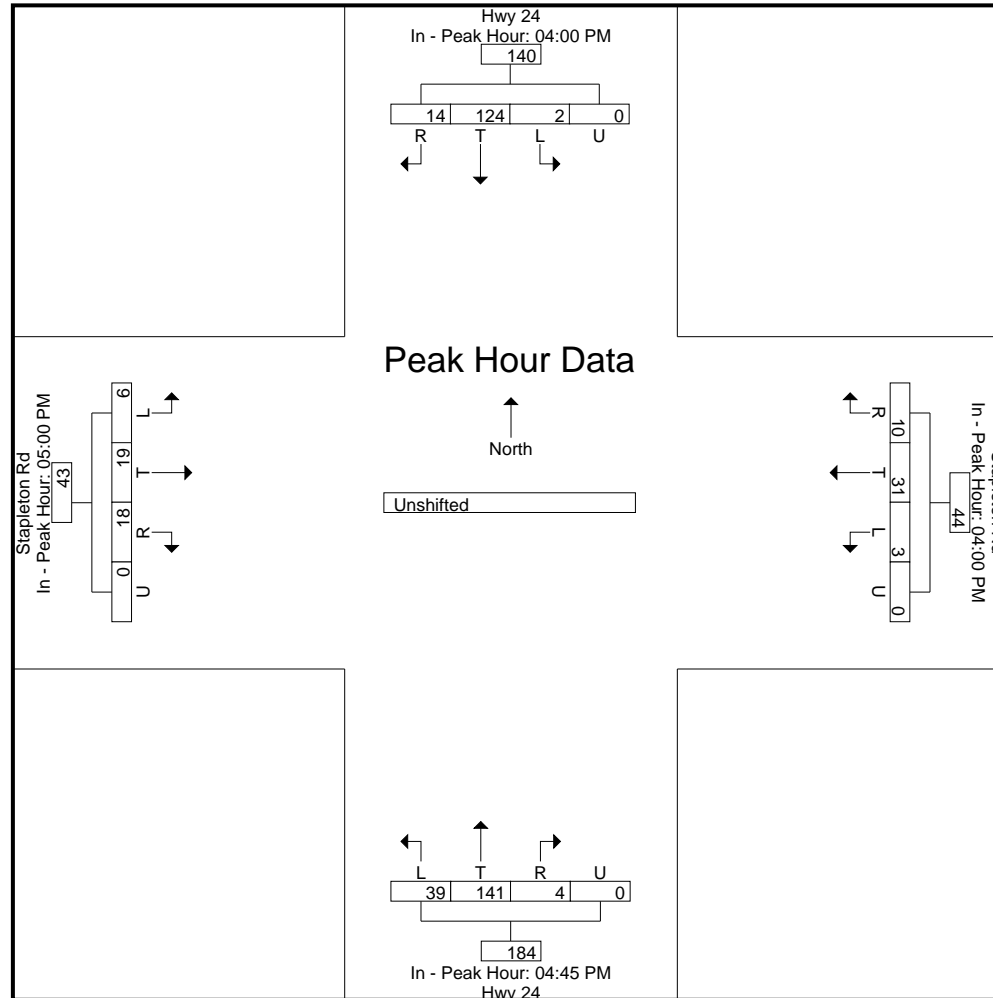
2504 E Pikes Peak Ave, Suite 304
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719-633-2868

File Name : Hwy 24 - Stapleton Rd PM






Site Code : S214740






Start Date : 10/6/2021






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Levels of Service

Intersection						
Int Delay, s/veh	0.2					
Movement	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Vol, veh/h	2	4	229	8	13	455
Future Vol, veh/h	2	4	229	8	13	455
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	-	-	610	610	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	78	78	83	83	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	3	5	276	10	14	495
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	799	276	0	0	286	0
Stage 1	276	-	-	-	-	-
Stage 2	523	-	-	-	-	-
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	355	763	-	-	1276	-
Stage 1	771	-	-	-	-	-
Stage 2	595	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	351	763	-	-	1276	-
Mov Cap-2 Maneuver	351	-	-	-	-	-
Stage 1	771	-	-	-	-	-
Stage 2	588	-	-	-	-	-
Approach	NW	NE	SW			
HCM Control Delay, s	11.7	0	0.2			
HCM LOS	B					
Minor Lane/Major Mvmt	NET	NER	NWL	SWL	SWT	
Capacity (veh/h)	-	-	548	1276	-	
HCM Lane V/C Ratio	-	-	0.014	0.011	-	
HCM Control Delay (s)	-	-	11.7	7.9	-	
HCM Lane LOS	-	-	B	A	-	
HCM 95th %tile Q(veh)	-	-	0	0	-	






