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New Breed Ranch
Filing No. 3
Transportation Memorandum

(LSC #S224230)

July 16, 2023

Add PCD File No. SF247

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.

17 July 23
Date

New Breed Ranch

Transportation Memorandum

Prepared for:
Jim Scott
New Breed Ranch, Inc.
12750 Oak Cliff Way
Colorado Springs CO, 80908-3734

JULY 16, 2023

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

LSC #S234230

CONTENTS

REPORT CONTENTS 1
LIST OF OTHER TRAFFIC REPORTS USED IN THE PREPARATION OF THIS REPORT 2
LAND USE AND ACCESS 2
Proposed Land Use 2
Proposed Site-Access Locations 2
SIGHT DISTANCE 2
ROAD AND TRAFFIC CONDITIONS AND MTCP CLASSIFICATION 3
Existing Traffic Volumes 3
PEDESTRIAN AND BICYCLE FACILITIES 3
TRIP GENERATION 3
TRIP DISTRIBUTION AND ASSIGNMENT 4
Trip Directional Distribution 4
Site-Generated Traffic 4
Existing + Site-Generated Traffic Volumes 5
2043 Background Traffic Volumes 5
2043 Total Traffic Volumes 5
LEVEL OF SERVICE ANALYSIS 5
Shoup Road/New Breed Drive 6
Meadow Run Circle/New Breed Drive 6
ROADWAY IMPROVEMENTS 6
Auxiliary Turn Lanes 6
Eastbound Left-Turn Deceleration Lane 6
Westbound Right-Turn Deceleration Lane 6
Westbound-Right-Turn Acceleration Lane 7
ROADWAY CLASSIFICATIONS 7
COUNTY ROAD IMPROVEMENT FEE PROGRAM 7
Transportation Impact Fees 7
Reimbursable Improvements 7
MULTI-MODAL TRANSPORTATION AND TDM OPPORTUNITIES 7
DEVIATIONS 8
FINDINGS AND CONCLUSIONS 8

Enclosures: 8

Table 5

Figures 1-8

Traffic Count Reports

Synchro LOS Reports

LSC TRANSPORTATION CONSULTANTS, INC.
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July 16, 2023

Jim Scott
New Breed Ranch, Inc.
12750 Oak Cliff Way
Colorado Springs CO, 80908-3734

RE: New Breed Ranch Filing No. 3
El Paso County, CO
Transportation Memorandum
LSC #S224230

Dear Mr. Scott,

LSC Transportation Consultants, Inc. has prepared this Transportation Memorandum for the proposed New Breed Ranch Filing No. 3 subdivision in El Paso County, Colorado. The site is located generally northeast of the intersection of State Highway 83 and Shoup Road. Figure 1 shows the site location relative to the adjacent and nearby roadways. Access to the site is proposed to Meadow Run Circle via New Breed Drive and the existing Shoup Road/New Breed Drive intersection.

This report has been prepared for submittal to El Paso County.

REPORT CONTENTS

The preparation of this report included the following:

- An inventory of existing roadway and traffic conditions on major thoroughfares adjacent to the site, including surface conditions, functional classification, widths, pavement markings, traffic-control signs, posted speed limits, intersection and access spacing, roadway and intersection alignments, roadway grades, and auxiliary turn lanes;
- Weekday peak-hour turning-movement traffic counts Shoup Road/New Breed;
- Estimated average daily traffic (ADT) volumes on the study-area roadway segments;
- Projections of 20-year background traffic volumes on the study-area roadways adjacent to the site;
- The proposed site land use and access plan;
- Estimates of average weekday and weekday peak-hour trip generation for the proposed development and the estimated directional distribution of site-generated vehicle trips on roadways and intersections adjacent to and in the vicinity of the site;

- Projected site-generated and resulting total peak-hour intersection traffic volumes at the study-area intersections;
- Projected total daily and peak-hour traffic volumes at the study-area intersections;
- Intersection level of service (LOS) analysis at the study-area intersections;
- Evaluation of short- and long-term projected intersection volumes to determine potential requirements for any new auxiliary right-/left-turn lanes at the proposed site-access points, based on the criteria in El Paso County's *Engineering Criteria Manual* (*ECM*). Also included are potential long-term lane requirements; and
- Findings and recommendations for submittal to El Paso County.

LIST OF OTHER TRAFFIC REPORTS USED IN THE PREPARATION OF THIS REPORT

The following previously-completed traffic report was referenced in preparation of this study:

- *New Breed Ranch Traffic Impact Study* – by LSC, dated November 5, 1999

LAND USE AND ACCESS

Proposed Land Use

Seven (7) single-family residential dwelling units are proposed for New Breed Ranch Filing No. 3 subdivision. The site plan is shown in Figure 2.

Filing No. 3 is the next phase of development within the greater New Breed Ranch development, which is planned to consist of 90 single-family dwelling units at buildout. To date, 21 residential lots have been developed with single-family, detached dwelling units within New Breed Ranch.

Proposed Site-Access Locations

Figure 2 also shows the proposed access plan for the site. Access to/from the site is proposed with a new public street connection to Meadow Run Circle about 345 feet east of New Breed Drive. The Meadow Run Circle/New Breed Drive intersection is about 600 feet north of Shoup Road. The New Breed Drive/Shoup Road intersection is currently a full-movement, stop-sign-controlled intersection.

SIGHT DISTANCE

Intersection sight distance will need to be maintained at the proposed site-access intersection with Meadow Run Circle, by keeping the lines of sight for both access points clear of any sight-distance obstructions. This includes landscaping, signage, fencing, and other site improvements. associated with the development.

intersection

With the 30-mph posted speed limit/design speed on Meadow Run Circle, the *ECM*-prescribed ~~entering~~ sight distance, as shown in *ECM* Table 2-21, is 335 feet to the east and west along Meadow Run Circle.

ROAD AND TRAFFIC CONDITIONS AND MTCP CLASSIFICATION

Figure 1 shows the roads adjacent to and in the vicinity of the site. Adjacent roads serving the site are identified below followed by a brief description of each:

Shoup Road is a two-lane paved rural Minor Arterial that extends east-to-west route through the Black Forest area. The posted speed limit in the vicinity of the Shoup Road/New Breed Drive intersection is 45 miles per hour (mph). An eastbound left-turn deceleration lane exists on Shoup Road approaching New Breed Drive as it was previously constructed.

New Breed Drive is a Rural Local roadway extending north-to-south for 600 feet between Shoup Road Meadow Run Circle. The posted speed limit along this paved road is 30 mph. The southbound approach at Shoup Road is stop-sign controlled and the northbound approach at Meadow Run Circle is yield-sign controlled.

Meadow Run Circle is a Rural Local roadway extending generally east-to-west for 0.6 miles between Oak Cliff Way (to the west) and its terminus to the east. The speed limit along this paved road is assumed 30 mph, as this is the speed limit for this roadway classification. The overall New Breed Ranch Preliminary Plan shows Meadow Run Circle ultimately extended from each end to form a loop road serving the entire New Breed Ranch development.

Existing Traffic Volumes

Vehicular turning-movement counts were conducted at the intersection of Shoup Road/New Breed Drive. Raw count data are attached, for reference.

PEDESTRIAN AND BICYCLE FACILITIES

New Breed Drive and Meadow Run Circle do not currently have sidewalks or separate, striped, on-street bicycle lanes. This is consistent with the Rural Local criteria. Sidewalks would **not** be required along any study-area roadways following site buildout. The proposed subdivision road will also be a Rural Local roadway and, per *ECM* criteria, would not require sidewalks or separate bicycle lanes.

TRIP GENERATION

Estimates of the vehicle trips projected to be generated by the proposed New Breed Ranch Filing No. 3 residential subdivision have been made using the nationally published trip-generation rates from *Trip Generation, 11th Edition, 2021* by the Institute of Transportation Engineers (ITE).

Corresponding trip-generation rates from ITE Land Use Category "210 – Single-Family (Detached) Housing" have been used to develop the trip-generation estimates for the proposed 7-dwelling-unit residential site.

Table 1 below presents a summary of the estimated external site trip generation. A detailed trip-generation estimate for the site, including ITE rates for the proposed land uses, is presented in Table 3 (attached).

The proposed subdivision is projected to generate about 71 total vehicle trips on the average weekday during a 24-hour period, with approximately half entering and half exiting the site. During the morning peak hour, approximately 1 entering vehicle and 4 exiting vehicles are estimated to be generated. Approximately 4 entering and 3 exiting vehicles are estimated to be generated by the site during the afternoon peak hour.

Table 1: Estimated Site Vehicle-Trip Generation

Analysis Period	Weekday		
	In	Out	Total
Morning Peak Hour	1	4	5
Afternoon Peak Hour	4	3	7
Daily/24-hour	36	36	71

TRIP DISTRIBUTION AND ASSIGNMENT

Trip Directional Distribution

The directional-distribution estimate of site-generated vehicle trips to the study-area roads and intersections is a necessary component in determining the site's traffic impacts. Figure 4 shows the percentages of the site-generated vehicle trips projected to be oriented to and from the site's major approaches. Estimates have been based on the following factors: the original traffic impact study, the traffic count data, the proposed land use, the area roadway system serving the site, and the site's geographic location relative to the overall greater El Paso County/Colorado Springs area.

Site-Generated Traffic

Site-generated traffic volumes have been estimated at the following intersections:

- Shoup Road/New Breed Drive
- New Breed Drive/Meadow Run Circle

These site-generated volumes have been calculated by applying directional-distribution percentages estimated by LSC (from Figure 4) to the trip-generation estimates (from Table 3). Figure 5 shows the projected short-term site-generated traffic volumes for the weekday morning and afternoon peak hours.

Existing + Site-Generated Traffic Volumes

Figure 6 shows the sum of the existing background traffic volumes (from Figure 3) and site-generated peak-hour traffic volumes (shown in Figure 5). These volumes represent the projected short-term total traffic following site buildout.

2043 Background Traffic Volumes

Long-term background traffic volumes are estimates by LSC, based on projected 2043 volumes adjacent to the site, shown in Map 9 of the *Major Transportation Corridors Plan* (*MTCP*). Additionally, estimated traffic at buildout for the overall 90-dwelling-unit New Breed Ranch residential development has been included in 2043 background traffic volumes. Please refer to Figure 7 for estimated long-term background volumes and assumed laneage at the study-area intersections.

2043 Total Traffic Volumes

Figure 8 shows the sum of 2043 background traffic volumes (from Figure 7) plus site-generated traffic volumes (from Figure 5).