Intersection						
Int Delay, s/veh	2					
Movement	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Vol, veh/h	33	61	557	50	22	350
Future Vol, veh/h	33	61	557	50	22	350
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	-	-	610	610	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	83	83	93	93	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	40	73	599	54	24	380
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	1027	599	0	0	653	0
Stage 1	599	-	-	-	-	-
Stage 2	428	-	-	-	-	-
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	260	502	-	-	934	-
Stage 1	549	-	-	-	-	-
Stage 2	657	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	253	502	-	-	934	-
Mov Cap-2 Maneuver	253	-	-	-	-	-
Stage 1	549	-	-	-	-	-
Stage 2	640	-	-	-	-	-
Approach	NW	NE	SW			
HCM Control Delay, s	18.8	0	0.5			
HCM LOS	C					
Minor Lane/Major Mvmt	NET	NER	NWL	SWL	SWT	
Capacity (veh/h)	-	-	373	934	-	
HCM Lane V/C Ratio	-	-	0.304	0.026	-	
HCM Control Delay (s)	-	-	18.8	9	-	
HCM Lane LOS	-	-	C	A	-	
HCM 95th %tile Q(veh)	-	-	1.3	0.1	-	

Intersection						
Int Delay, s/veh	0.2					
Movement	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Vol, veh/h	2	4	325	8	13	525
Future Vol, veh/h	2	4	325	8	13	525
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	-	-	610	610	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	78	78	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	3	5	353	9	14	571
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	952	353	0	0	362	0
Stage 1	353	-	-	-	-	-
Stage 2	599	-	-	-	-	-
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	288	691	-	-	1197	-
Stage 1	711	-	-	-	-	-
Stage 2	549	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	285	691	-	-	1197	-
Mov Cap-2 Maneuver	285	-	-	-	-	-
Stage 1	711	-	-	-	-	-
Stage 2	542	-	-	-	-	-
Approach	NW	NE	SW			
HCM Control Delay, s	12.8	0	0.2			
HCM LOS	B					
Minor Lane/Major Mvmt	NET	NERNWLn1	SWL	SWT		
Capacity (veh/h)	-	-	469	1197	-	
HCM Lane V/C Ratio	-	-	0.016	0.012	-	
HCM Control Delay (s)	-	-	12.8	8	-	
HCM Lane LOS	-	-	B	A	-	
HCM 95th %tile Q(veh)	-	-	0.1	0	-	

Intersection						
Int Delay, s/veh	2					
Movement	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Vol, veh/h	33	61	565	50	22	375
Future Vol, veh/h	33	61	565	50	22	375
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	-	-	610	610	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	83	83	93	93	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	40	73	608	54	24	408
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	1064	608	0	0	662	0
Stage 1	608	-	-	-	-	-
Stage 2	456	-	-	-	-	-
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	247	496	-	-	927	-
Stage 1	543	-	-	-	-	-
Stage 2	638	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	241	496	-	-	927	-
Mov Cap-2 Maneuver	241	-	-	-	-	-
Stage 1	543	-	-	-	-	-
Stage 2	621	-	-	-	-	-
Approach	NW	NE	SW			
HCM Control Delay, s	19.4	0	0.5			
HCM LOS	C					
Minor Lane/Major Mvmt	NET	NERNWLn1	SWL	SWT		
Capacity (veh/h)	-	-	362	927	-	
HCM Lane V/C Ratio	-	-	0.313	0.026	-	
HCM Control Delay (s)	-	-	19.4	9	-	
HCM Lane LOS	-	-	C	A	-	
HCM 95th %tile Q(veh)	-	-	1.3	0.1	-	






HCM 6th TWSC
3: US 24 & Big R Access






Existing + Site
AM






Intersection						
Int Delay, s/veh	0.2					
Movement	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Vol, veh/h	2	5	325	10	14	525
Future Vol, veh/h	2	5	325	10	14	525
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	-	-	610	610	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	78	78	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	3	6	353	11	15	571
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	954	353	0	0	364	0
Stage 1	353	-	-	-	-	-
Stage 2	601	-	-	-	-	-
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	287	691	-	-	1195	-
Stage 1	711	-	-	-	-	-
Stage 2	547	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	283	691	-	-	1195	-
Mov Cap-2 Maneuver	283	-	-	-	-	-
Stage 1	711	-	-	-	-	-
Stage 2	540	-	-	-	-	-
Approach	NW	NE	SW			
HCM Control Delay, s	12.5	0	0.2			
HCM LOS	B					
Minor Lane/Major Mvmt	NET	NERNWLn1	SWL	SWT		
Capacity (veh/h)	-	-	489	1195	-	
HCM Lane V/C Ratio	-	-	0.018	0.013	-	
HCM Control Delay (s)	-	-	12.5	8.1	-	
HCM Lane LOS	-	-	B	A	-	
HCM 95th %tile Q(veh)	-	-	0.1	0	-	






HCM 6th TWSC
3: US 24 & Big R Access

Existing + Site
PM

Intersection						
Int Delay, s/veh	2.5					
Movement	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Vol, veh/h	38	77	565	61	28	375
Future Vol, veh/h	38	77	565	61	28	375
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	-	-	610	610	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	83	83	93	93	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	46	93	608	66	30	408
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	1076	608	0	0	674	0
Stage 1	608	-	-	-	-	-
Stage 2	468	-	-	-	-	-
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	243	496	-	-	917	-
Stage 1	543	-	-	-	-	-
Stage 2	630	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	235	496	-	-	917	-
Mov Cap-2 Maneuver	235	-	-	-	-	-
Stage 1	543	-	-	-	-	-
Stage 2	609	-	-	-	-	-
Approach	NW	NE		SW		
HCM Control Delay, s	20.9	0		0.6		
HCM LOS	C					
Minor Lane/Major Mvmt	NET	NERNWLn1	SWL	SWT		
Capacity (veh/h)	-	-	363	917	-	
HCM Lane V/C Ratio	-	-	0.382	0.033	-	
HCM Control Delay (s)	-	-	20.9	9.1	-	
HCM Lane LOS	-	-	C	A	-	
HCM 95th %tile Q(veh)	-	-	1.7	0.1	-	

Intersection						
Int Delay, s/veh	0.1					
Movement	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Vol, veh/h	2	4	625	10	14	1000
Future Vol, veh/h	2	4	625	10	14	1000
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	-	-	610	610	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	78	78	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	3	5	672	11	15	1075
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	1240	336	0	0	683	0
Stage 1	672	-	-	-	-	-
Stage 2	568	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	*501	660	-	-	906	-
Stage 1	*469	-	-	-	-	-
Stage 2	*635	-	-	-	-	-
Platoon blocked, %	1		-	-		-
Mov Cap-1 Maneuver	*492	660	-	-	906	-
Mov Cap-2 Maneuver	*492	-	-	-	-	-
Stage 1	*469	-	-	-	-	-
Stage 2	*624	-	-	-	-	-
Approach	NW	NE		SW		
HCM Control Delay, s	11.2	0		0.1		
HCM LOS	B					
Minor Lane/Major Mvmt	NET	NERNWLn1	SWL	SWT		
Capacity (veh/h)	-	-	593	906	-	
HCM Lane V/C Ratio	-	-	0.013	0.017	-	
HCM Control Delay (s)	-	-	11.2	9	-	
HCM Lane LOS	-	-	B	A	-	
HCM 95th %tile Q(veh)	-	-	0	0.1	-	
Notes						
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined		*: All major volume in platoon






Intersection						
Int Delay, s/veh	1.4					
Movement	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Vol, veh/h	33	61	1000	50	22	750
Future Vol, veh/h	33	61	1000	50	22	750
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	-	-	610	610	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	83	83	95	95	93	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	40	73	1053	53	24	806
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	1504	527	0	0	1106	0
Stage 1	1053	-	-	-	-	-
Stage 2	451	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	*181	496	-	-	627	-
Stage 1	*297	-	-	-	-	-
Stage 2	*762	-	-	-	-	-
Platoon blocked, %	1		-	-		-
Mov Cap-1 Maneuver	*174	496	-	-	627	-
Mov Cap-2 Maneuver	*174	-	-	-	-	-
Stage 1	*297	-	-	-	-	-
Stage 2	*733	-	-	-	-	-
Approach	NW	NE		SW		
HCM Control Delay, s	24	0		0.3		
HCM LOS	C					
Minor Lane/Major Mvmt	NET	NERNWLn1	SWL	SWT		
Capacity (veh/h)	-	-	301	627	-	
HCM Lane V/C Ratio	-	-	0.376	0.038	-	
HCM Control Delay (s)	-	-	24	11	-	
HCM Lane LOS	-	-	C	B	-	
HCM 95th %tile Q(veh)	-	-	1.7	0.1	-	
Notes						
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined		*: All major volume in platoon






Intersection						
Int Delay, s/veh	0.1					
Movement	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Vol, veh/h	2	5	625	10	14	1000
Future Vol, veh/h	2	5	625	10	14	1000
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	-	-	610	610	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	78	83	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	3	6	672	11	15	1075
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	1240	336	0	0	683	0
Stage 1	672	-	-	-	-	-
Stage 2	568	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	*501	660	-	-	906	-
Stage 1	*469	-	-	-	-	-
Stage 2	*635	-	-	-	-	-
Platoon blocked, %	1		-	-		-
Mov Cap-1 Maneuver	*492	660	-	-	906	-
Mov Cap-2 Maneuver	*492	-	-	-	-	-
Stage 1	*469	-	-	-	-	-
Stage 2	*624	-	-	-	-	-
Approach	NW	NE		SW		
HCM Control Delay, s	11.1	0		0.1		
HCM LOS	B					
Minor Lane/Major Mvmt	NET	NERNWLn1	SWL	SWT		
Capacity (veh/h)	-	-	599	906	-	
HCM Lane V/C Ratio	-	-	0.014	0.017	-	
HCM Control Delay (s)	-	-	11.1	9	-	
HCM Lane LOS	-	-	B	A	-	
HCM 95th %tile Q(veh)	-	-	0	0.1	-	
Notes						
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined		*: All major volume in platoon