LEVEL OF SERVICE ANALYSIS

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

	Signalized Intersections	Unsignalized Intersections
Level of Service	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.

LOS values have been included in each figure for each turning movement/approach during the weekday morning and afternoon peak hours for the proposed site-access intersections and off-site intersections in the study area:

- Figure 3: 2022 Existing Traffic, Lane Geometry, Traffic Control, and LOS
- Figure 6: 2022 Existing + Site Traffic, Lane Geometry, Traffic Control, and LOS
- Figure 7: 2042 Background Traffic, Lane Geometry, Traffic Control, and LOS
- Figure 8: 2042 Background + Site Traffic, Lane Geometry, Traffic Control, and LOS

LOS calculations for long-term scenarios were based upon the recommended lane geometries and traffic controls outlined in the figures above.

Shoup Road/New Breed Drive

All movements at this intersection currently operate at and are projected to remain at LOS C or better during both peak hours with the addition of site-generated traffic. No modifications would be required to this intersection.

Please identify if these LOS are also for the long-term conditions

Meadow Run Circle/New Breed Drive

All movements at this intersection currently operate at and are projected to remain at LOS A during both peak hours with the addition of site-generated traffic. No modifications would be required to this intersection.

ROADWAY IMPROVEMENTS

Auxiliary Turn Lanes

A design speed of 50 mph has been assumed for Shoup Road.

The existing turn lane does not appear to be stripped for this length per GIS aerials. It appears that the stripping may need to be lengthened.

<u>Eastbound Left-Turn Deceleration Lane</u>

According to the El Paso County *Engineering Criteria Manual* (*ECM*), exclusive left-turn lanes shall be provided for any access on a Minor Arterial with a projected peak-hour ingress turning volume of 25 vehicles per hour (vph) or greater. The existing eastbound left-turn lane on Shoup Road approaching New Breed Drive is about 864 feet, consisting of about 425 feet of full-width deceleration length plus a 140-foot taper. This exceeds the *ECM*'s 435-foot (plus storage) requirement for a left-turn deceleration lane. As such, no modifications would be required to this existing left-turn deceleration lane.

<u>Westbound Right-Turn Deceleration Lane</u>

According to *ECM*, exclusive right-turn lanes shall be provided for any access on a Minor Arterial with a projected peak-hour ingress turning volume of 50 vehicles per hour (vph) or greater. The projected right-turn volume at Shoup/New Breed is **not** expected to exceed the 50-vph minimum

right-turn volume thresholds prescribing a turn lane outlined in the *ECM* upon site buildout. As such, a westbound right-turn deceleration lane would **not** be required on Shoup Road approaching New Breed Drive.

Westbound-Right-Turn Acceleration Lane

According to the *ECM*, right-turn acceleration lanes are generally not required on Minor Arterial roadways.

ROADWAY CLASSIFICATIONS

The proposed subdivision roadway is proposed as a Rural Local Road.

COUNTY ROAD IMPROVEMENT FEE PROGRAM

Transportation Impact Fees

Per *ECM* Appendix B: *State what the current applicable Transportation Impact Fees are and what option the developer will be selecting for payment*.

This project will be required to participate in the El Paso County Road Improvement Fee Program. The applicant will select the "Opt-out" option (no PID) and would pay the "Full Fee" amount at building permit. The current (2019) fee amount associated with this option is $3,850 per dwelling unit (subject to change). Based on 7 lots, the total building permit fee for this plat would be $26,950.

Reimbursable Improvements

The following roadway improvement projects have been identified as being needed by the year 2040 per Map 13 and Table 4 of El Paso County's 2016 *MTCP*:

- U13 – Shoup Road from SH 83 to Black Forest Road ($15,019,000)
- Existing conditions – 2-lane Rural Unimproved County Road
- Future conditions – 2-lane Rural Minor Arterial

See the attached *MTCP* maps for reference.

MULTI-MODAL TRANSPORTATION AND TDM OPPORTUNITIES

The following roadway improvement projects have been identified as being needed by the year 2040 per Map 15 and Table 5 of El Paso County's 2016 *MTCP*:

- M14 – Shoup Road from SH 83 to Vollmer Road
    - Bicycle improvements (6.24miles)

No public schools are located within a two-mile radius of the site.

DEVIATIONS

No deviations to *ECM* design criteria are proposed with this subdivision.

FINDINGS AND CONCLUSIONS

- The site is projected to generate about 71 new driveway vehicle-trips on the average weekday.
- During the weekday morning peak hour of adjacent street traffic, 1 vehicle would enter the site while 4 vehicles would exit.
- During the weekday afternoon peak hour of adjacent street traffic, 4 vehicles would enter the site while 3 vehicles would exit.
- All individual approaches and turn lanes at both study-area intersections would operate at LOS C or better during both short-term and long-term peak hours, with or without the addition of site-generated traffic.
- The existing eastbound left-turn deceleration lane would be adequate for this subdivision, based on projected buildout traffic volumes. No additional auxiliary turn lanes would be required. Please refer to the "Auxiliary Turn-Lane Analysis" section for evaluation details.
- The subdivision road is proposed as a Rural Local.
- No deviations are proposed with this submittal.

* * * * *

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/JAB:jas

Enclosures: Table **3**
Figures 1-8
Traffic Count Reports
Synchro LOS Reports

Table 3

TRANSPORTATION
CONSULTANTS, INC.

Table 3: Detailed Trip Generation Estimate

ITE		Value	Units [1]	Trip Generation Rates [2]					Total External Trips Generated				
Code	Description			Average	A.M.		P.M.		Average	A.M.		P.M.	
				Weekday	In	Out	In	Out	Weekday	In	Out	In	Out
210	Single-Family (Detached) Housing	7	DU	10.18	0.20	0.56	0.63	0.37	71	1	4	4	3

[1] DU = dwelling units, KSF = 1,000 square feet

[2] Source: *Trip Generation, 11th Edition (2021)* by the Institute of Transportation Engineers (ITE)

Figures 1-8

TRANSPORTATION
CONSULTANTS, INC.

1"=1000 scale'

Figure 1

Vicinity Map

New Breed Ranch (LSC# S224230)

TRANSPORTATION CONSULTANTS, INC.

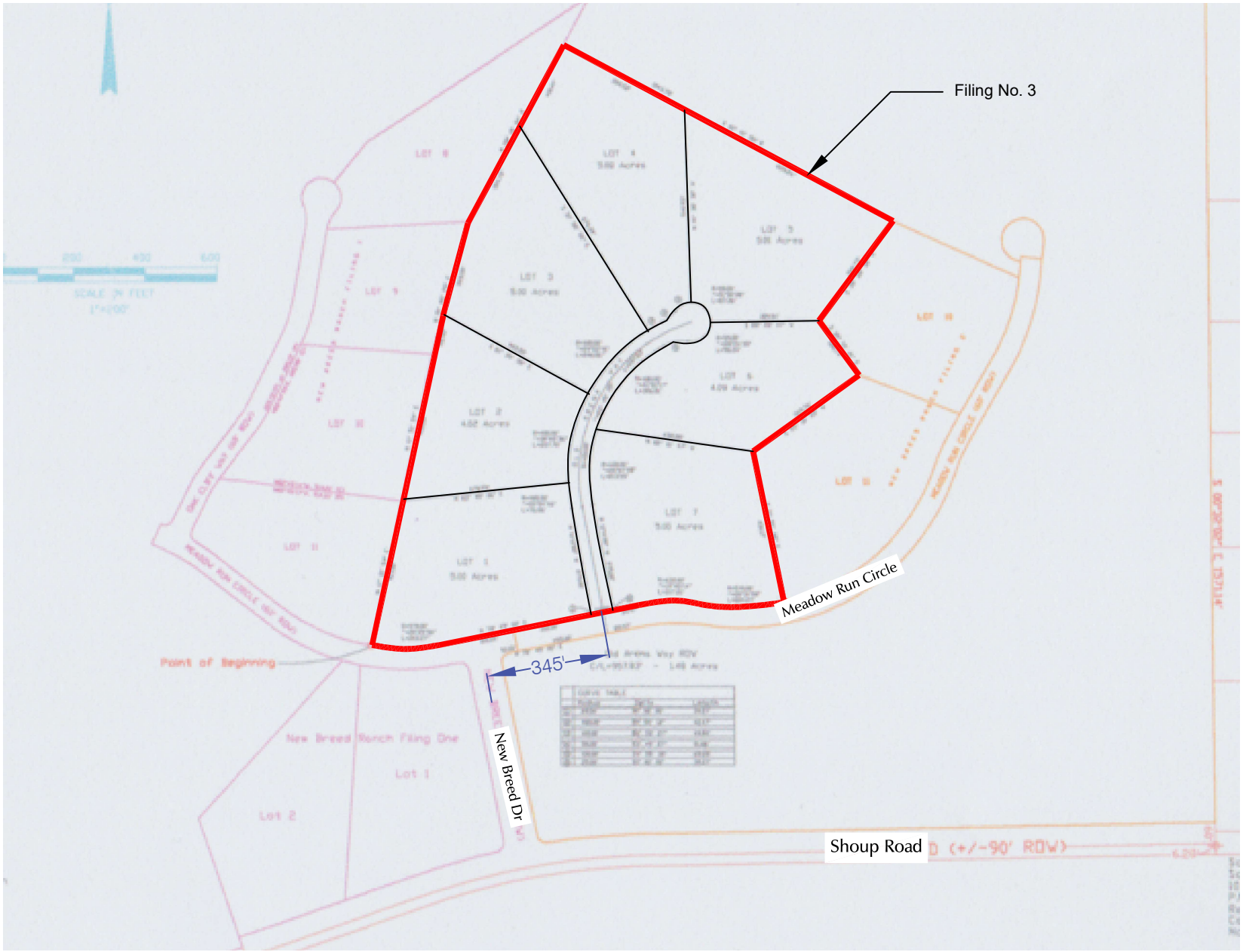
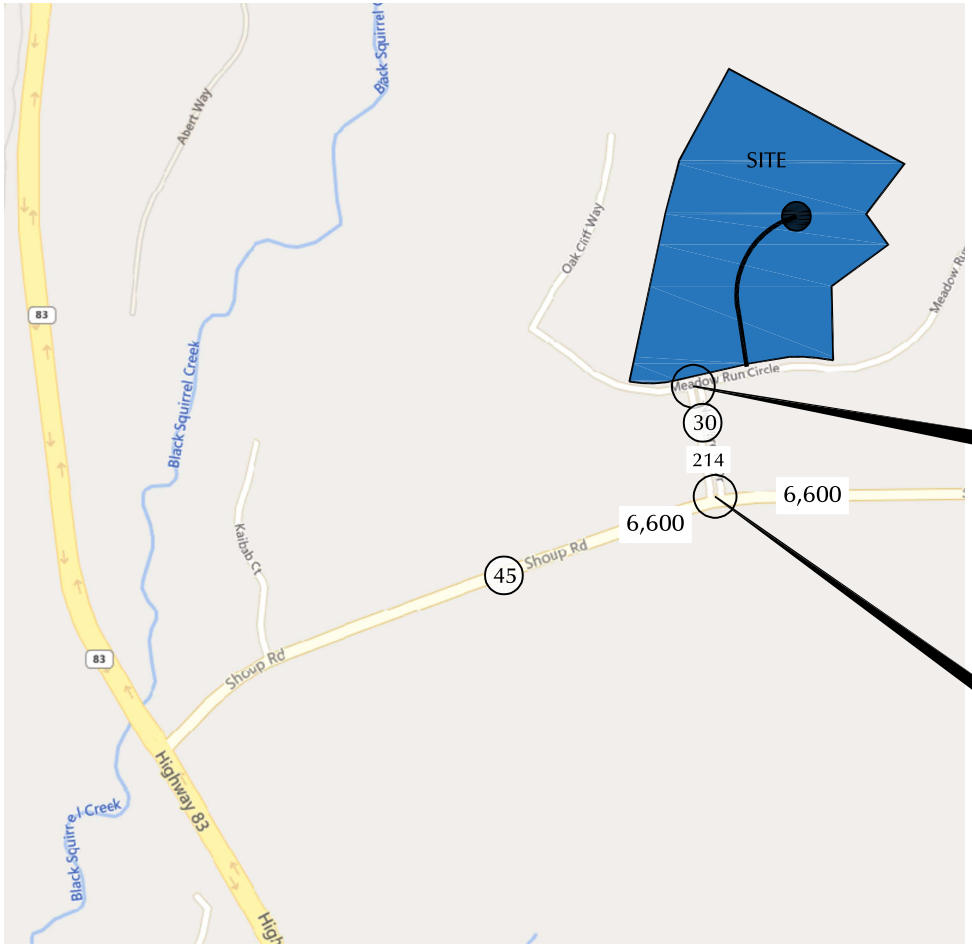
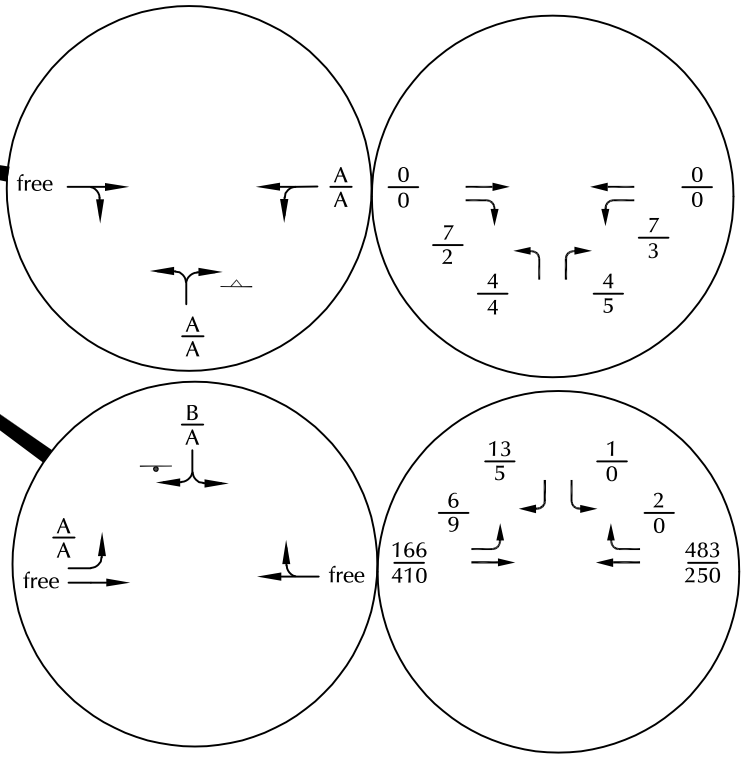


Figure 2

Site Plan

New Breed Ranch (LSC# S224230)





1" = 1000'
scale

$\frac{X}{X}$ = $\frac{\text{AM Individual Movement Peak-Hour LOS}}{\text{PM Individual Movement Peak-Hour LOS}}$

$\frac{XX}{XX}$ = $\frac{\text{AM Weekday Peak-Hour Traffic (Veh/Hour)}}{\text{PM Weekday Peak-Hour Traffic (Veh/Hour)}}$ Counts by LSC (April 2023)

X,XXX = Average Daily Traffic (Vehicles/Day) ADT based on factored peak hours

(#) = Posted Speed Limit

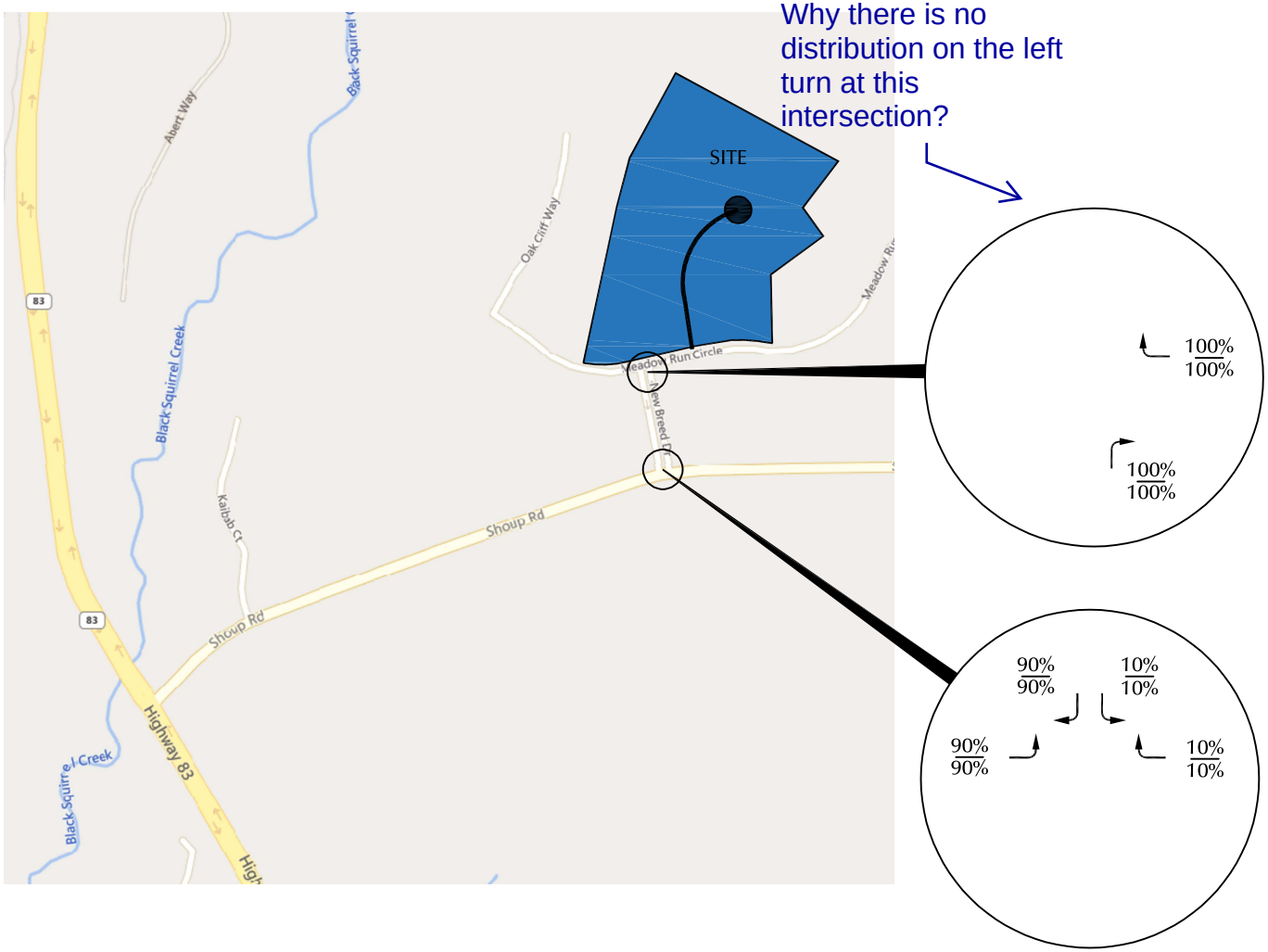
= Yield Sign = Stop Sign

TRANSPORTATION CONSULTANTS, INC.

Figure 3

Existing Traffic, Lane Geometry, Traffic Control, and LOS

New Breed Ranch (LSC# S224230)



N

1" = 1000'
scale

XX / XX = % of AM Weekday Peak-Hour Traffic / % of PM Weekday Peak-Hour Traffic

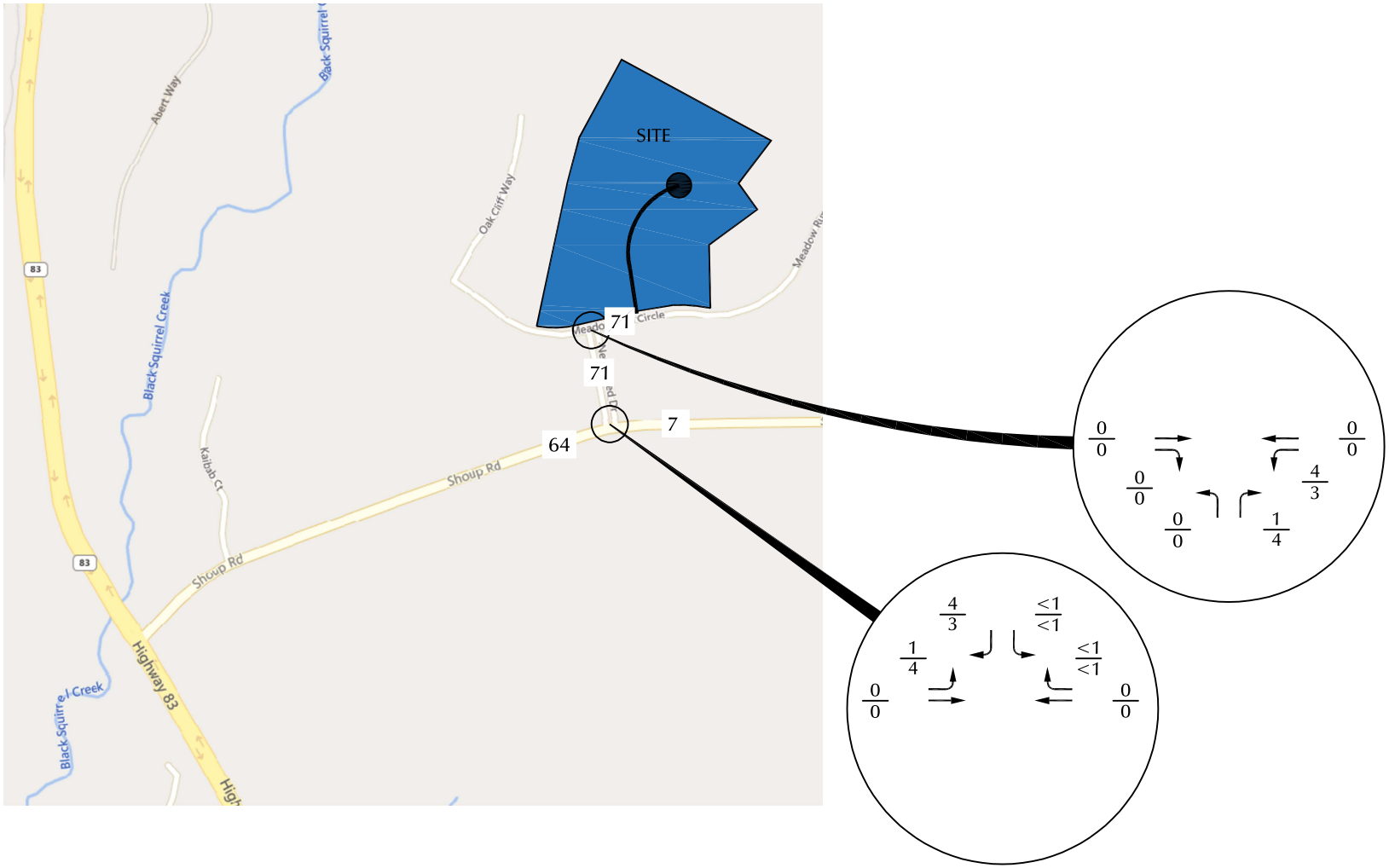
X,XXX = Average Daily Traffic (Vehicles/Day)

LSC TRANSPORTATION CONSULTANTS, INC.

Figure 4

Directional Distribution

New Breed Ranch (LSC# S224230)



1" = 1000'
scale

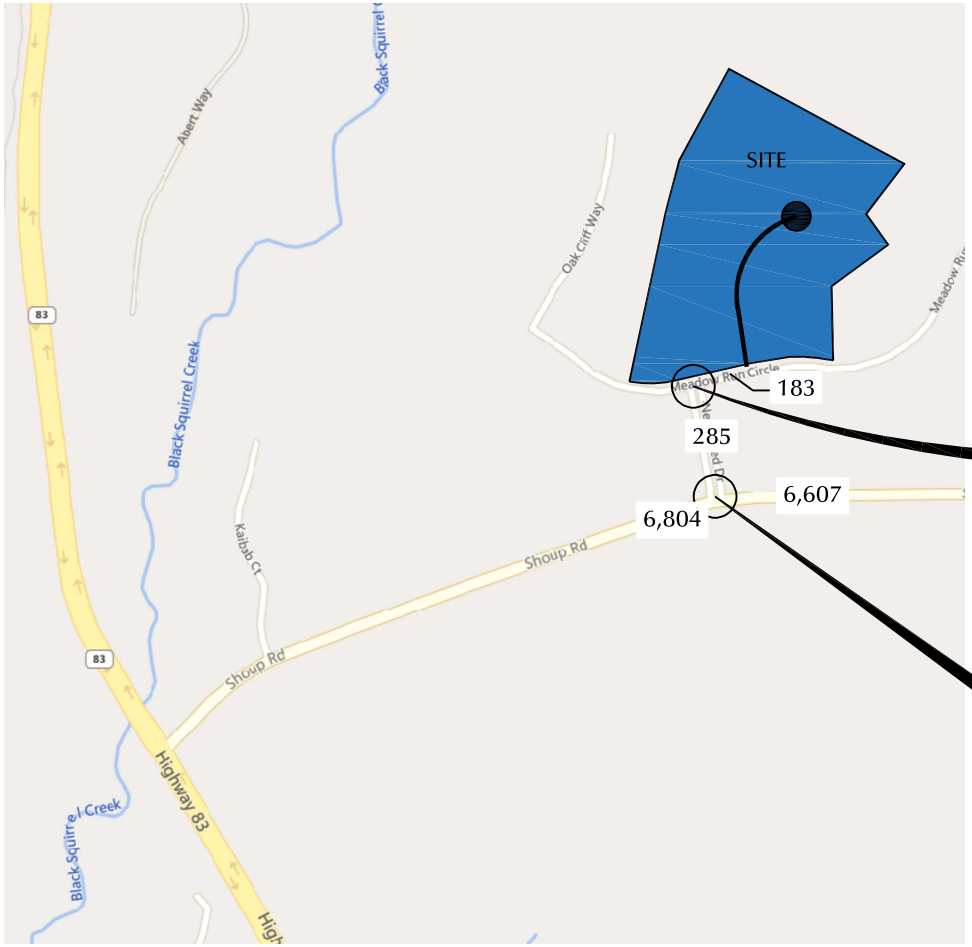
XX/XX = AM Weekday Peak-Hour Traffic (Veh/Hour) / PM Weekday Peak-Hour Traffic (Veh/Hour)

X,XXX = Average Daily Traffic (Vehicles/Day)

Figure 5

Site-Generated Traffic

New Breed Ranch (LSC# S224230)



1" = 1000'
scale

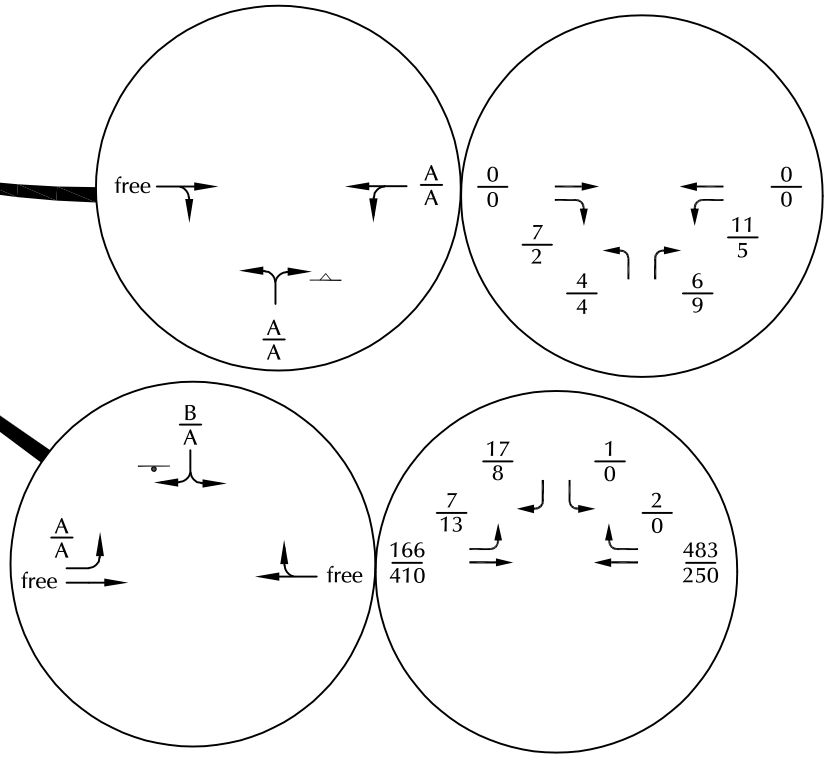


Figure 6

Existing + Site-Generated Traffic, Lane Geometry, Traffic Control, and LOS

New Breed Ranch (LSC# S224230)

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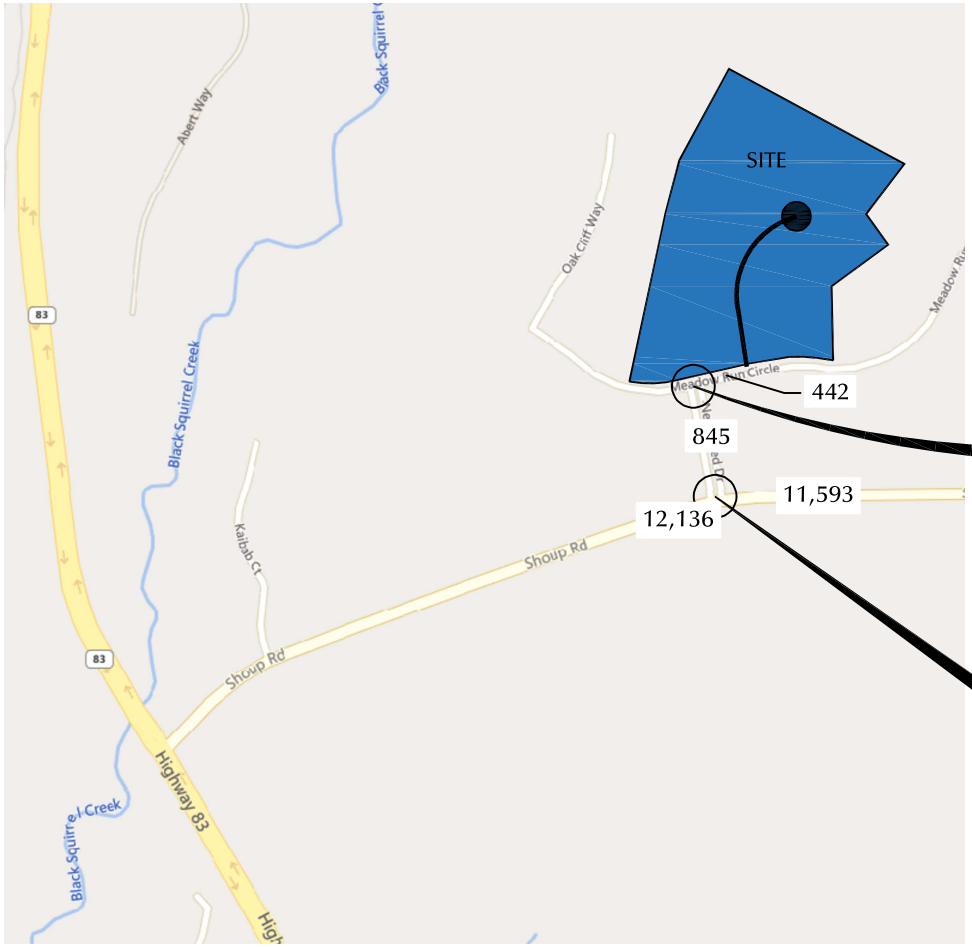
X/X = AM Individual Movement Peak-Hour LOS / PM Individual Movement Peak-Hour LOS

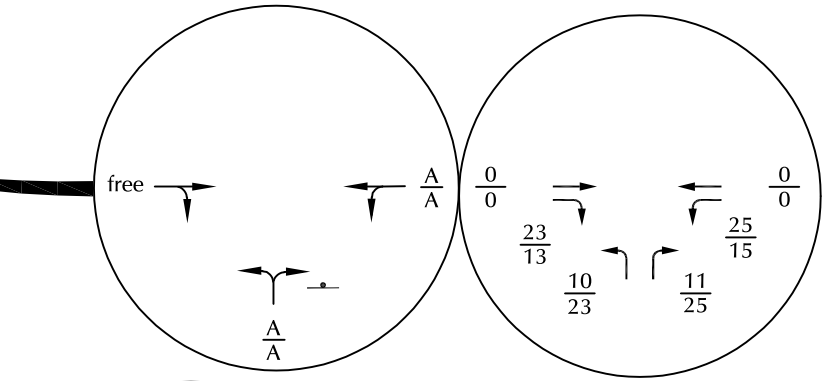
XX/XX = AM Weekday Peak-Hour Traffic (Veh/Hour) / PM Weekday Peak-Hour Traffic (Veh/Hour)

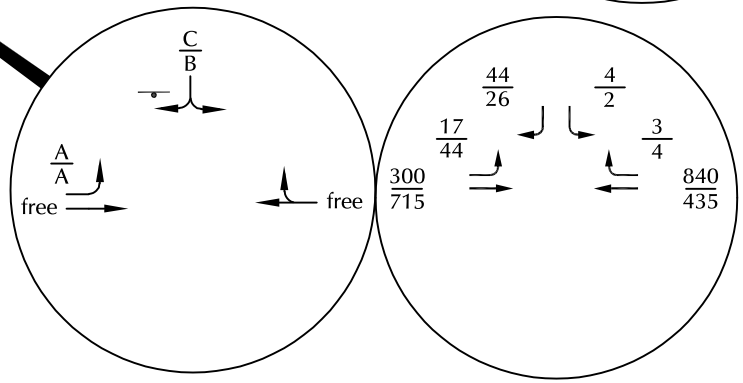
X,XXX = Average Daily Traffic (Vehicles/Day)

= Yield Sign

= Stop Sign







1" = 1000' scale

Figure 7

2043 Background, Lane Geometry, Traffic Control, and LOS

New Breed Ranch (LSC# S224230)

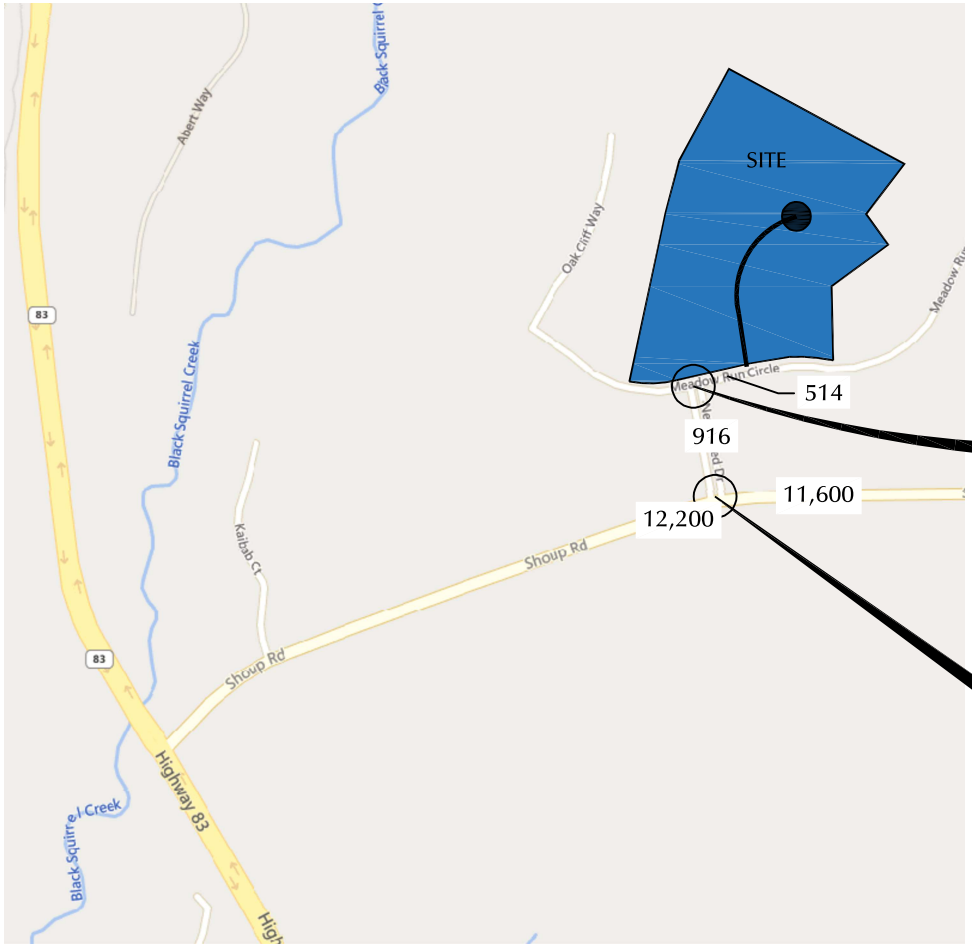
LSC TRANSPORTATION CONSULTANTS, INC.

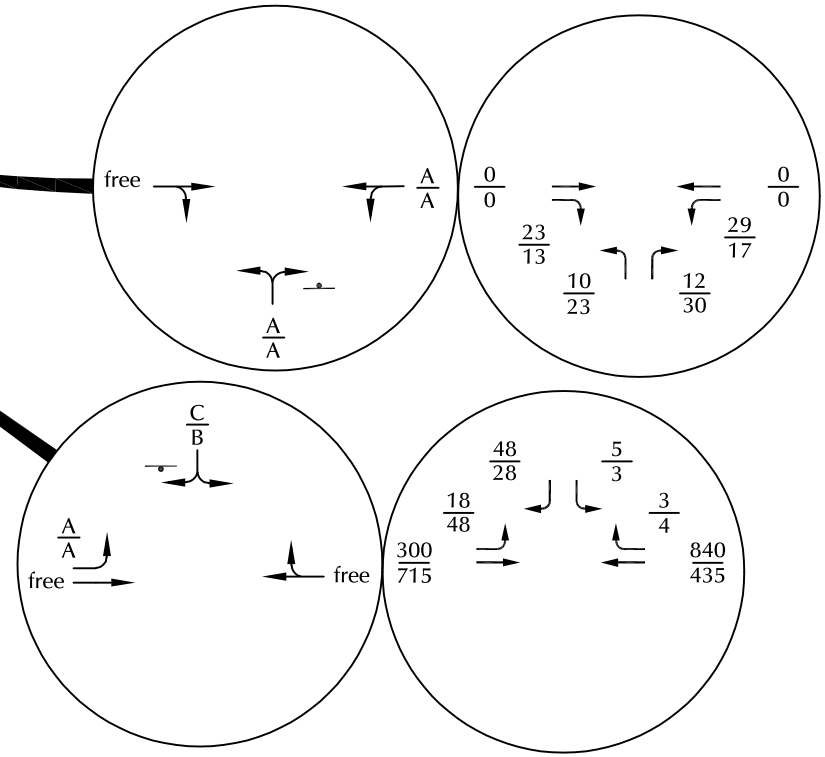
X/X = AM Individual Movement Peak-Hour LOS / PM Individual Movement Peak-Hour LOS

XX/XX = AM Weekday Peak-Hour Traffic (Veh/Hour) / PM Weekday Peak-Hour Traffic (Veh/Hour)

X,XXX = Average Daily Traffic (Vehicles/Day)

= Stop Sign





1" = 1000' scale

Figure 8

2043 Background + Site-Generated Traffic, Lane Geometry, Traffic Control, and LOS

New Breed Ranch (LSC# S224230)

LSC TRANSPORTATION CONSULTANTS, INC.

$\frac{X}{X}$ = AM Individual Movement Peak-Hour LOS / PM Individual Movement Peak-Hour LOS

$\frac{XX}{XX}$ = AM Weekday Peak-Hour Traffic (Veh/Hour) / PM Weekday Peak-Hour Traffic (Veh/Hour)

X,XXX = Average Daily Traffic (Vehicles/Day)

= Stop Sign

Traffic Counts

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CONSULTANTS, INC.

LSC Transportation Consultants, Inc.

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

File Name : New Breed Dr - Shoup Rd AM
Site Code : S214230
Start Date : 4/26/2022
Page No : 1

Groups Printed- Unshifted

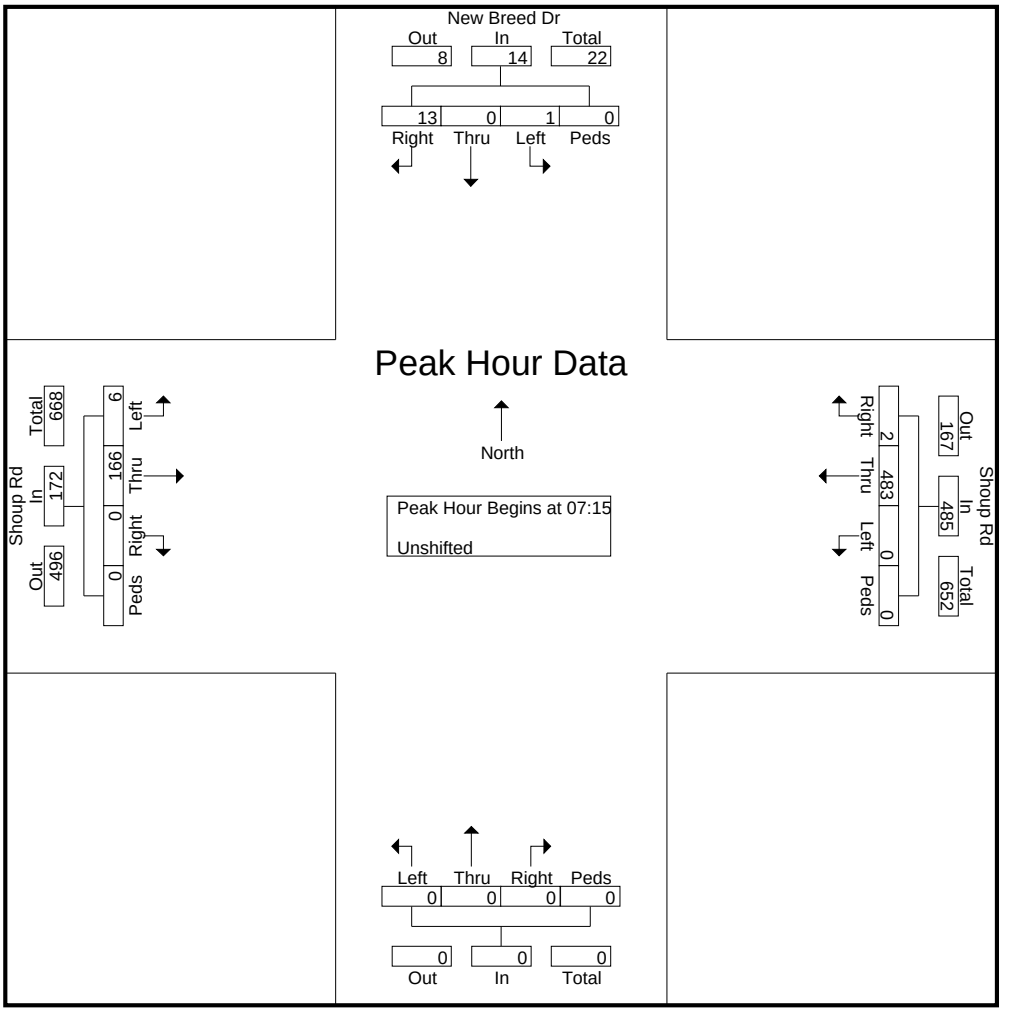
	New Breed Dr Southbound					Shoup Rd Westbound					Northbound					Shoup Rd Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
06:30	2	0	0	0	2	0	73	0	0	73	0	0	0	0	0	0	11	1	0	12	87
06:45	1	0	0	0	1	0	65	0	0	65	0	0	0	0	0	0	17	0	0	17	83
Total	3	0	0	0	3	0	138	0	0	138	0	0	0	0	0	0	28	1	0	29	170
07:00	2	0	0	0	2	1	99	0	0	100	0	0	0	0	0	0	16	0	0	16	118
07:15	0	0	0	0	0	0	142	0	0	142	0	0	0	0	0	0	20	2	0	22	164
07:30	3	0	0	0	3	1	133	0	0	134	0	0	0	0	0	0	42	0	0	42	179
07:45	9	0	1	0	10	1	127	0	0	128	0	0	0	0	0	0	45	3	0	48	186
Total	14	0	1	0	15	3	501	0	0	504	0	0	0	0	0	0	123	5	0	128	647
08:00	1	0	0	0	1	0	81	0	0	81	0	0	0	0	0	0	59	1	0	60	142
08:15	1	0	1	0	2	1	74	0	0	75	0	0	0	0	0	0	68	1	0	69	146
Grand Total	19	0	2	0	21	4	794	0	0	798	0	0	0	0	0	0	278	8	0	286	1105
Apprch %	90.5	0	9.5	0		0.5	99.5	0	0		0	0	0	0		0	97.2	2.8	0		
Total %	1.7	0	0.2	0	1.9	0.4	71.9	0	0	72.2	0	0	0	0	0	0	25.2	0.7	0	25.9	

LSC Transportation Consultants, Inc.

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

File Name : New Breed Dr - Shoup Rd AM
Site Code : S214230
Start Date : 4/26/2022
Page No : 2

	New Breed Dr Southbound					Shoup Rd Westbound					Northbound					Shoup Rd Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 6:30:00 AM to 8:15:00 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 7:15:00 AM																					
7:15:00 AM	0	0	0	0	0	0	**142**	0	0	**142**	0	0	0	0	0	0	20	2	0	22	164
7:30:00 AM	3	0	0	0	3	**1**	133	0	0	134	0	0	0	0	0	0	42	0	0	42	179
7:45:00 AM	**9**	0	**1**	0	**10**	1	127	0	0	128	0	0	0	0	0	0	45	**3**	0	48	**186**
8:00:00 AM	1	0	0	0	1	0	81	0	0	81	0	0	0	0	0	0	**59**	1	0	**60**	142
Total Volume	13	0	1	0	14	2	483	0	0	485	0	0	0	0	0	0	166	6	0	172	671
% App. Total	92.9	0	7.1	0		0.4	99.6	0	0		0	0	0	0		0	96.5	3.5	0		
PHF	.361	.000	.250	.000	.350	.500	.850	.000	.000	.854	.000	.000	.000	.000	.000	.000	.703	.500	.000	.717	.902



LSC Transportation Consultants, Inc.

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

File Name : New Breed Dr - Shoup Rd AM
Site Code : S214230
Start Date : 4/26/2022

	New Breed Dr Southbound					Shoup Rd Westbound					Northbound					Shoup Rd Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 6:30:00 AM to 8:15:00 AM - Peak 1 of 1																					
Peak Hour for Each Approach Begins at:																					
	7:30:00 AM					7:00:00 AM					6:30:00 AM					7:30:00 AM					
+0 mins.	3	0	0	0	3	**1**	99	0	0	100	0	0	0	0	0	0	42	0	0	42	
+5 mins.	**9**	0	**1**	0	**10**	0	**142**	0	0	**142**	0	0	0	0	0	0	45	**3**	0	48	
+10 mins.	1	0	0	0	1	1	133	0	0	134	0	0	0	0	0	0	59	1	0	60	
+15 mins.	1	0	1	0	2	1	127	0	0	128	0	0	0	0	0	0	**68**	1	0	**69**	
Total Volume	14	0	2	0	16	3	501	0	0	504	0	0	0	0	0	0	214	5	0	219	
% App. Total	87.5	0	12.5	0		0.6	99.4	0	0		0	0	0	0		0	97.7	2.3	0		
PHF	.389	.000	.500	.000	.400	.750	.882	.000	.000	.887	.000	.000	.000	.000	.000	.000	.787	.417	.000	.793	

LSC Transportation Consultants, Inc.

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

File Name : New Breed Dr - Shoup Rd PM
Site Code : S224230
Start Date : 4/26/2022
Page No : 1

Groups Printed- Unshifted

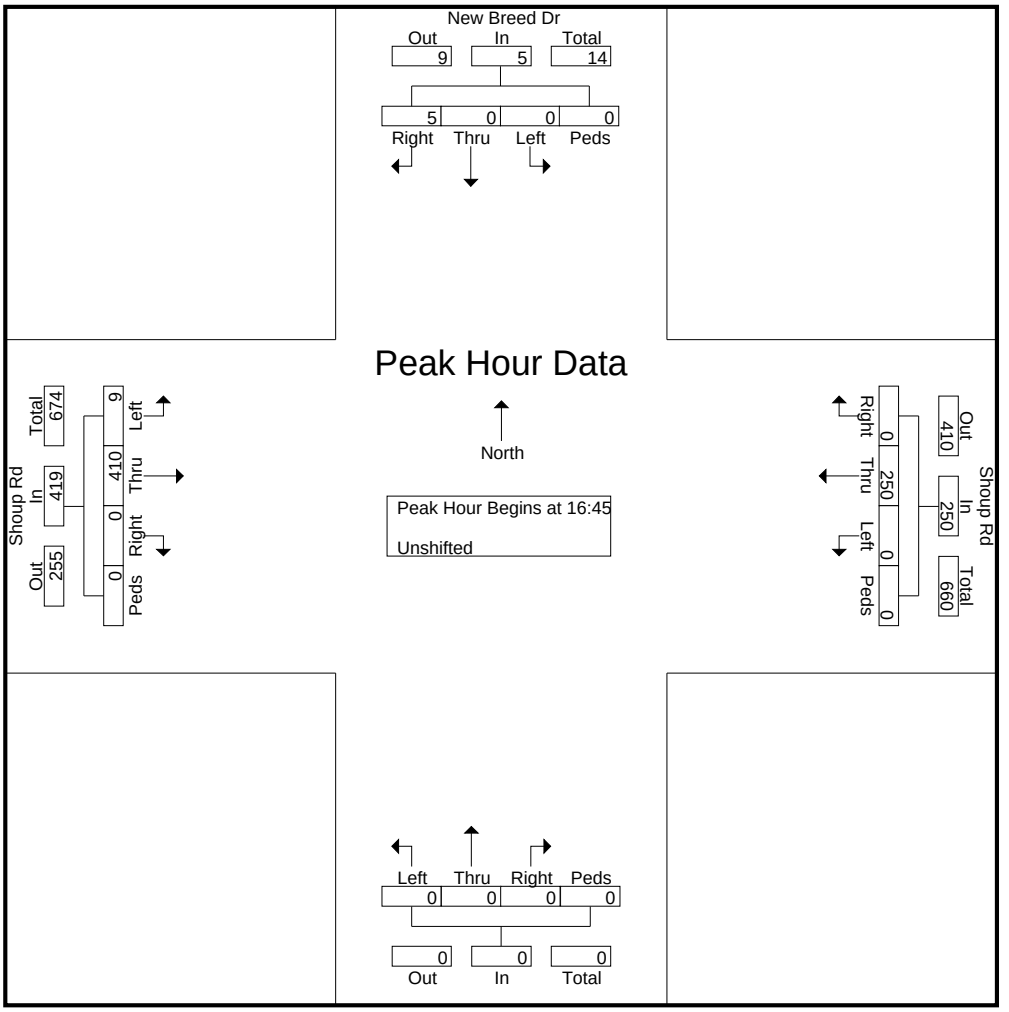
	New Breed Dr Southbound					Shoup Rd Westbound					Northbound					Shoup Rd Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
16:00	1	0	1	0	2	0	60	0	0	60	0	0	0	0	0	0	89	1	0	90	152
16:15	2	0	0	0	2	0	56	0	0	56	0	0	0	0	0	0	106	2	0	108	166
16:30	1	0	1	0	2	1	50	0	0	51	0	0	0	0	0	0	80	0	0	80	133
16:45	1	0	0	0	1	0	67	0	0	67	0	0	0	0	0	0	127	2	0	129	197
Total	5	0	2	0	7	1	233	0	0	234	0	0	0	0	0	0	402	5	0	407	648
17:00	3	0	0	0	3	0	56	0	0	56	0	0	0	0	0	0	98	2	0	100	159
17:15	0	0	0	0	0	0	67	0	0	67	0	0	0	0	0	0	94	2	0	96	163
17:30	1	0	0	0	1	0	60	0	0	60	0	0	0	0	0	0	91	3	0	94	155
17:45	2	0	0	0	2	0	48	0	0	48	0	0	0	0	0	0	77	3	0	80	130
Total	6	0	0	0	6	0	231	0	0	231	0	0	0	0	0	0	360	10	0	370	607
Grand Total	11	0	2	0	13	1	464	0	0	465	0	0	0	0	0	0	762	15	0	777	1255
Apprch %	84.6	0	15.4	0		0.2	99.8	0	0		0	0	0	0		0	98.1	1.9	0		
Total %	0.9	0	0.2	0	1	0.1	37	0	0	37.1	0	0	0	0	0	0	60.7	1.2	0	61.9	

LSC Transportation Consultants, Inc.

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

File Name : New Breed Dr - Shoup Rd PM
Site Code : S224230
Start Date : 4/26/2022
Page No : 2

	New Breed Dr Southbound					Shoup Rd Westbound					Northbound					Shoup Rd Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	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	1	0	0	0	1	0	**67**	0	0	**67**	0	0	0	0	0	0	**127**	2	0	**129**	**197**
5:00:00 PM	**3**	0	0	0	**3**	0	56	0	0	56	0	0	0	0	0	0	98	2	0	100	159
5:15:00 PM	0	0	0	0	0	0	67	0	0	67	0	0	0	0	0	0	94	2	0	96	163
5:30:00 PM	1	0	0	0	1	0	60	0	0	60	0	0	0	0	0	0	91	**3**	0	94	155
Total Volume	5	0	0	0	5	0	250	0	0	250	0	0	0	0	0	0	410	9	0	419	674
% App. Total	100	0	0	0		0	100	0	0		0	0	0	0		0	97.9	2.1	0		
PHF	.417	.000	.000	.000	.417	.000	.933	.000	.000	.933	.000	.000	.000	.000	.000	.000	.807	.750	.000	.812	.855

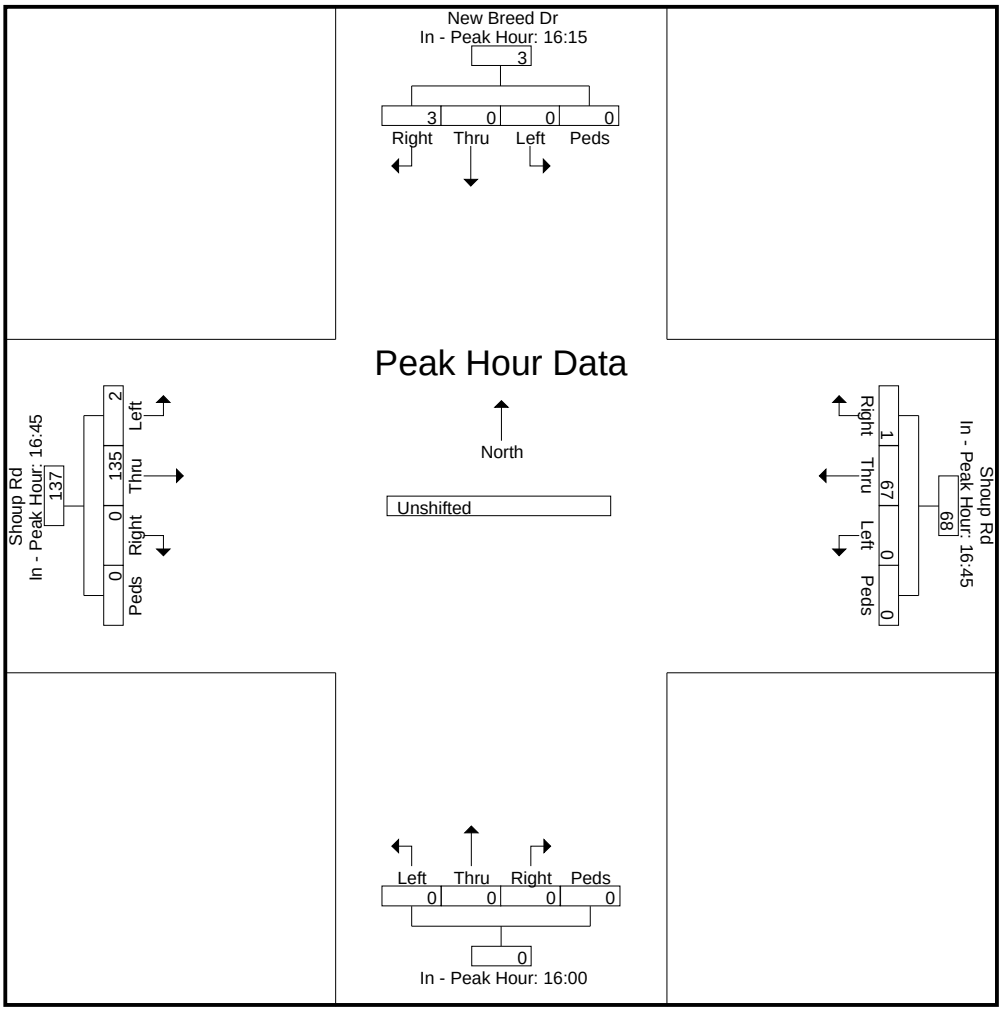


LSC Transportation Consultants, Inc.

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

File Name : New Breed Dr - Shoup Rd PM
Site Code : S224230
Start Date : 4/26/2022
Page No : 3

	New Breed Dr Southbound					Shoup Rd Westbound					Northbound					Shoup Rd Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	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:																					
	4:15:00 PM					4:45:00 PM					4:00:00 PM					4:45:00 PM					
+0 mins.	2	0	0	0	2	0	**67**	0	0	**67**	0	0	0	0	0	0	**127**	2	0	**129**	
+5 mins.	1	0	**1**	0	2	0	56	0	0	56	0	0	0	0	0	0	98	2	0	100	
+10 mins.	1	0	0	0	1	0	67	0	0	67	0	0	0	0	0	0	94	2	0	96	
+15 mins.	**3**	0	0	0	**3**	0	60	0	0	60	0	0	0	0	0	0	91	**3**	0	94	
Total Volume	7	0	1	0	8	0	250	0	0	250	0	0	0	0	0	0	410	9	0	419	
% App. Total	87.5	0	12.5	0		0	100	0	0		0	0	0	0		0	97.9	2.1	0		
PHF	.583	.000	.250	.000	.667	.000	.933	.000	.000	.933	.000	.000	.000	.000	.000	.000	.807	.750	.000	.812	



Levels of Service

TRANSPORTATION
CONSULTANTS, INC.

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	6	166	483	2	1	13
Future Vol, veh/h	6	166	483	2	1	13
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	270	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	87	87	92	92	78	78
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	7	191	525	2	1	17

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	527	0	-	0	731	526
Stage 1	-	-	-	-	526	-
Stage 2	-	-	-	-	205	-
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	1040	-	-	-	389	552
Stage 1	-	-	-	-	593	-
Stage 2	-	-	-	-	829	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1040	-	-	-	386	552
Mov Cap-2 Maneuver	-	-	-	-	386	-
Stage 1	-	-	-	-	589	-
Stage 2	-	-	-	-	829	-

Approach	EB	WB	SB
HCM Control Delay, s	0.3	0	11.9
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1040	-	-	-	536
HCM Lane V/C Ratio	0.007	-	-	-	0.033
HCM Control Delay (s)	8.5	-	-	-	11.9
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection	
Int Delay, s/veh	5.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	0	7	7	0	4	4
Future Vol, veh/h	0	7	7	0	4	4
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	78	78	78	78	78	78
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	9	9	0	5	5

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	9	0	23	5
Stage 1	-	-	-	-	5	-
Stage 2	-	-	-	-	18	-
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	-	-	1611	-	993	1078
Stage 1	-	-	-	-	1018	-
Stage 2	-	-	-	-	1005	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1611	-	987	1078
Mov Cap-2 Maneuver	-	-	-	-	987	-
Stage 1	-	-	-	-	1018	-
Stage 2	-	-	-	-	999	-

Approach	EB	WB	NB
HCM Control Delay, s	0	7.2	8.5
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	1030	-	-	1611	-
HCM Lane V/C Ratio	0.01	-	-	0.006	-
HCM Control Delay (s)	8.5	-	-	7.2	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	9	410	250	0	0	5
Future Vol, veh/h	9	410	250	0	0	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	270	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	78	78
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	10	446	272	0	0	6

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	272	0	-	0	738	272
Stage 1	-	-	-	-	272	-
Stage 2	-	-	-	-	466	-
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	1291	-	-	-	385	767
Stage 1	-	-	-	-	774	-
Stage 2	-	-	-	-	632	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1291	-	-	-	382	767
Mov Cap-2 Maneuver	-	-	-	-	382	-
Stage 1	-	-	-	-	768	-
Stage 2	-	-	-	-	632	-

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

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1291	-	-	-	767
HCM Lane V/C Ratio	0.008	-	-	-	0.008
HCM Control Delay (s)	7.8	-	-	-	9.7
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

Intersection	
Int Delay, s/veh	7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	0	2	3	0	4	5
Future Vol, veh/h	0	2	3	0	4	5
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	78	78	78	78	78	78
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	3	4	0	5	6

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	3	0	10	2
Stage 1	-	-	-	-	2	-
Stage 2	-	-	-	-	8	-
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	-	-	1619	-	1010	1082
Stage 1	-	-	-	-	1021	-
Stage 2	-	-	-	-	1015	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1619	-	1008	1082
Mov Cap-2 Maneuver	-	-	-	-	1008	-
Stage 1	-	-	-	-	1021	-
Stage 2	-	-	-	-	1013	-

Approach	EB	WB	NB
HCM Control Delay, s	0	7.2	8.5
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	1048	-	-	1619	-
HCM Lane V/C Ratio	0.011	-	-	0.002	-
HCM Control Delay (s)	8.5	-	-	7.2	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	7	166	483	2	1	17
Future Vol, veh/h	7	166	483	2	1	17
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	270	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	87	87	92	92	78	78
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	8	191	525	2	1	22

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	527	0	-	0	733	526
Stage 1	-	-	-	-	526	-
Stage 2	-	-	-	-	207	-
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	1040	-	-	-	388	552
Stage 1	-	-	-	-	593	-
Stage 2	-	-	-	-	828	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1040	-	-	-	385	552
Mov Cap-2 Maneuver	-	-	-	-	385	-
Stage 1	-	-	-	-	588	-
Stage 2	-	-	-	-	828	-

Approach	EB	WB	SB
HCM Control Delay, s	0.3	0	12
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1040	-	-	-	539
HCM Lane V/C Ratio	0.008	-	-	-	0.043
HCM Control Delay (s)	8.5	-	-	-	12
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection	
Int Delay, s/veh	5.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	0	7	11	0	4	6
Future Vol, veh/h	0	7	11	0	4	6
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	78	78	78	78	78	78
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	9	14	0	5	8

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	9	0	33	5
Stage 1	-	-	-	-	5	-
Stage 2	-	-	-	-	28	-
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	-	-	1611	-	980	1078
Stage 1	-	-	-	-	1018	-
Stage 2	-	-	-	-	995	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1611	-	971	1078
Mov Cap-2 Maneuver	-	-	-	-	971	-
Stage 1	-	-	-	-	1018	-
Stage 2	-	-	-	-	986	-

Approach	EB	WB	NB
HCM Control Delay, s	0	7.3	8.5
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	1032	-	-	1611	-
HCM Lane V/C Ratio	0.012	-	-	0.009	-
HCM Control Delay (s)	8.5	-	-	7.3	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	13	410	250	0	0	7
Future Vol, veh/h	13	410	250	0	0	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	270	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	78	78
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	14	446	272	0	0	9

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	272	0	-	0	746	272
Stage 1	-	-	-	-	272	-
Stage 2	-	-	-	-	474	-
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	1291	-	-	-	381	767
Stage 1	-	-	-	-	774	-
Stage 2	-	-	-	-	626	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1291	-	-	-	377	767
Mov Cap-2 Maneuver	-	-	-	-	377	-
Stage 1	-	-	-	-	765	-
Stage 2	-	-	-	-	626	-

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

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1291	-	-	-	767
HCM Lane V/C Ratio	0.011	-	-	-	0.012
HCM Control Delay (s)	7.8	-	-	-	9.7
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

Intersection	
Int Delay, s/veh	7.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	0	2	5	0	4	9
Future Vol, veh/h	0	2	5	0	4	9
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	78	78	78	78	78	78
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	3	6	0	5	12

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	3	0	14	2
Stage 1	-	-	-	-	2	-
Stage 2	-	-	-	-	12	-
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	-	-	1619	-	1005	1082
Stage 1	-	-	-	-	1021	-
Stage 2	-	-	-	-	1011	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1619	-	1001	1082
Mov Cap-2 Maneuver	-	-	-	-	1001	-
Stage 1	-	-	-	-	1021	-
Stage 2	-	-	-	-	1007	-

Approach	EB	WB	NB
HCM Control Delay, s	0	7.2	8.5
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	1056	-	-	1619	-
HCM Lane V/C Ratio	0.016	-	-	0.004	-
HCM Control Delay (s)	8.5	-	-	7.2	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	17	300	840	3	4	44
Future Vol, veh/h	17	300	840	3	4	44
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	270	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	93	93	78	78
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	18	326	903	3	5	56

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	906	0	-	0	1267	905
Stage 1	-	-	-	-	905	-
Stage 2	-	-	-	-	362	-
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	751	-	-	-	186	335
Stage 1	-	-	-	-	395	-
Stage 2	-	-	-	-	704	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	751	-	-	-	182	335
Mov Cap-2 Maneuver	-	-	-	-	182	-
Stage 1	-	-	-	-	386	-
Stage 2	-	-	-	-	704	-

Approach	EB	WB	SB
HCM Control Delay, s	0.5	0	19.3
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	751	-	-	-	313
HCM Lane V/C Ratio	0.025	-	-	-	0.197
HCM Control Delay (s)	9.9	-	-	-	19.3
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0.1	-	-	-	0.7

Intersection	
Int Delay, s/veh	5.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	0	23	25	0	10	11
Future Vol, veh/h	0	23	25	0	10	11
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	78	78	78	78	78	78
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	29	32	0	13	14

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	29	0	79	15
Stage 1	-	-	-	-	15	-
Stage 2	-	-	-	-	64	-
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	-	-	1584	-	924	1065
Stage 1	-	-	-	-	1008	-
Stage 2	-	-	-	-	959	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1584	-	906	1065
Mov Cap-2 Maneuver	-	-	-	-	906	-
Stage 1	-	-	-	-	1008	-
Stage 2	-	-	-	-	940	-

Approach	EB	WB	NB
HCM Control Delay, s	0	7.3	8.8
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	983	-	-	1584	-
HCM Lane V/C Ratio	0.027	-	-	0.02	-
HCM Control Delay (s)	8.8	-	-	7.3	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0.1	-

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	44	715	435	4	2	26
Future Vol, veh/h	44	715	435	4	2	26
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	270	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	93	93	92	92	78	78
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	47	769	473	4	3	33

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	477	0	-	0	1338	475
Stage 1	-	-	-	-	475	-
Stage 2	-	-	-	-	863	-
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	1085	-	-	-	169	590
Stage 1	-	-	-	-	626	-
Stage 2	-	-	-	-	413	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1085	-	-	-	162	590
Mov Cap-2 Maneuver	-	-	-	-	162	-
Stage 1	-	-	-	-	599	-
Stage 2	-	-	-	-	413	-

Approach	EB	WB	SB
HCM Control Delay, s	0.5	0	12.8
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1085	-	-	-	496
HCM Lane V/C Ratio	0.044	-	-	-	0.072
HCM Control Delay (s)	8.5	-	-	-	12.8
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.2

Intersection	
Int Delay, s/veh	7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	0	13	15	0	23	25
Future Vol, veh/h	0	13	15	0	23	25
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	78	78	78	78	78	78
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	17	19	0	29	32

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	17	0	47	9
Stage 1	-	-	-	-	9	-
Stage 2	-	-	-	-	38	-
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	-	-	1600	-	963	1073
Stage 1	-	-	-	-	1014	-
Stage 2	-	-	-	-	984	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1600	-	951	1073
Mov Cap-2 Maneuver	-	-	-	-	951	-
Stage 1	-	-	-	-	1014	-
Stage 2	-	-	-	-	972	-

Approach	EB	WB	NB
HCM Control Delay, s	0	7.3	8.8
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	1011	-	-	1600	-
HCM Lane V/C Ratio	0.061	-	-	0.012	-
HCM Control Delay (s)	8.8	-	-	7.3	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0	-

Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	18	300	840	3	5	48
Future Vol, veh/h	18	300	840	3	5	48
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	270	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	93	93	83	83
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	20	326	903	3	6	58

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	906	0	-	0	1271	905
Stage 1	-	-	-	-	905	-
Stage 2	-	-	-	-	366	-
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	751	-	-	-	185	335
Stage 1	-	-	-	-	395	-
Stage 2	-	-	-	-	702	-
Platoon blocked, %			-	-		
Mov Cap-1 Maneuver	751	-	-	-	180	335
Mov Cap-2 Maneuver	-	-	-	-	180	-
Stage 1	-	-	-	-	384	-
Stage 2	-	-	-	-	702	-

Approach	EB	WB	SB
HCM Control Delay, s	0.6	0	19.6
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	751	-	-	-	310
HCM Lane V/C Ratio	0.026	-	-	-	0.206
HCM Control Delay (s)	9.9	-	-	-	19.6
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0.1	-	-	-	0.8

Intersection	
Int Delay, s/veh	5.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	0	23	29	0	10	12
Future Vol, veh/h	0	23	29	0	10	12
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	78	78	78	78	78	78
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	29	37	0	13	15

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	29	0	89	15
Stage 1	-	-	-	-	15	-
Stage 2	-	-	-	-	74	-
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	-	-	1584	-	912	1065
Stage 1	-	-	-	-	1008	-
Stage 2	-	-	-	-	949	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1584	-	891	1065
Mov Cap-2 Maneuver	-	-	-	-	891	-
Stage 1	-	-	-	-	1008	-
Stage 2	-	-	-	-	927	-

Approach	EB	WB	NB
HCM Control Delay, s	0	7.3	8.8
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	978	-	-	1584	-
HCM Lane V/C Ratio	0.029	-	-	0.023	-
HCM Control Delay (s)	8.8	-	-	7.3	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0.1	-

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	48	715	435	4	3	28
Future Vol, veh/h	48	715	435	4	3	28
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	270	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	78	78
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	52	777	473	4	4	36

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	477	0	-	0	1356	475
Stage 1	-	-	-	-	475	-
Stage 2	-	-	-	-	881	-
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	1085	-	-	-	165	590
Stage 1	-	-	-	-	626	-
Stage 2	-	-	-	-	405	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1085	-	-	-	157	590
Mov Cap-2 Maneuver	-	-	-	-	157	-
Stage 1	-	-	-	-	596	-
Stage 2	-	-	-	-	405	-

Approach	EB	WB	SB
HCM Control Delay, s	0.5	0	13.4
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1085	-	-	-	466
HCM Lane V/C Ratio	0.048	-	-	-	0.085
HCM Control Delay (s)	8.5	-	-	-	13.4
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.2	-	-	-	0.3

Intersection	
Int Delay, s/veh	7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	0	13	17	0	23	30
Future Vol, veh/h	0	13	17	0	23	30
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	78	78	78	78	83	83
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	17	22	0	28	36

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	17	0	53	9
Stage 1	-	-	-	-	9	-
Stage 2	-	-	-	-	44	-
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	-	-	1600	-	955	1073
Stage 1	-	-	-	-	1014	-
Stage 2	-	-	-	-	978	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1600	-	942	1073
Mov Cap-2 Maneuver	-	-	-	-	942	-
Stage 1	-	-	-	-	1014	-
Stage 2	-	-	-	-	964	-

Approach	EB	WB	NB
HCM Control Delay, s	0	7.3	8.8
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	1012	-	-	1600	-
HCM Lane V/C Ratio	0.063	-	-	0.014	-
HCM Control Delay (s)	8.8	-	-	7.3	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0	-