Intersection						
Int Delay, s/veh	1.9					
Movement	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations	Y		↑↑	↑	↑	↑↑
Traffic Vol, veh/h	38	77	1000	61	28	750
Future Vol, veh/h	38	77	1000	61	28	750
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	-	-	610	610	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	83	83	95	95	93	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	46	93	1053	64	30	806
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	1516	527	0	0	1117	0
Stage 1	1053	-	-	-	-	-
Stage 2	463	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	*176	496	-	-	621	-
Stage 1	*297	-	-	-	-	-
Stage 2	*762	-	-	-	-	-
Platoon blocked, %	1		-	-		-
Mov Cap-1 Maneuver	*168	496	-	-	621	-
Mov Cap-2 Maneuver	*168	-	-	-	-	-
Stage 1	*297	-	-	-	-	-
Stage 2	*726	-	-	-	-	-
Approach	NW	NE		SW		
HCM Control Delay, s	26.8	0		0.4		
HCM LOS	D					
Minor Lane/Major Mvmt	NET	NERNWLn1		SWL	SWT	
Capacity (veh/h)	-	-	301	621	-	
HCM Lane V/C Ratio	-	-	0.46	0.048	-	
HCM Control Delay (s)	-	-	26.8	11.1	-	
HCM Lane LOS	-	-	D	B	-	
HCM 95th %tile Q(veh)	-	-	2.3	0.2	-	
Notes						
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined		*: All major volume in platoon

HCM 6th TWSC
3: US 24 & Big R Access

2041 Background + Site
AM -- Aggressive Growth

Intersection						
Int Delay, s/veh	0.1					
Movement	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Vol, veh/h	2	5	972	10	14	1836
Future Vol, veh/h	2	5	972	10	14	1836
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	-	-	610	610	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	78	78	93	99	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	3	6	1045	10	15	1933
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	2042	523	0	0	1055	0
Stage 1	1045	-	-	-	-	-
Stage 2	997	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	*317	499	-	-	656	-
Stage 1	*300	-	-	-	-	-
Stage 2	*317	-	-	-	-	-
Platoon blocked, %	1	-	-	-	-	-
Mov Cap-1 Maneuver	*309	499	-	-	656	-
Mov Cap-2 Maneuver	*309	-	-	-	-	-
Stage 1	*300	-	-	-	-	-
Stage 2	*310	-	-	-	-	-
Approach	NW	NE		SW		
HCM Control Delay, s	13.7	0		0.1		
HCM LOS	B					
Minor Lane/Major Mvmt	NET	NERNWLn1	SWL	SWT		
Capacity (veh/h)	-	-	424	656	-	
HCM Lane V/C Ratio	-	-	0.021	0.022	-	
HCM Control Delay (s)	-	-	13.7	10.6	-	
HCM Lane LOS	-	-	B	B	-	
HCM 95th %tile Q(veh)	-	-	0.1	0.1	-	
Notes						
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined		*: All major volume in platoon

Intersection						
Int Delay, s/veh	6.6					
Movement	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Vol, veh/h	38	77	2773	61	28	1322
Future Vol, veh/h	38	77	2773	61	28	1322
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	-	-	610	610	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	83	83	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	46	93	2919	64	29	1392
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	3673	1460	0	0	2983	0
Stage 1	2919	-	-	-	-	-
Stage 2	754	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	*~ 0	118	-	-	115	-
Stage 1	*~ 27	-	-	-	-	-
Stage 2	*508	-	-	-	-	-
Platoon blocked, %	1		-	-		-
Mov Cap-1 Maneuver	*0	118	-	-	115	-
Mov Cap-2 Maneuver	*0	-	-	-	-	-
Stage 1	*~ 27	-	-	-	-	-
Stage 2	*380	-	-	-	-	-
Approach	NW		NE		SW	
HCM Control Delay, s	207.6		0		1	
HCM LOS	F					
Minor Lane/Major Mvmt	NET		NERNWLn1		SWL	SWT
Capacity (veh/h)	-		-		118	115
HCM Lane V/C Ratio	-		-		1.174	0.256
HCM Control Delay (s)	-		-		207.6	46.8
HCM Lane LOS	-		-		F	E
HCM 95th %tile Q(veh)	-		-		8.6	0.9
Notes						
~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon						