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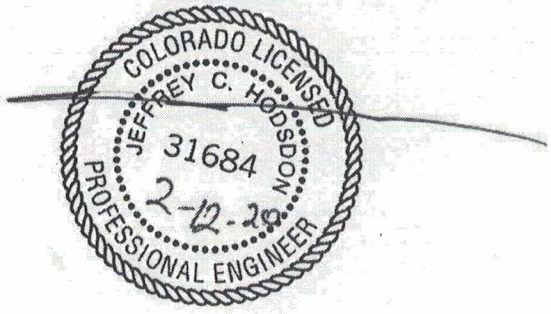
Ellicott Sand and Gravel
Traffic Impact Analysis
(LSC #194980)
February 11, 2020

Add PCD File No. AL2014

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.

2-12-2020
Date

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February 11, 2020

Per the ECM table 2-5 access is not permitted on Rural Major Collector Roadways.Please submit a deviation request form for access to Sanborn Road. The deviation request will be presented to the ECM administrator for a decision.

Christine Wilson
Ellicott Sand & Gravel
c/o Mr. Bruce Humphries
<via email>

RE: Ellicott Sand and Gravel
El Paso County, CO
Traffic Impact Analysis
LSC #194980

Dear Ms. Wilson,

LSC Transportation Consultants, Inc. has prepared this traffic impact study for the proposed Schubert Ranch/Ellicott Sand & Gravel extraction operation in El Paso County, Colorado. The site is located west of Baggett Road and north (and south) of Sanborn Road. One access is proposed to Sanborn Road about one quarter-mile west of Baggett Road (access GPS location: 38°47'43.5875" N, 104°21'17.6006" W).

The proposed haul route would have trucks exit the site to the north on Baggett Road, travel to Highway 94, then turn west on State Highway (SH) 94 and travel west toward Colorado Springs to a variety of destinations. Per the applicant, between 8 and 15 one-way vehicle-trips would occur during the average 24-hour period.

This report has been prepared for submittal to the El Paso County Planning and Community Development department and CDOT.

REPORT CONTENTS

The report contains the following:

- Existing street and traffic conditions adjacent to and in the vicinity of the site, including the intersection lane geometries, traffic controls, posted speed limits, functional classifications, intersection spacing and alignment, sight distances, etc.
- Existing peak-hour turning movement traffic counts at the intersections of State Highway 94/Baggett Road and Baggett Road/Sanborn Road
- Estimates of existing and projections of 20-year daily traffic volumes adjacent to the site using EPC and CDOT data/available projections

- Description of the existing land uses adjacent to and in the vicinity of the site
- Estimates of the proposed development's peak-hour and daily trip generation
- Estimated assignment of peak-hour and daily site-generated traffic volumes on the streets providing access to/from the site, including:
    - State Highway 94/Baggett Road
    - Baggett Road/Sanborn Road
    - Sanborn Road/proposed site access
- Identification of existing and estimate future baseline/background traffic at key haul route intersections and road segments
- Estimated total average daily, "design" daily, and design-hour trip generation for the proposed sand and gravel operation, including trips by vehicle type
- Estimated directional distribution of mine-generated trips on roadways to be used for hauling
- Resulting traffic impacts of the proposed development to determine the future functional classification of adjacent roadways along the haul route based on the projected long-term "design ADT"
- Intersection levels of service analysis at key intersections along the proposed haul route:
    - State Highway 94/Baggett Road
    - Baggett Road/Sanborn Road
    - Sanborn Road/proposed site access
- Auxiliary right-/left-turn lane analysis at the following intersections based on the projected volumes and criteria in El Paso County's *Engineering Criteria Manual (ECM)* and the *State Highway Access Code*:
    - State Highway 94/Baggett Road
    - Baggett Road/Sanborn Road
    - Sanborn Road/proposed site access
- Identification of roadway system deficiencies with or without mine traffic and roadway improvement recommendations needed, per CDOT and El Paso County criteria
- Findings and recommendations

Please elaborate in your description of the proposed use of the project. It appears that the project will be phased. Will the applicant request a different access point as the project moves along with subsequent applications? Please provide discussion in the narrative.

LAND USE AND ACCESS

The proposed Schubert Ranch/Ellicott Sand & Gravel extraction operation in El Paso County, Colorado is located west of Baggett Road and north (and south) of Sanborn Road. Located at El Paso County parcel ID 2400000276, the 783-acre parcel is currently vacant.

The proposed access would be located one-quarter mile west of the intersection of Baggett Road/Sanborn Road (access GPS location: 38°47'43.5875" N, 104°21'17.6006" W).

Please state whether or not the required sight distance is met. Also indicate what the required sight distance is.

Sight Distance

Access sight distance is acceptable at the proposed entrance on Sanborn Road. No horizontal or vertical sight distance issues exist at key intersections along the proposed haul route, including:

- State Highway 94/Baggett Road
- Baggett Road/Sanborn Road
- Sanborn Road/proposed site access

APPLICANT-PROPOSED HAUL ROUTE

The following haul route proposed by the applicant is shown in Figure 9 and described below. Approximately half of haul trips (loaded and empty) would be controlled by Ellicott, while the other half would be operated by outside hauling companies. The applicant will direct the trucking company and outside hauling companies to use this specific route, which may be used for truck loads up to 88,000 lbs. gross vehicle weight (GVW):

1. From the mine entrance, turn left and continue eastbound on Sanborn Road for 0.25 miles
2. Turn left onto Baggett Road and continue northbound for 3.0 miles
3. Continue west on State Highway 94 into El Paso County

ROADWAYS AND TRAFFIC CONDITIONS

Area Roadways

Major roadways in the site vicinity are identified below, followed by a brief description of each. Roadway functional classifications are shown in Figure 1, while detailed existing roadway conditions are shown in Exhibit 1.

State Highway 94 is a two-lane, paved rural highway with a posted speed limit of 65 miles per hour (mph) adjacent to the site. The highway extends east from US Highway 24 near Peterson Air Force Base about 85 miles to Highway 287 in Cheyenne County. CDOT classifies State Highway 94 as an NR-A highway. CDOT has identified the governing document with respect to access management for Highway 94 in the vicinity of the site as the *State Highway 94 Access Management Plan* (2012). The El Paso County 2040 *Major Transportation Corridors Plan* (MTCP) identifies Highway 94 as a two-lane Principal Arterial adjacent to the site. The MTCP 2060 *Corridor Preservation Plan* identifies State Highway 94 as a future four-lane Principal Arterial. However, future right-of-way needs will be identified by CDOT.

Ellicott Highway is classified as a two-lane Minor Arterial on the 2040 El Paso County MTCP. The posted speed limit on Ellicott Highway south of State Highway 94 is 45 mph. Auxiliary left-turn lanes currently exist on the eastbound and westbound approaches at the TWSC intersection of Ellicott Highway/State Highway 94.

Baggett Road is classified as a two-lane Rural Local street on the 2040 El Paso County MTCP. No auxiliary lanes currently exist at the TWSC intersection of Baggett Road/State Highway 94. Currently, Baggett Road is a 24-foot wide gravel roadway with 4-foot shoulders and 60 feet of right-of-way (ROW). The posted speed limit on Baggett Road is 45 mph.

Sanborn Road is classified as a two-lane Collector on the 2040 El Paso County MTCP. No auxiliary lanes currently exist at the TWSC intersections of Baggett Road/Sanborn Road and Sanborn Road/Ellicott Highway. Currently, Sanborn Road is a 32-foot wide gravel roadway with 4-foot shoulders and 90 feet of ROW. The posted speed limit on Sanborn Road is 45 mph.

Handle Road is classified as a two-lane Rural Local street on the 2040 El Paso County MTCP. No auxiliary lanes currently exist at the TWSC intersection of Handle Road/Baggett Road. Currently, Handle Road is a 24-foot wide gravel roadway with 4-foot shoulders and a 60-foot ROW. The posted speed limit on Handle Road is 45 mph.

Ellicott Road is classified as a two-lane Rural Local street on the 2040 El Paso County MTCP. No auxiliary lanes currently exist at the TWSC intersections of Handle Road/Ellicott Road and Sanborn Road/Ellicott Road. Currently, Ellicott Road is paved north of Handle Road and has a gravel roadway surface to the south. A 24-foot wide roadway with 4-foot shoulders and a 60-foot ROW, Ellicott Road has a posted speed limit of 45 mph.

Existing Traffic Volumes

Vehicular turning movement counts were conducted at the following intersections:

- State Highway 94/Baggett Road
    - Wednesday, November 13, 2019 from 6:30 to 8:30 a.m.
    - Wednesday, December 11, 2019 from 4:00 to 6:00 p.m.
- Baggett Road/Sanborn Road
    - Wednesday, December 11, 2019 from 6:30 to 8:30 a.m.
    - Wednesday, December 18, 2019 from 4:00 to 6:00 p.m.

Existing morning and evening weekday peak-hour traffic volumes at this intersection are shown in Figure 3. Raw count reports are attached. Figure 3 also shows estimates by LSC of average weekday traffic for some key street segments expected to provide access to the site.

PROPOSED SAND PIT OPERATIONS

As shown in Figure 1, the proposed sand mine is located west of Baggett Road and north (and south) of Sanborn Road. One access is proposed to Sanborn Road about one-quarter mile west of Baggett Road. Drivers entering and exiting the mine will do so via one proposed site access point on Sanborn Road, as shown in the attached figures.

Ms. Christine Wilson
Ellicott Sand and Gravel

Per ECM Appendix B Section B.3.3. when data is not available for the proposed land use, the applicant must conduct a local trip generation study of similar use following procedures prescribed in the ITE and provide sufficient justification for the proposed generation rate. The narrative has not given sufficient justification.

TRIP GENERATION

Typically, site-generated vehicle-trips for developments/land uses are estimated using the nationally published trip generation rates from *Trip Generation, 10th Edition, 2017* by the Institute of Transportation Engineers (ITE). Due to the unique land use proposed, however, LSC has estimated the trip generation based on the information presented in the "Site Access and Sand Pit Operations" section above.

Proposed Daily Operations

Hours of operation for the mine range from 7:00 a.m. – 7:00 p.m. or sunrise-to-sunset, depending on time of year. No trucks (empty or loaded) would be parked on-site overnight. Instead, heavy vehicles would be picked up by drivers each morning and dropped off each afternoon at an off-site parking lot west of the site on Franceville Coal Mine Road.

Per the applicant, six employees (including two loaders, two operators, one crusher, and another staff member) would remain on-site throughout the day. These employees would drive to the proposed mine each morning using their personal vehicles and leave during the late afternoon using their personal vehicles. Employee personal vehicles are anticipated to arrive slightly before heavy vehicles would arrive to begin preparing for the day's workload.

Empty heavy vehicles would arrive around 7:00 a.m. each weekday and depart shortly after being loaded. Drivers would transport raw materials to the west via Highway 94. Per information provided by the applicant, each truck is anticipated to make three roundtrip hauls each day. Once one of the approximately five heavy vehicles has completed its third roundtrip, the driver would drop off the empty truck on Franceville Coal Mine Road and depart this off-site parking lot in their own personal vehicle.

Is this the correct? The "sand pit operations" section only indicated the location of the access. There is no information regarding trip generation for you to provide an estimate.

Trip Generation Estimates

Per information provided by the applicant:

- The proposed mining operation would generate up to 30 haul truck-trips on the average weekday (one-half entering and one-half exiting in a 24-hour period).
- Per information provided by the applicant, up to 15 empty trucks would arrive at the site for loading each day and up to 15 loaded trucks will leave the mine each day
- Additionally, about 6 passenger vehicle trips (employees, visitors, etc.) are projected to enter during the morning peak hour and then will exit the site during the evening peak hour (or potentially outside of the peak hour of the area roadways - depending on demand daily variability).

Based on projected hours of operation, the morning peak hour "of the generator" would generally occur between 6:45 and 7:45 a.m., and the afternoon peak hour "of the generator"

FYI: An access permit will be required prior to the use of this site. Note that use approval may be required as well. The applicant shall verify with the planning staff regarding requirements for this off-site parking lot site.

would occurs for one hour between 4:00 and 7:00 p.m. (the time will depend on demand daily variability, but this report assumes the peak of the mine would coincide with the peak hour of the area roadways).

Per the estimates above it indicates that on the average weekday 30 trips are haul truck trips and 12 trips for employees/visitors which would put the average weekday at 42 trips. Please clarify the discrepancy with the value of 37 trips indicated below.

Average Scenario

Table 1 shows a summary of trip generation estimate results during average daily operations:

- Approximately 37 vehicle-trips would occur on the average weekday (half entering and exiting every 24 hours)
- During the morning peak hour, 8 total vehicles are projected to enter the site, while 2 total vehicles are projected to exit
- Approximately 1 total vehicle would enter, and 7 total vehicles would exit the site during the evening peak hour

Table 1: Estimated Site Vehicle-Trip Generation (Average Scenario)

Analysis Period	In			Out			Total		
	Trucks	Employees	Total	Trucks	Employees	Total	Trucks	Employees	Total
Morning Peak Hour	2	6	8	2	0	2	4	6	10
Afternoon Peak Hour	1	0	1	1	6	7	2	6	8
Daily 24-Hour	8	6	14	15	8	23	15	14	37

Maximum Scenario

Table 2 shows a summary of trip generation estimate results during maximum daily operations:

- Up to 44 vehicle-trips would occur on the average weekday (half entering and exiting every 24 hours)
- During the morning peak hour, a maximum of 9 total vehicles are projected to enter the site, while up to 3 total vehicles are projected to exit
- Approximately 1 total vehicle would enter and up to 7 total vehicles would exit the site during the evening peak hour

Table 2: Estimated Site Vehicle-Trip Generation (Maximum Scenario)

Analysis Period	In			Out			Total		
	Trucks	Employees	Total	Trucks	Employees	Total	Trucks	Employees	Total
Morning Peak Hour	3	6	9	3	0	3	6	6	12
Afternoon Peak Hour	1	0	1	1	6	7	2	6	8
Daily 24-Hour	15	6	21	15	8	23	30	14	44

Passenger Car Equivalent Volumes

Table 3 presents the projected passenger car equivalent (PCE) volumes per section 2.3.4.e of the *Colorado State Highway Access Code*. These PCE volumes are to be used for calculations involving traffic volumes on highways and at intersections controlled by CDOT.

Table 3: Passenger Car Equivalent Peak-Hour Site Trip Generation Estimates

Analysis Period	In			Out			Total		
	Trucks	Employees	Total	Trucks	Employees	Total	Trucks	Employees	Total
Morning Peak Hour	9	6	15	9	0	9	18	6	24
Afternoon Peak Hour	3	0	3	3	6	9	6	6	12
Daily 24-Hour	45	6	51	45	8	53	90	14	104

After converting to passenger car equivalent volumes, the proposed mining operation is projected to generate:

- Up to 104 passenger-car equivalent trips on the average weekday (half entering and exiting every 24 hours)
- During the morning peak hour, 15 total vehicles are projected to enter the site, while 9 total vehicles are projected to exit
- Approximately 3 total vehicles would enter, and 9 total vehicles would exit the site during the evening peak hour

Trip Distribution and Assignment

Please elaborate on your description/reasoning for your trip distribution.

An estimate of the proportion of site-generated vehicle-trips to the study area streets that will provide access to the site is a necessary component in determining the site's traffic impacts on these study area streets. Figure 4 shows the estimated distribution/proportion of site-generated trips on the area roadway network.

Estimates were based on the following factors: the proposed haul route, existing traffic count data, the proposed land use, the site access plan, existing and planned area street and roadway system that will provide access to the site, the site's geographic location, and adjacent existing land uses.

Site-Generated Traffic

Site-generated traffic volumes at the following intersections have been calculated by applying the distribution percentages (from Figure 4) to the trip generation estimates (from Table 1), as shown in Figure 5:

- State Highway 94/Baggett Road
- Baggett Road/Sanborn Road
- Sanborn Road/proposed site access

Figure 5 shows the projected site-generated daily traffic volumes at these intersections for the weekday morning and evening peak hours.

Existing-Plus-Site-Generated Traffic Volumes

Please fix.

Figure 6 shows the sum of the existing 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.

Figure 6 also shows the applicable projected short-term total traffic turning movements, after being adjusted for passenger car equivalent volumes.

Long-Term Baseline Traffic Volumes

Figure 1Figure 7 shows the projected 2040 background traffic volumes. Background traffic on Highway 94 has been based on CDOT growth factors and estimates by LSC. Traffic to be generated by the proposed mining operation are **not** included in this figure. Long-term background growth estimates on Sanborn Road and Baggett Road were made using projections from the *MTCP*, and estimates by LSC, respectively as noted in the legend on Figure 7.

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 4 shows the level of service delay ranges for signalized and unsignalized intersections.

Table 4: 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	0.0 - 10.0 sec	0.0 - 10.0 sec
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 following intersections have been analyzed to determine the projected short- and long-term (following the opening of mining operations) LOS for the key intersection turning movements:

- State Highway 94/Baggett Road
- Baggett Road/Sanborn Road
- Sanborn Road/proposed site access

A summary of all existing and existing-plus-site traffic scenario levels of service during the weekday morning and evening peak hours is shown in the following figures:

- Figure 3: 2019 Existing Traffic, Lane Geometry, Traffic Control, and LOS
- Figure 6: 2019 Existing + Site Traffic, Lane Geometry, Traffic Control, and LOS
- Figure 7: 2040 Background Traffic, Lane Geometry, Traffic Control, and LOS
- Figure 8: 2040 Background + Site Traffic, Lane Geometry, Traffic Control, and LOS

Please refer to the Synchro reports (attached) for additional details.

State Highway 94/Baggett Road

Short-Term

All individual turning movements and minor street single-lane approaches currently operate at and are projected to remain at LOS B or better upon site buildout if the intersection were to remain two-way stop sign-controlled in the short term.

Long-Term

All individual turning movements and minor street single-lane approaches currently operate at and are projected to remain at LOS C or better upon site buildout if the intersection were to remain two-way stop sign-controlled in the long term.

Baggett Road/Sanborn Road

All single-lane approaches at the intersection of Baggett Road/Sanborn Road are projected to operate at LOS A through the 2040 horizon.

Sanborn Road/Site Access

All single-lane approaches at the proposed site access on Sanborn Road are projected to operate at LOS A through the 2040 horizon. The analysis assumes the access to be stop sign controlled.

AUXILIARY TURN LANE NEEDS EVALUATION

State Highway 94/Baggett Road

According to criteria in the *State Highway Access Code*, exclusive auxiliary turn lanes shall be provided for any access on an NR-A highway with a projected peak-hour ingress exceeding the following turning volume thresholds:

- Left-turn lane – 10 vehicles per hour (vph) or greater
- Right-turn lane – 25 vph or greater

Short-Term

Approximately 10 vehicles are projected to make an eastbound right-turning movement during the morning peak hour, which does **not** exceed the 25 vph right-turn lane threshold in the *State Highway Access Code*. Based on the combination of operations for the proposed sand/gravel pit and existing traffic volumes along the haul route, **no auxiliary turn lanes (left or right) would be required based on the *Access Code* turning volume threshold during the short term**.

Long-Term

Background traffic volumes in the study area are anticipated to grow over time due to additional background development.

An eastbound right turn lane would **not** be required based on the projections contained in this report and the *Access Code* turning volume threshold for right turn lanes.

Due to background **(non-site traffic**), approximately 15 vehicles per hour are projected to make an eastbound left turn during the afternoon peak hour, which would exceed the 10-vph threshold for a left-turn deceleration lane in the *State Highway Access Code*. **NOTE: This information is provided for reference only (as required by El Paso County), as the proposed gravel pit would not add traffic to this turning movement**. The figure shows a left-turn arrow – representing a potential matching short westbound left-turn bay – not triggered by volume (and not triggered by traffic generated by this project) – but shown for purposes of maintaining lane alignment. This potential short turn bay would likely be constructed as part of redirect tapers for the eastbound left-turn lane **(not by this applicant).**

Sanborn Road Intersections/Access Points (El Paso County)

According to criteria in the *Engineering Criteria Manual*, exclusive auxiliary turn lanes shall be provided at intersections/access point on a Collector roadway with a projected peak-hour ingress exceeding the following turning volume thresholds:

- Left-turn lane – 25 vehicles per hour (vph)
- Right-turn lane – 50 vph or greater

Baggett Road/Sanborn Road

No modifications are required to the existing single-lane approaches at the intersection of Baggett Road/Sanborn Road. Auxiliary right- or left-turn lanes would **not** be required on any approach on Sanborn Road or Baggett Road based on projected site-generated traffic volumes and criteria in the ECM.

Sanborn

Site Access Point on Baggett Road

No auxiliary right- or left-turn lanes would be required at the proposed site access point on Sanborn Road based on projected site-generated traffic volumes and criteria in the ECM.

AVERAGE DAILY TRAFFIC IMPACTS RELATIVE TO ROADWAY DESIGN ADT BY CLASSIFICATION

The projected buildout ADTs have been compared to the roadway design ADTs shown in Tables 2-4 and 2-5 of the *Engineering Criteria Manual* (ECM). Figure 10 shows existing roadway classifications along the haul route and has been provided as a general reference. The actual current roadway capacities for specific roadway segments may differ from these ECM-identified design ADT values for county-standard roadways by classification.

The classifications of the roadways were not provided in figure 10. It appears that the roadway surface type & conditions per the MTCP where provided in figure 10. Exhibit 1 has the roadway classifications. Please revise accordingly.

Baggett Road

Existing and Short Term

Baggett Road is a Local, Gravel roadway. The ECM design ADT for this type of roadway is 200 ADT. Figure 1 shows the LSC-estimated current ADT volumes on the section just south of Highway 94 and the section north of Sanborn Road. With the addition of projected site generated traffic to the roadway, the section just north of Sanborn Road is likely to remain under the 200 ADT threshold in the short term. The section just south of Highway 94 is projected to be in the range of 180 to 230 ADT in the short term.

Figure 1 is the vicinity map. Please revise.

Long Term

The 2040 MTCP shows residential household growth in the general area north of Sanborn Road. Figure 7 shows LSC estimates of 2040 volumes on Baggett Road. Future volumes may vary significantly depending on location of the growth, development access points and area roadway conditions. The section just north of Sanborn Road is projected to remain under the 200 ADT threshold in the long term. The section just south of Highway 94 is projected to be approximately 300 ADT in the long term.

I suggest also indicating that the MTCP indicates that the existing gravel analysis has Sanborn as "adequate" (see map 7 of MTCP)

Sanborn Road

Based on MTCP projected traffic volumes and functional classification, the MTCP 2040 "Gravel Road Analysis" shows Sanborn Road as "Deficient." MTCP project P9 Roadway paving project is shown due to this background volume and resulting deficiency. This project's traffic added to the existing volume is not projected to bring the roadway to a deficient condition and is a relatively minor percentage of the projected future background traffic.

DESIGN VEHICLE ACCOMMODATION AT HAUL ROUTE INTERSECTIONS AND ALONG ROADWAYS

Intersections

The largest anticipated haul vehicles should be considered the "design vehicle" for purposes of evaluating the geometry of existing intersections along the anticipated haul route. Intersections along the haul route (State Highway 94/Baggett Road and Baggett Road/Sanborn Road, as well as the site access intersection) will likely require some intersection corner radius and potentially other geometric improvements to meet criteria 2.3.7.G of the El Paso County *Engineering Criteria Manual*.

- State Highway 94/Baggett Road
  - The southwest corner radius will likely need to be improved to accommodate right-turning multi-unit truck haul vehicles. This would likely entail grading and paving of a compound radius and potentially pavement markings.
  - The turning path of the northbound left turn should be analyzed to determine intersection geometric improvements will be needed to accommodate this turning movement.
  - If there is the potential for haul trucks to turn to the east on Highway 94, the southeast corner radius should also accommodate northbound to eastbound right turns by multi-unit trucks.

Baggett Road/Sanborn Road

- **Short Term:** Based on the existing traffic volumes along Sanborn Road, the existing intersection may be able to accommodate a turning vehicle without modification (assuming the truck could utilize the entire intersection footprint to complete the turn). Minor modifications to the northwest corner radius may be needed if truck turning analysis shows insufficient geometry.
- **Long Term:** As volumes increase as projected along Sanborn in the MTCP, the following may be necessary in the future:
  - The northwest corner radius will likely need to be improved to accommodate southbound right-turning multi-unit truck haul vehicles. This would likely entail grading and installing a compound radius.

    - The turning path of the eastbound to northbound left turn should be analyzed to determine intersection geometric improvements will be needed to accommodate this turning movement by haul vehicles.
- Sanborn Road/proposed site access
    - The northeast corner radius will likely need to be designed to accommodate right-turning multi-unit truck haul vehicles. The northwest corner radius should also be designed for truck turning movements, even though the current haul route shows trucks turning to the east.
    - The turning path of the southbound left turn should be accommodated as part of the access design. The eastbound left turning movement should also be designed to accommodate multi-unit trucks even though the current haul route shows trucks entering from the east.

AutoTurn analysis shall be provided at each of these intersections/site access. If the analysis is to be provided with the subsequent site development plan application then please state that.

FINDINGS AND CONCLUSIONS

Land Use (Applicant-Provided Programming Information)

The applicant has provided LSC with operations information including the anticipated number of haul trucks per day, hours and days of operation and employee counts. This trip generation estimate has been based on this information.

Trip Generation Estimate

see previous comment.

Due to the unique land use proposed, however, LSC has estimated the trip generation based on the information presented in the "Site Access and Sand Pit Operations" section above:

- The site is projected to generate a maximum of 44 vehicle-trips on the average weekday (24-hour period).
- During the weekday morning peak hour of adjacent street traffic, up to 9 vehicles would enter the site while up to 3 vehicles would exit.
- During the weekday evening peak hour of adjacent street traffic, 1 vehicle would enter the site while up to 7 vehicles would exit.

Proposed Haul Route

Please refer to Figure 9 for a map detailing the proposed haul route between the mine and destinations west of the site.

Level of Service Analysis

All individual turning movements/approaches at the following intersection currently operate at and are projected to remain at LOS B or better through the 2040 horizon, with or without the addition of site-generated traffic:

- Highway 94/Baggett Road
- Baggett Road/Sanborn Road
- Sanborn Road/proposed site access

Auxiliary Turn Lanes

Based on the analysis in this report, no auxiliary turn lanes would be required. Please refer to the "Auxiliary Turn Lane Need Evaluation" section above for a detailed auxiliary turn lane needs assessment.

Average Daily Traffic Impacts Relative to Roadway Design ADT (by Classification)

The following summarizes our findings. Please refer to the above section for additional details.

Sanborn Road

The MTCP shows Sanborn Road as "deficient" by 2040 and it shows the need to pave the roadway based on background traffic estimates. This site traffic would constitute up to about 2 percent of the projected 2040 traffic volumes along the section of Sanborn Road between Baggett Road and the site access.

Since the sites impact will cause the ADT at Bagget Rd (south of HWY 94) to exceed the design ADT for a gravel roadway indicated in the ECM, the roadway will be required to be paved.

Baggett Road

LSC Projects 2040 volumes of about 175 to 300 ADT on Baggett Road, depending on the segment. Due to the relatively low volumes, future volumes may vary significantly from these estimates. The segment between Handle Road and Highway 94 is more likely to exceed the 200 ADT design ADT for a gravel road. The site is projected to add about 30 daily truck trips on this roadway.

Haul Vehicle (Design Vehicle) Accommodation

Please refer to the section "Design Vehicle Accommodation at Haul Route Intersections and Along Roadways" for potential intersection corner radius improvements that may be necessary to accommodate multi-unit haul trucks.

* * * * *

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

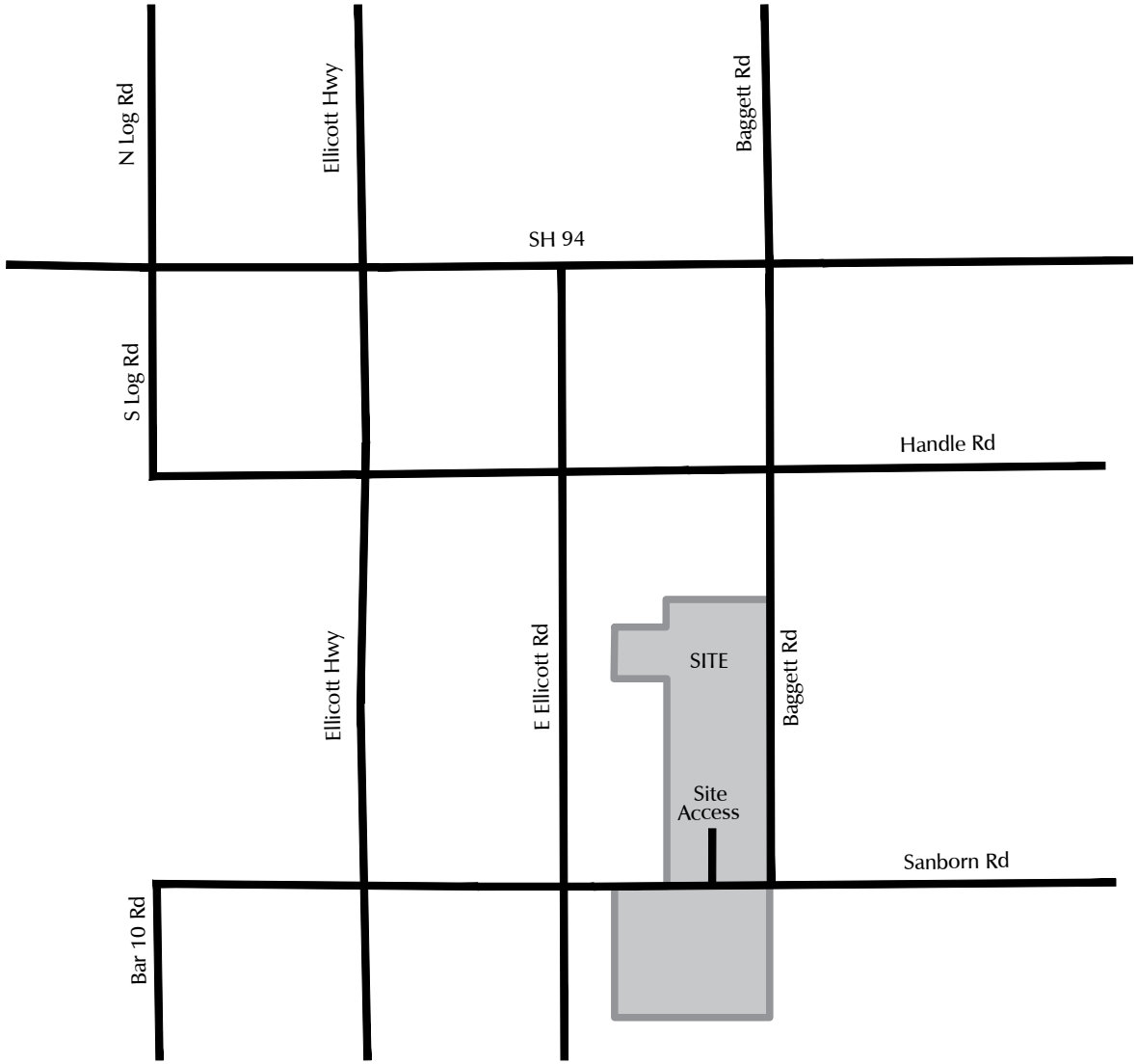
Enclosures: Figure 1 - Figure 10
Exhibit 1
Traffic Count Reports
LOS Synchro Reports

-Besides the Sanborn paving project indicated in the MTCP, are there any other improvements for the area listed in the MTCP or other corridor studies? Please state it in the narrative.
- Please provide discussion regarding the road impact fee
- List all deviation requests that the applicant is applying for and include supporting information, together with a signed and stamped deviation request form to be presented to the ECM administrator.

DON'T DELETE ANYTHING ON THIS PAGE

Figures

TRANSPORTATION
CONSULTANTS, INC.



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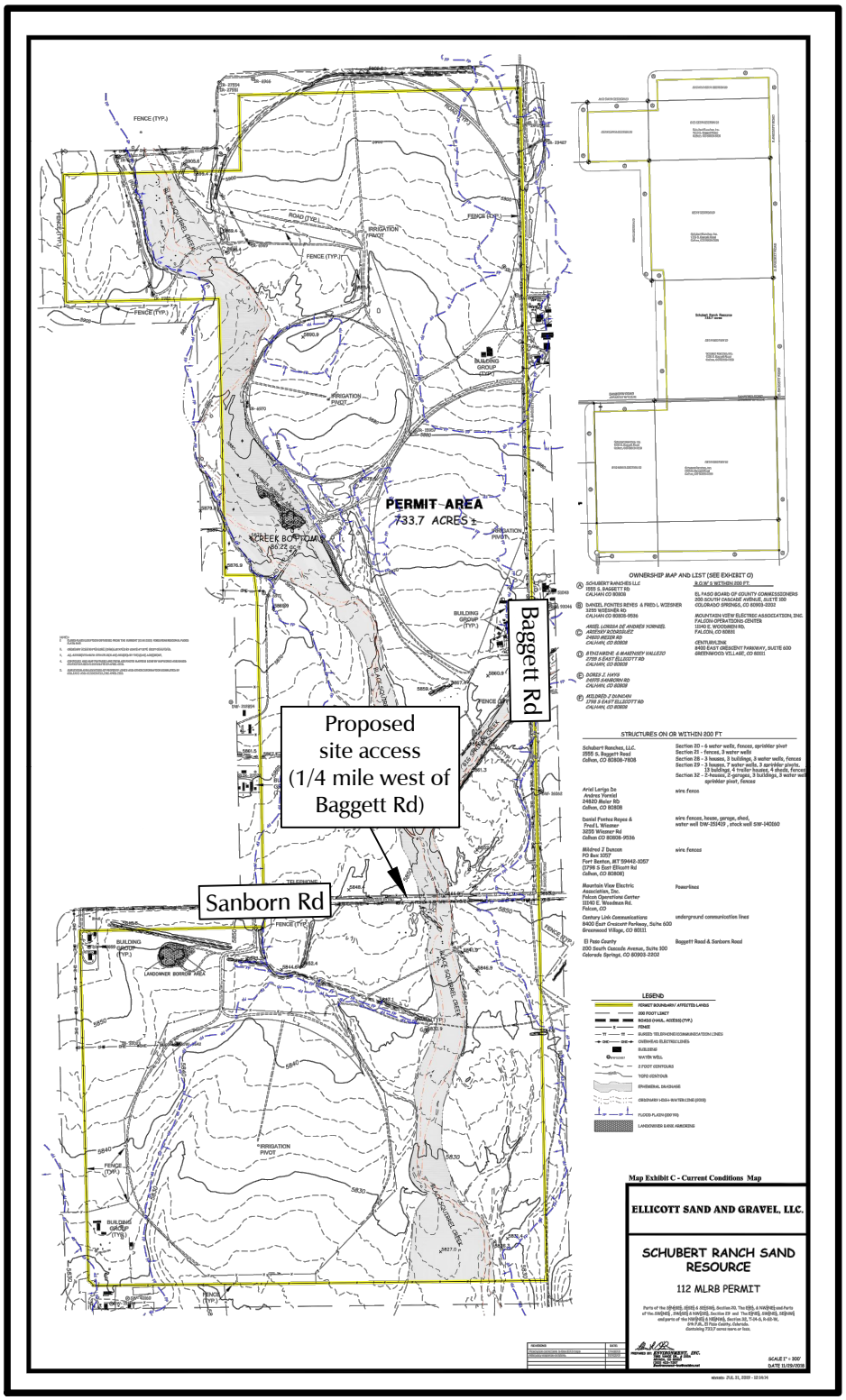
Not to scale

TRANSPORTATION CONSULTANTS, INC.

Figure 1

Vicinity Map

Ellicott Sand + Gravel (LSC# 194980)



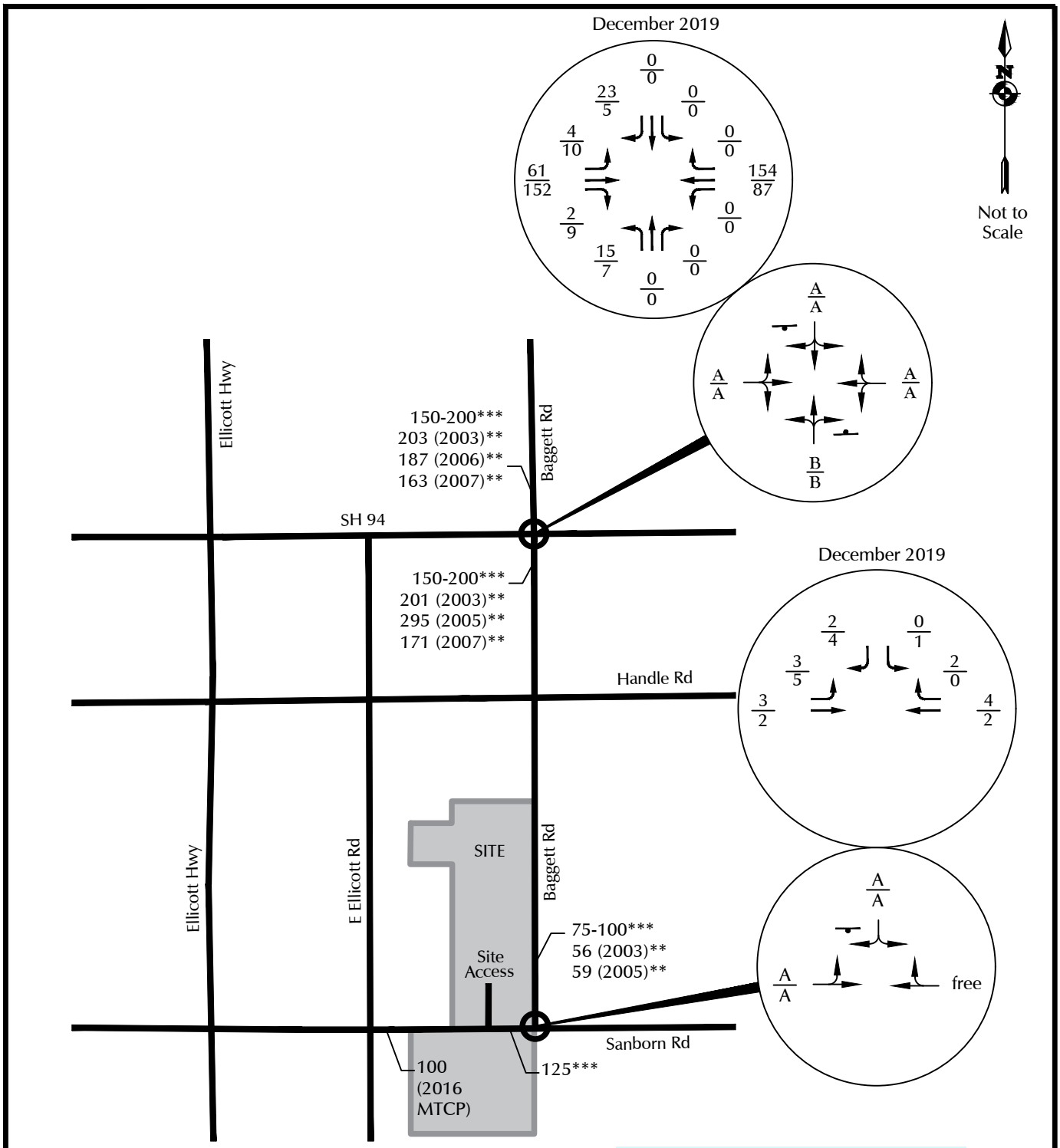
Not to Scale

Figure 2

Site Plan

Ellicott Sand + Gravel (LSC# 194980)

TRANSPORTATION CONSULTANTS, INC.



XX/XX = AM Weekday Peak-Hour Traffic (vehicles per hour) / PM Weekday Peak-Hour Traffic (vehicles per hour)

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

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

X/X = AM Entire Intersection Peak-Hour LOS / PM Entire Intersection Peak-Hour LOS

⊦ = Stop Sign

* CDOT AADT (2018)

** EPC Traffic Volumes from 1996-2009 publication

*** Estimated by LSC

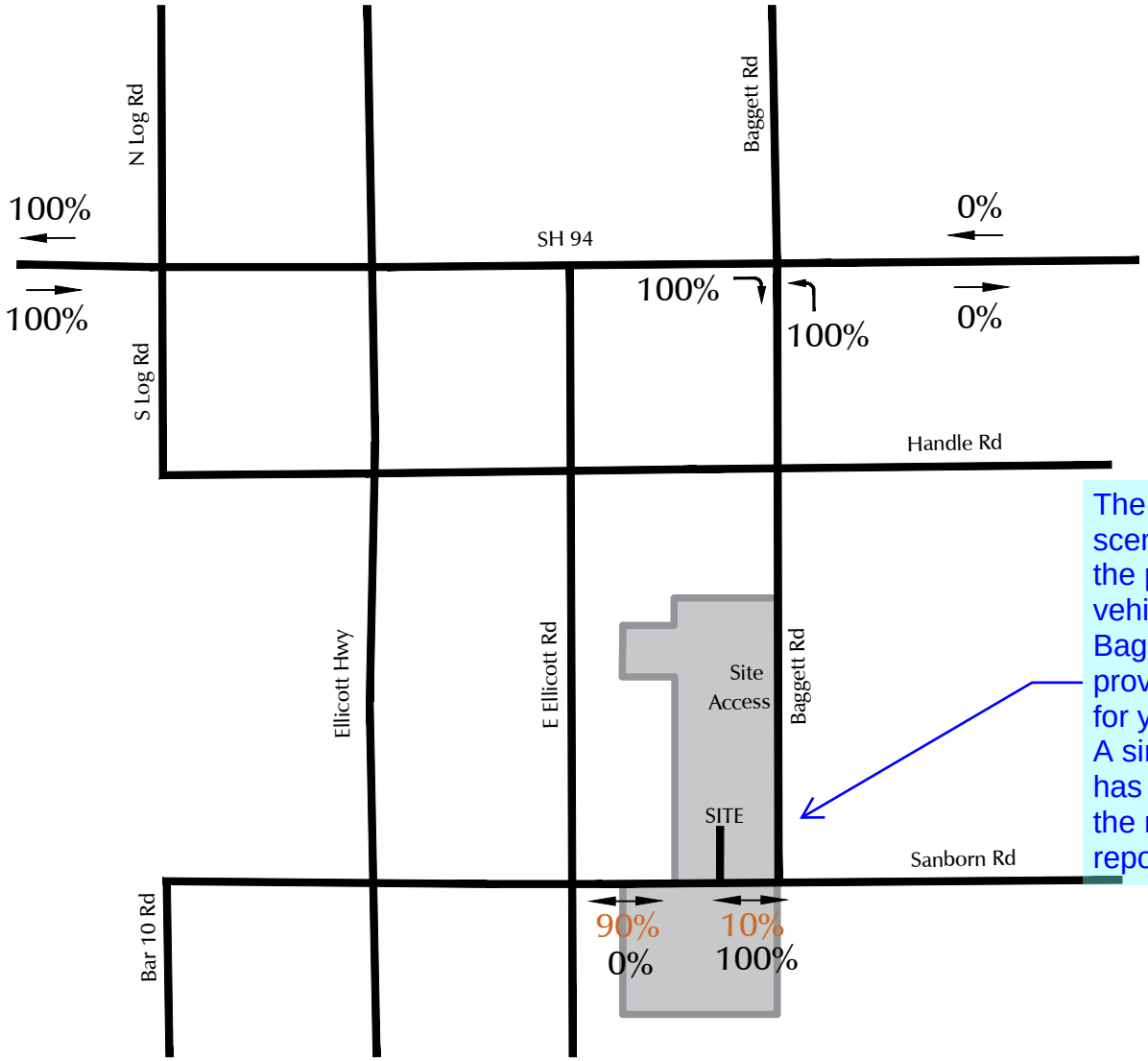
Are your estimates based on the December 2019 counts. Please clarify this note.

Figure 3

Traffic Volumes, Lane Geometry, Traffic Control, and LOS

Ellicott Sand + Gravel (LSC# 194980)

LSC TRANSPORTATION CONSULTANTS, INC.



Not to scale

The worst case scenario would be for the passenger vehicles to use Baggett Rd. Please provide the reasoning for your distribution. A similar comment has been provided in the narrative of this report.

XX% = Peak-Hour Directional Distribution (Trucks)

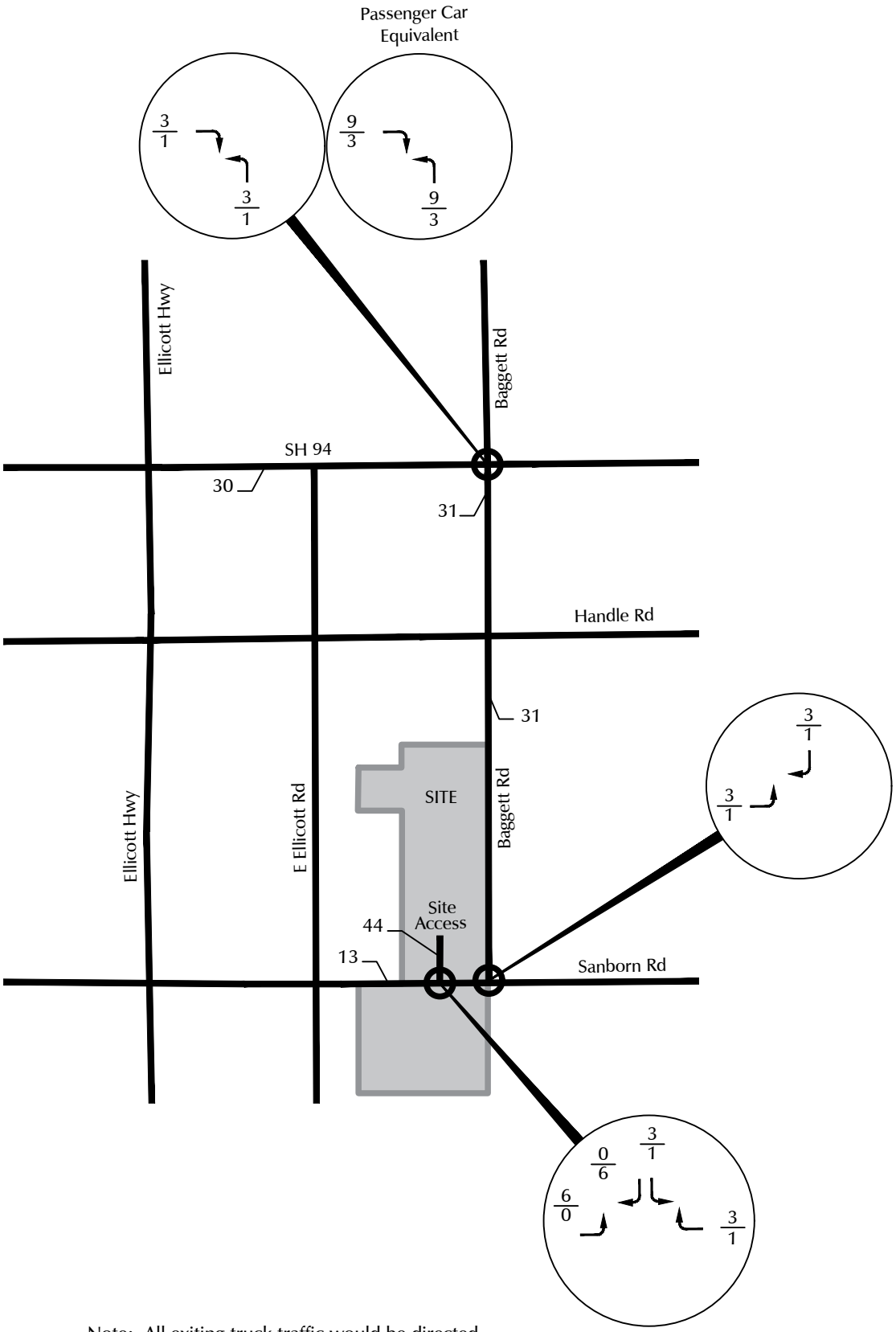
XX% = Peak-Hour Directional Distribution (Passenger Vehicles)

TRANSPORTATION CONSULTANTS, INC.

Figure 4

Estimated Directional Distribution

Ellicott Sand + Gravel (LSC# 194980)



Note: All exiting truck traffic would be directed to turn left onto eastbound Sanborn Road

Figure 5

Site-Generated Traffic Volumes

Ellicott Sand + Gravel (LSC# 194980)

TRANSPORTATION CONSULTANTS, INC.

XX/XX = AM Weekday Peak-Hour Traffic (vehicles per hour) / PM Weekday Peak-Hour Traffic (vehicles per hour)

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

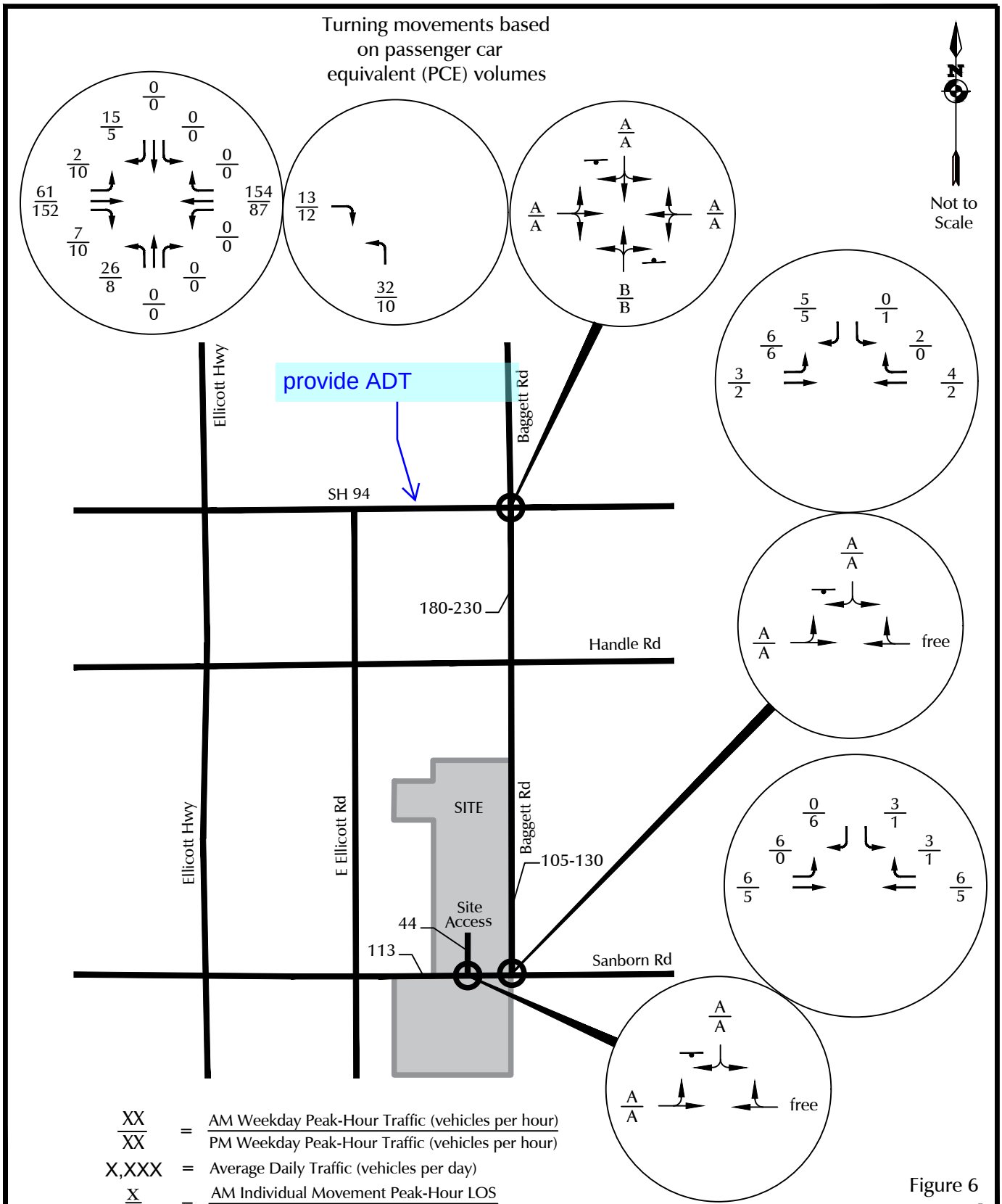
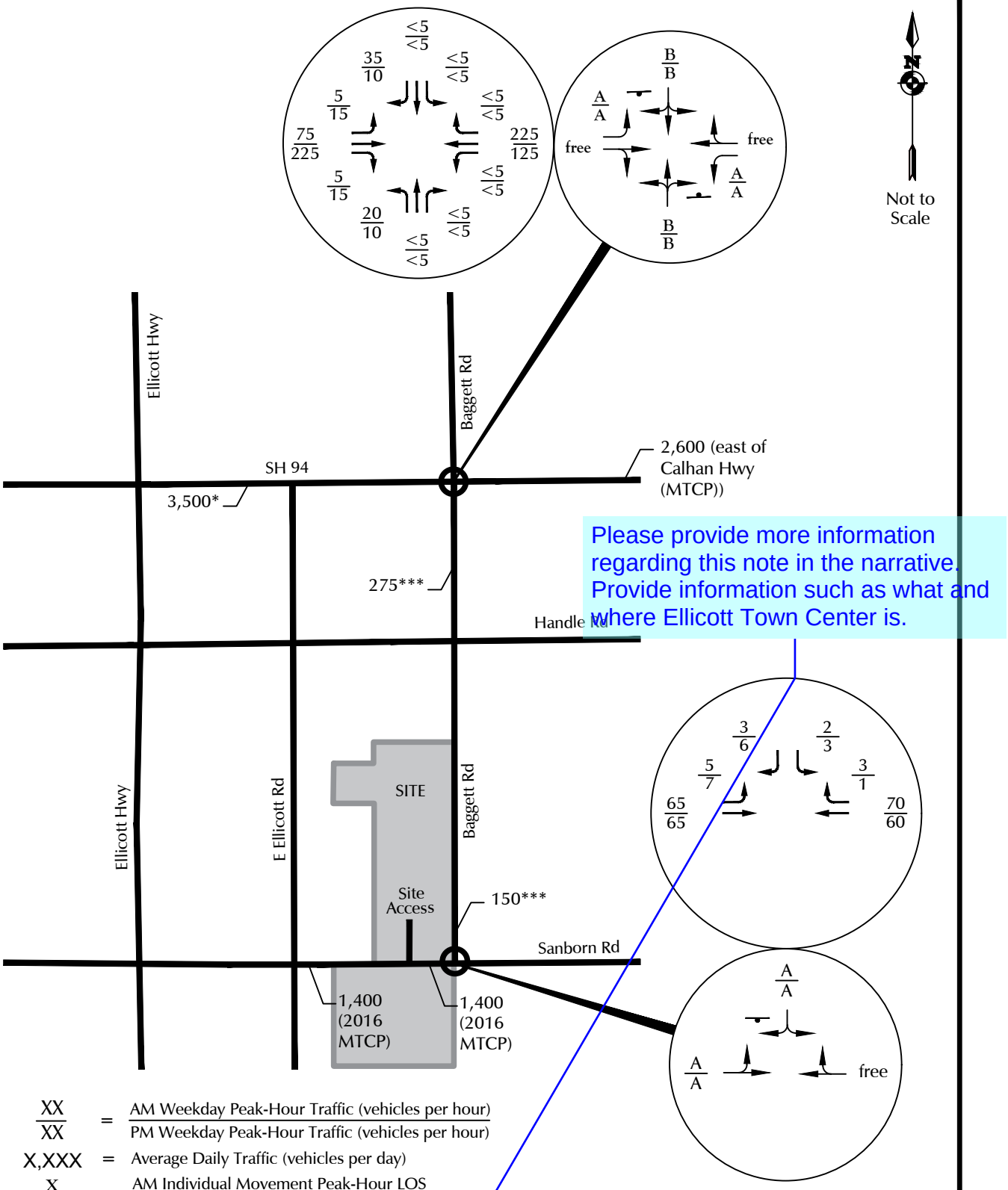


Figure 6

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

Ellicott Sand + Gravel (LSC# 194980)

LSC TRANSPORTATION CONSULTANTS, INC.



XX/XX = AM Weekday Peak-Hour Traffic (vehicles per hour) / PM Weekday Peak-Hour Traffic (vehicles per hour)

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

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

X/X = AM Entire Intersection Peak-Hour LOS / PM Entire Intersection Peak-Hour LOS

= Stop Sign = Traffic Signal

* CDOT AADT (2040)

*** Estimated by LSC (10x PM)

Note: Assumes buildout of Ellicott Town Center

Figure 7

2040 Background Traffic, Lane Geometry, Traffic Control, and LOS

Ellicott Sand + Gravel (LSC# 194980)

LSC TRANSPORTATION CONSULTANTS, INC.

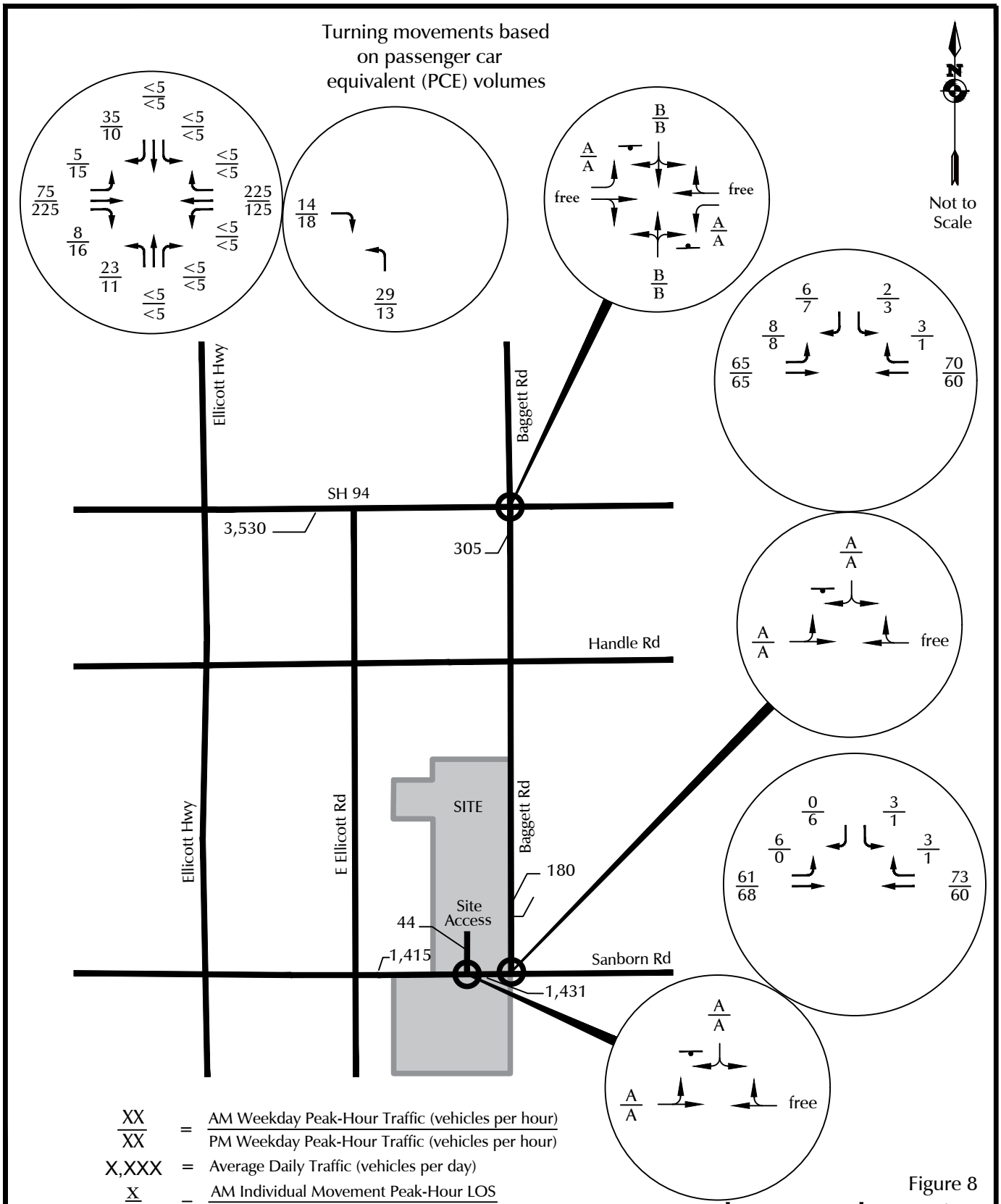


Figure 8

2040 Background + Site Traffic, Lane Geometry, Traffic Control, and LOS

Ellicott Sand + Gravel (LSC# 194980)

TRANSPORTATION CONSULTANTS, INC.

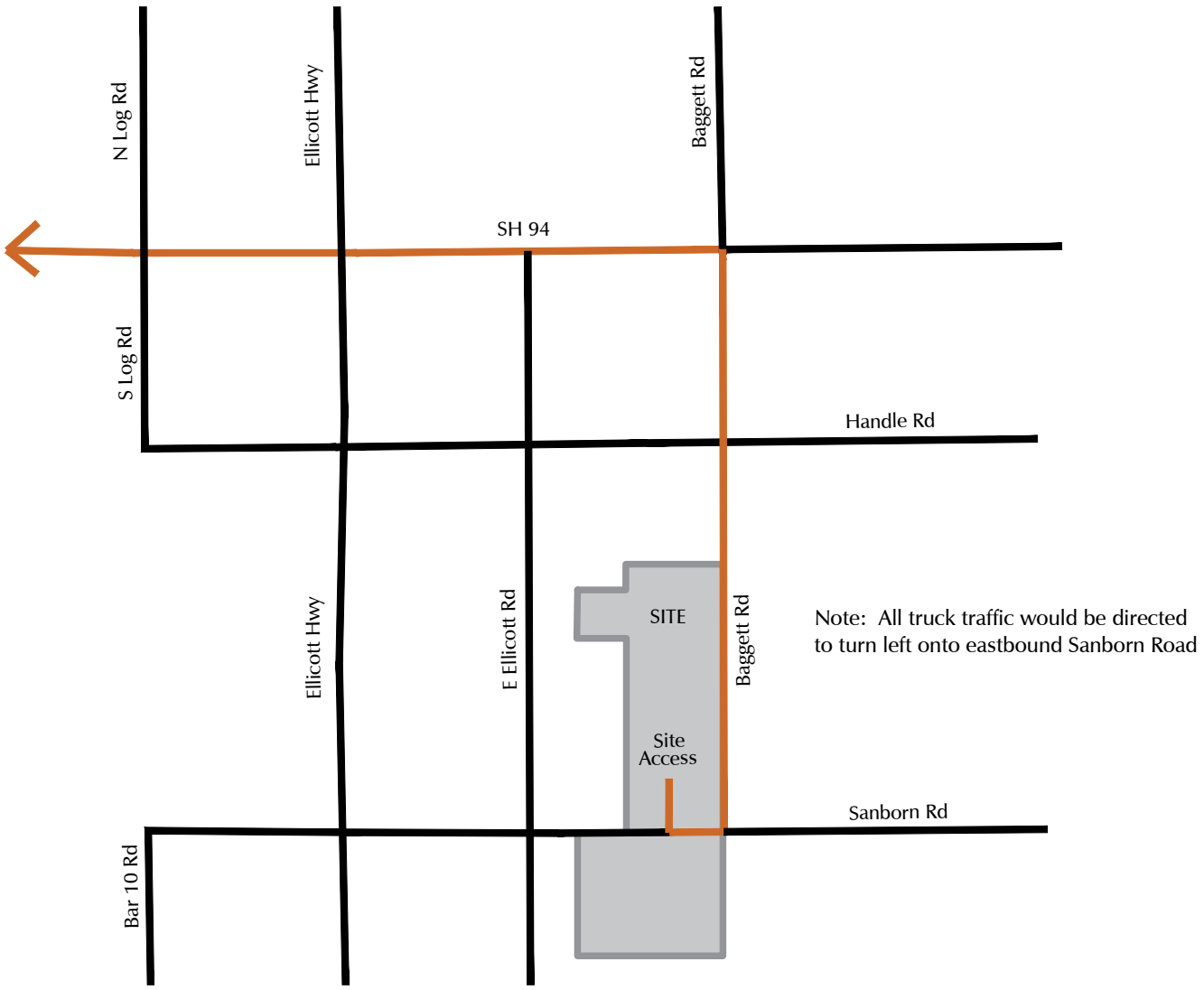
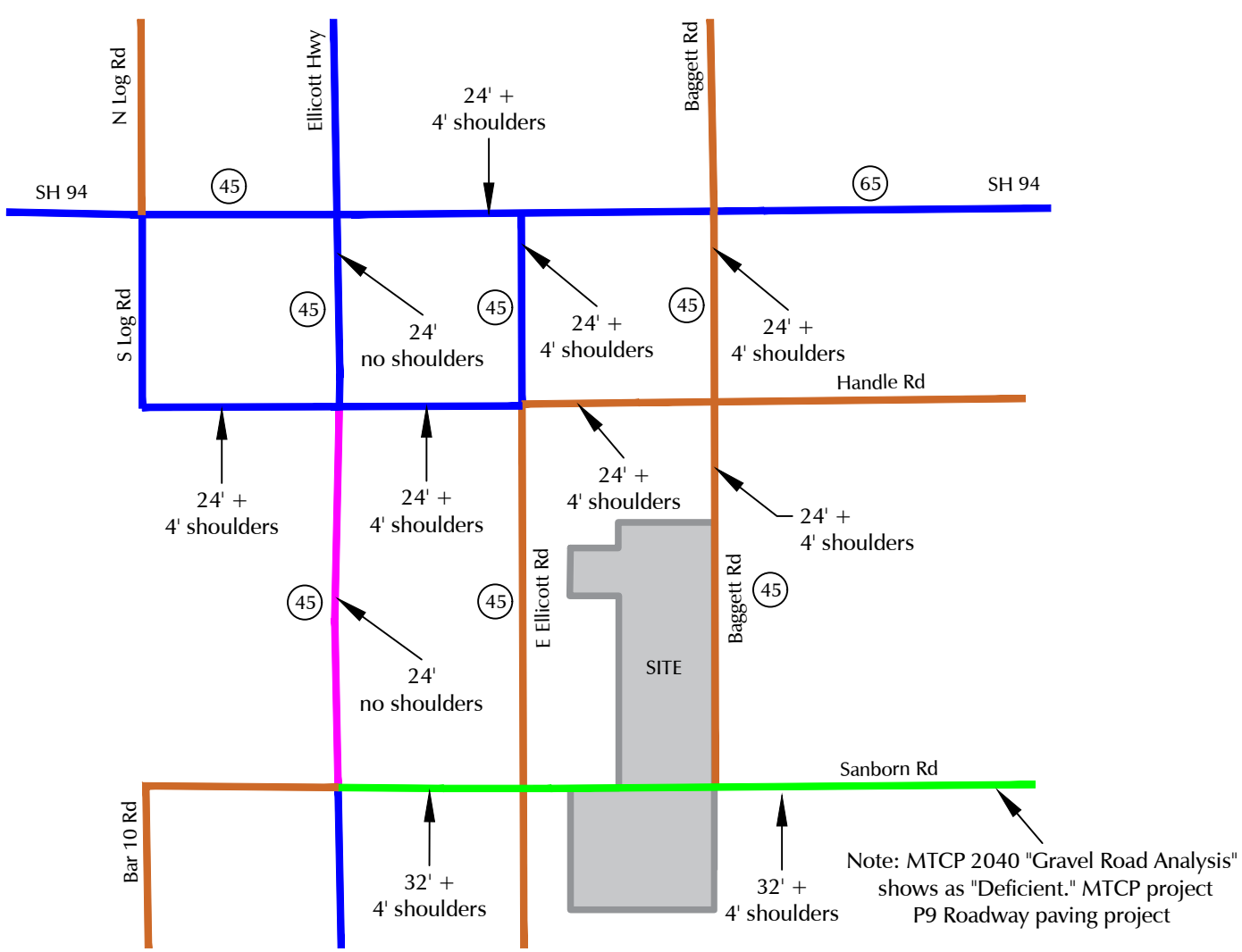


Figure 9

Proposed Primary Haul Route

Ellicott Sand + Gravel (LSC# 194980)

LSC TRANSPORTATION CONSULTANTS, INC.



Source: Field measurements by LSC

(XX) Speed limit (mph)

Paved roadway surface

Gravel roadway surface

Existing "adequate" unimproved road (MTCP)

Existing "adequate" gravel road (MTCP)

LSC TRANSPORTATION CONSULTANTS, INC.

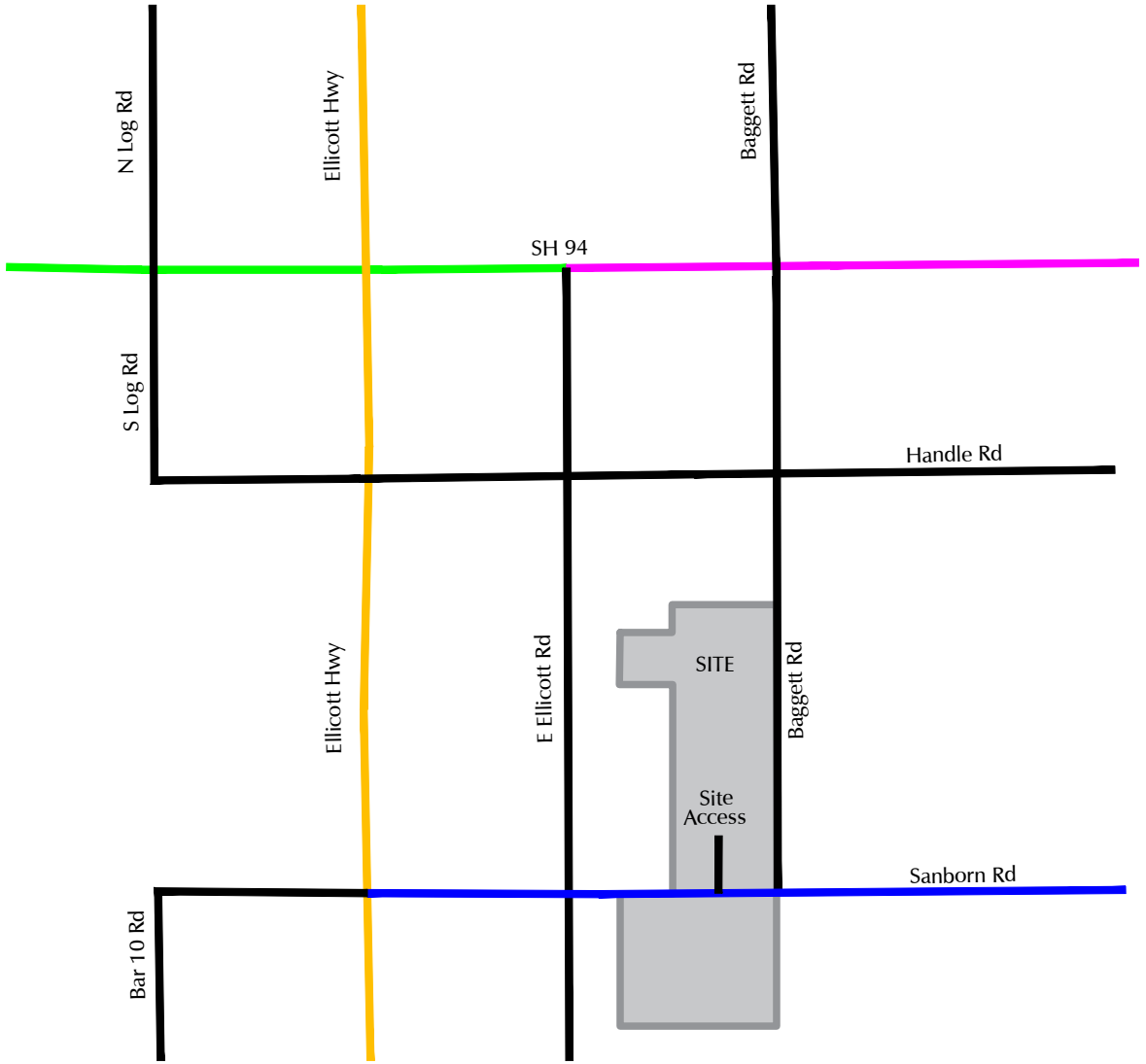
Figure 10

Existing (and Future MTCP Projected) Roadway Conditions

Ellicott Sand + Gravel (LSC# 194980)

Exhibit 1

TRANSPORTATION
CONSULTANTS, INC.



N

Not to scale

CDOT NR-A (Non-Rural Arterial)

CDOT R-A

Minor Arterial (Rural)

Collector (Rural)

Local (Rural, Gravel)

TRANSPORTATION CONSULTANTS, INC.

Exhibit 1

Roadway Classifications

Ellicott Sand + Gravel (LSC# 194980)

Traffic Counts

TRANSPORTATION
CONSULTANTS, INC.

LSC Transportation Consultants, Inc.

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

File Name : Baggett Rd - Hwy 94 AM
Site Code : 00194980
Start Date : 11/13/2019
Page No : 1

Groups Printed- Unshifted

	Baggette Rd Southbound					Hwy 94 Westbound					Baggette Rd Northbound					Hwy 94 Eastbound					
Start Time	**Left**	**Through**	**Right**	**Peds**	**App. Total**	**Left**	**Through**	**Right**	**Peds**	**App. Total**	**Left**	**Through**	**Right**	**Peds**	**App. Total**	**Left**	**Through**	**Right**	**Peds**	**App. Total**	**Int. Total**
06:30 AM	0	0	2	0	2	0	19	0	0	19	2	0	0	0	2	0	8	1	0	9	32
06:45 AM	0	0	0	0	0	0	21	0	0	21	2	0	0	0	2	1	9	0	0	10	33
Total	0	0	2	0	2	0	40	0	0	40	4	0	0	0	4	1	17	1	0	19	65
07:00 AM	0	0	3	0	3	0	50	0	0	50	8	0	0	0	8	0	13	1	0	14	75
07:15 AM	0	0	9	0	9	0	39	0	0	39	3	0	0	0	3	0	14	1	0	15	66
07:30 AM	0	0	8	0	8	0	31	0	0	31	0	0	0	0	0	0	17	2	0	19	58
07:45 AM	0	0	3	0	3	0	34	0	0	34	4	0	0	0	4	2	17	0	0	19	60
Total	0	0	23	0	23	0	154	0	0	154	15	0	0	0	15	2	61	4	0	67	259
08:00 AM	0	0	0	0	0	0	20	0	0	20	2	0	0	0	2	2	13	1	0	16	38
*** BREAK ***																					
Grand Total	0	0	25	0	25	0	214	0	0	214	21	0	0	0	21	5	91	6	0	102	362
Apprch %	0	0	100	0		0	100	0	0		100	0	0	0		4.9	89.2	5.9	0		
Total %	0	0	6.9	0	6.9	0	59.1	0	0	59.1	5.8	0	0	0	5.8	1.4	25.1	1.7	0	28.2	

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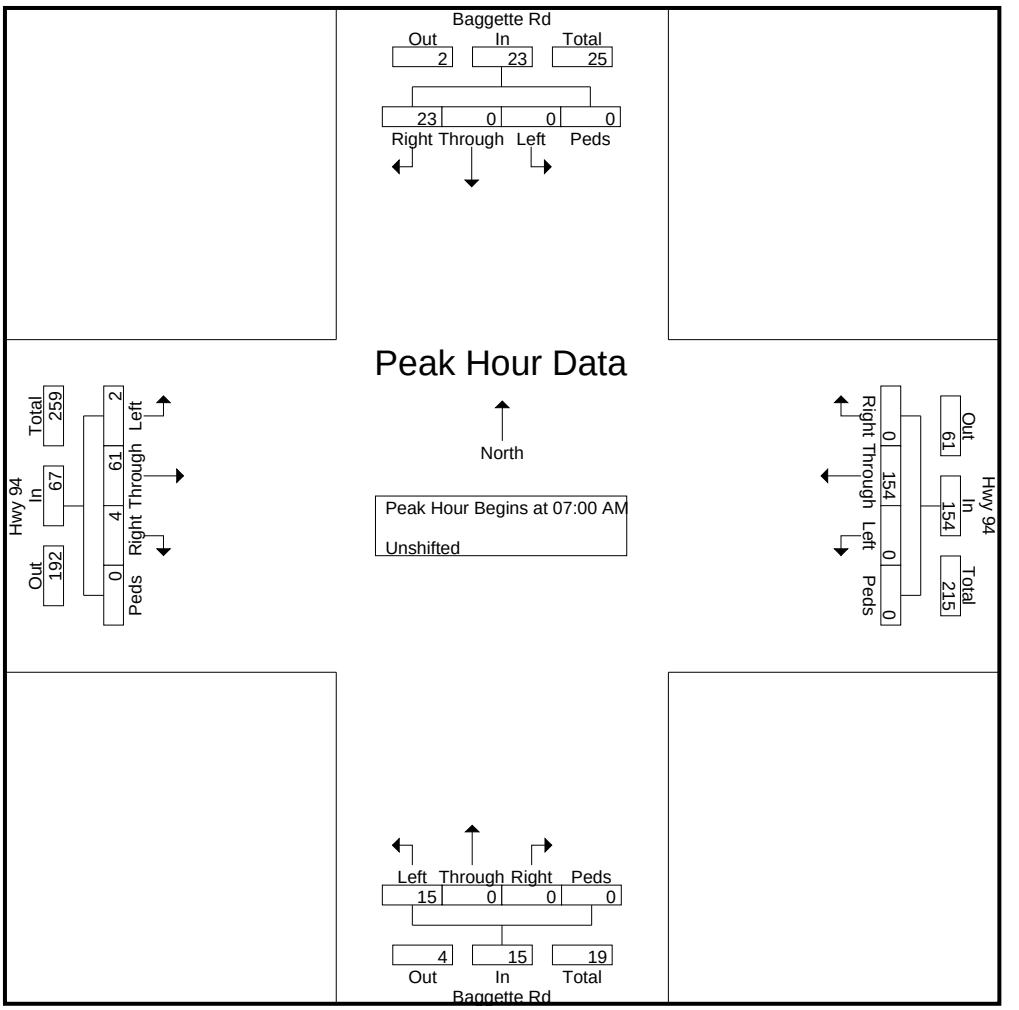
File Name : Baggett Rd - Hwy 94 AM
Site Code : 00194980
Start Date : 11/13/2019
Page No : 2

	Baggette Rd Southbound					Hwy 94 Westbound					Baggette Rd Northbound					Hwy 94 Eastbound					
Start Time	**Left**	Through	**Right**	**Peds**	App. Total	**Left**	Through	**Right**	**Peds**	App. Total	**Left**	Through	**Right**	**Peds**	App. Total	**Left**	Through	**Right**	**Peds**	App. Total	**Int. Total**
Peak Hour Analysis From 06:30 AM to 08:15 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:00 AM																					
07:00 AM	0	0	3	0	3	0	**50**	0	0	**50**	**8**	0	0	0	**8**	0	13	1	0	14	**75**
07:15 AM	0	0	**9**	0	**9**	0	39	0	0	39	3	0	0	0	3	0	14	1	0	15	66
07:30 AM	0	0	8	0	8	0	31	0	0	31	0	0	0	0	0	0	**17**	**2**	0	**19**	58
07:45 AM	0	0	3	0	3	0	34	0	0	34	4	0	0	0	4	**2**	17	0	0	19	60
Total Volume	0	0	23	0	23	0	154	0	0	154	15	0	0	0	15	2	61	4	0	67	259
% App. Total	0	0	100	0		0	100	0	0		100	0	0	0		3	91	6	0		
PHF	.000	.000	.639	.000	.639	.000	.770	.000	.000	.770	.469	.000	.000	.000	.469	.250	.897	.500	.000	.882	.863



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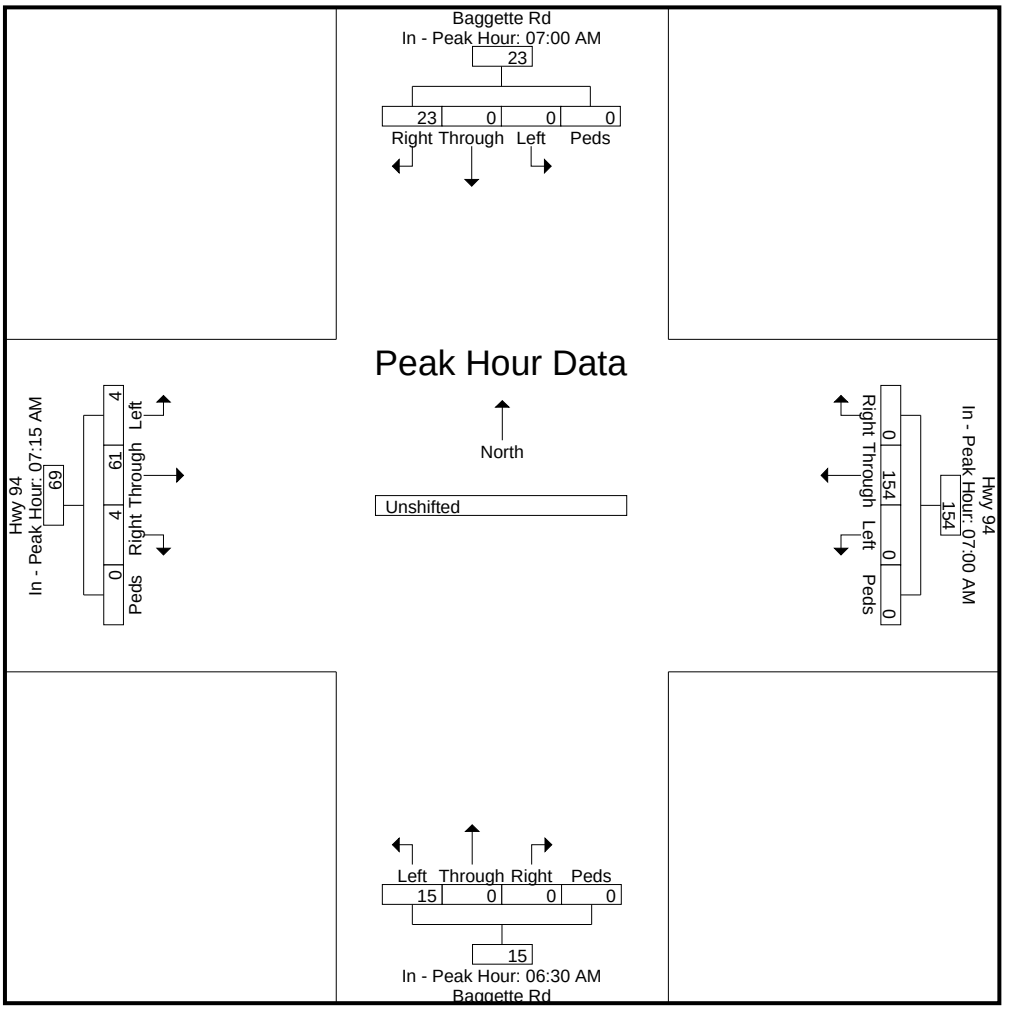
File Name : Baggett Rd - Hwy 94 AM
Site Code : 00194980
Start Date : 11/13/2019
Page No : 3

	Baggette Rd Southbound					Hwy 94 Westbound					Baggette Rd Northbound					Hwy 94 Eastbound					
Start Time	**Left**	Through	**Right**	**Peds**	App. Total	**Left**	Through	**Right**	**Peds**	App. Total	**Left**	Through	**Right**	**Peds**	App. Total	**Left**	Through	**Right**	**Peds**	App. Total	Int. Total
Peak Hour Analysis From 06:30 AM to 08:15 AM - Peak 1 of 1																					
Peak Hour for Each Approach Begins at:																					
	07:00 AM					07:00 AM					06:30 AM					07:15 AM					
+0 mins.	0	0	3	0	3	0	**50**	0	0	**50**	2	0	0	0	2	0	14	1	0	15	
+15 mins.	0	0	**9**	0	**9**	0	39	0	0	39	2	0	0	0	2	0	**17**	**2**	0	**19**	
+30 mins.	0	0	8	0	8	0	31	0	0	31	**8**	0	0	0	**8**	**2**	17	0	0	19	
+45 mins.	0	0	3	0	3	0	34	0	0	34	3	0	0	0	3	2	13	1	0	16	
Total Volume	0	0	23	0	23	0	154	0	0	154	15	0	0	0	15	4	61	4	0	69	
% App. Total	0	0	100	0		0	100	0	0		100	0	0	0		5.8	88.4	5.8	0		
PHF	.000	.000	.639	.000	.639	.000	.770	.000	.000	.770	.469	.000	.000	.000	.469	.500	.897	.500	.000	.908	



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

File Name : Baggett Rd - Hwy 94 PM
Site Code : 00194980
Start Date : 12/11/2019
Page No : 1

Groups Printed- Unshifted

	Bagette Rd Southbound					Hwy 94 Westbound					Bagette Rd Northbound					Hwy 94 Eastbound					
Start Time	**Left**	**Through**	**Right**	**Peds**	**App. Total**	**Left**	**Through**	**Right**	**Peds**	**App. Total**	**Left**	**Through**	**Right**	**Peds**	**App. Total**	**Left**	**Through**	**Right**	**Peds**	**App. Total**	**Int. Total**
04:00 PM	0	1	1	0	2	0	20	0	0	20	0	0	0	0	0	3	25	1	0	29	51
04:15 PM	0	0	2	0	2	0	28	0	0	28	3	0	0	0	3	0	31	5	0	36	69
04:30 PM	0	0	1	0	1	0	22	0	0	22	0	0	0	0	0	7	35	2	0	44	67
04:45 PM	0	0	1	0	1	0	15	0	0	15	3	0	0	0	3	2	37	1	0	40	59
Total	0	1	5	0	6	0	85	0	0	85	6	0	0	0	6	12	128	9	0	149	246
05:00 PM	0	0	1	0	1	0	22	0	0	22	1	0	0	0	1	1	49	1	0	51	75
05:15 PM	0	0	0	0	0	0	10	0	0	10	0	0	0	0	0	5	41	6	0	52	62
05:30 PM	0	0	1	0	1	0	19	0	0	19	0	0	0	0	0	6	39	5	0	50	70
05:45 PM	0	0	0	0	0	0	17	0	0	17	0	0	0	0	0	3	37	0	0	40	57
Total	0	0	2	0	2	0	68	0	0	68	1	0	0	0	1	15	166	12	0	193	264
Grand Total	0	1	7	0	8	0	153	0	0	153	7	0	0	0	7	27	294	21	0	342	510
Apprch %	0	12.5	87.5	0		0	100	0	0		100	0	0	0		7.9	86	6.1	0		
Total %	0	0.2	1.4	0	1.6	0	30	0	0	30	1.4	0	0	0	1.4	5.3	57.6	4.1	0	67.1	

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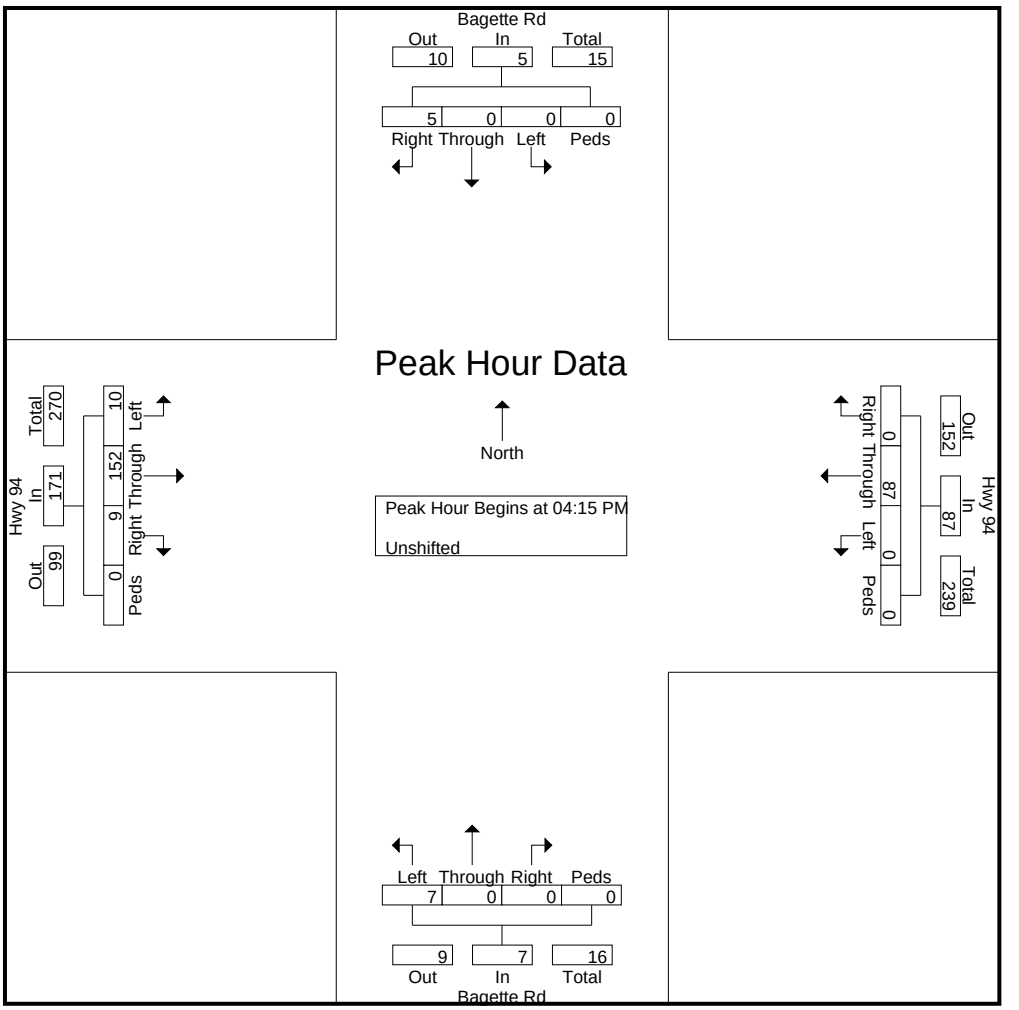
File Name : Baggett Rd - Hwy 94 PM
Site Code : 00194980
Start Date : 12/11/2019
Page No : 2

	Bagette Rd Southbound					Hwy 94 Westbound					Bagette Rd Northbound					Hwy 94 Eastbound					
Start Time	**Left**	Through	**Right**	**Peds**	App. Total	**Left**	Through	**Right**	**Peds**	App. Total	**Left**	Through	**Right**	**Peds**	App. Total	**Left**	Through	**Right**	**Peds**	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:15 PM																					
04:15 PM	0	0	**2**	0	**2**	0	**28**	0	0	**28**	**3**	0	0	0	**3**	0	31	**5**	0	36	69
04:30 PM	0	0	1	0	1	0	22	0	0	22	0	0	0	0	0	**7**	35	2	0	44	67
04:45 PM	0	0	1	0	1	0	15	0	0	15	3	0	0	0	3	2	37	1	0	40	59
05:00 PM	0	0	1	0	1	0	22	0	0	22	1	0	0	0	1	1	**49**	1	0	**51**	**75**
Total Volume	0	0	5	0	5	0	87	0	0	87	7	0	0	0	7	10	152	9	0	171	270
% App. Total	0	0	100	0		0	100	0	0		100	0	0	0		5.8	88.9	5.3	0		
PHF	.000	.000	.625	.000	.625	.000	.777	.000	.000	.777	.583	.000	.000	.000	.583	.357	.776	.450	.000	.838	.900



LSC Transportation Consultants, Inc.
545 E Pikes Peak Ave, Suite 210
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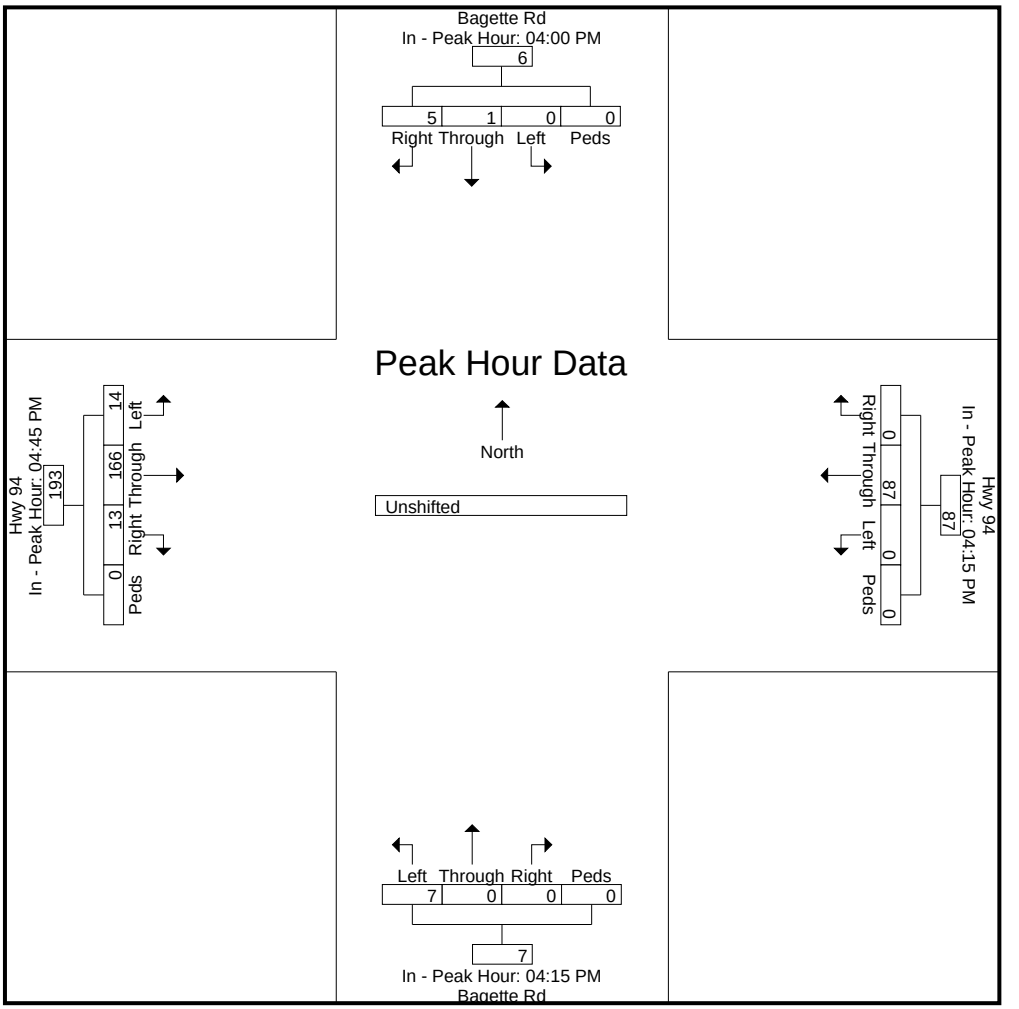
File Name : Baggett Rd - Hwy 94 PM
Site Code : 00194980
Start Date : 12/11/2019
Page No : 3

	Bagette Rd Southbound					Hwy 94 Westbound					Bagette Rd Northbound					Hwy 94 Eastbound					
Start Time	**Left**	Through	**Right**	**Peds**	App. Total	**Left**	Through	**Right**	**Peds**	App. Total	**Left**	Through	**Right**	**Peds**	App. Total	**Left**	Through	**Right**	**Peds**	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Each Approach Begins at:																					
	04:00 PM					04:15 PM					04:15 PM					04:45 PM					
+0 mins.	0	**1**	1	0	**2**	0	**28**	0	0	**28**	**3**	0	0	0	**3**	2	37	1	0	40	
+15 mins.	0	0	**2**	0	2	0	22	0	0	22	0	0	0	0	0	1	**49**	1	0	51	
+30 mins.	0	0	1	0	1	0	15	0	0	15	3	0	0	0	3	5	41	**6**	0	**52**	
+45 mins.	0	0	1	0	1	0	22	0	0	22	1	0	0	0	1	**6**	39	5	0	50	
Total Volume	0	1	5	0	6	0	87	0	0	87	7	0	0	0	7	14	166	13	0	193	
% App. Total	0	16.7	83.3	0		0	100	0	0		100	0	0	0		7.3	86	6.7	0		
PHF	.000	.250	.625	.000	.750	.000	.777	.000	.000	.777	.583	.000	.000	.000	.583	.583	.847	.542	.000	.928	



LSC Transportation Consultants, Inc.

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

File Name : Baggette Rd - Sanborn Rd AM
Site Code : 00194980
Start Date : 12/11/2019
Page No : 1

Groups Printed- Unshifted

	Baggett Rd Southbound					Sanborn Rd Westbound					Northbound					Baggett Rd Eastbound					
Start Time	**Left**	**Through**	**Right**	**Peds**	**App. Total**	**Left**	**Through**	**Right**	**Peds**	**App. Total**	**Left**	**Through**	**Right**	**Peds**	**App. Total**	**Left**	**Through**	**Right**	**Peds**	**App. Total**	**Int. Total**
06:30 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1	0	0	0	1	2
06:45 AM	0	0	0	0	0	0	3	0	0	3	0	0	1	0	1	2	0	0	0	2	6
Total	0	0	0	0	0	0	4	0	0	4	0	0	1	0	1	3	0	0	0	3	8
07:00 AM	0	0	2	0	2	0	0	1	0	1	0	0	0	0	0	0	1	0	0	1	4
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	2	2
07:30 AM	0	0	0	0	0	0	1	1	0	2	0	0	0	0	0	0	1	0	0	1	3
*** BREAK ***																					
Total	0	0	2	0	2	0	1	2	0	3	0	0	0	0	0	1	3	0	0	4	9
*** BREAK ***																					
Grand Total	0	0	2	0	2	0	5	2	0	7	0	0	1	0	1	4	3	0	0	7	17
Apprch %	0	0	100	0		0	71.4	28.6	0		0	0	100	0		57.1	42.9	0	0		
Total %	0	0	11.8	0	11.8	0	29.4	11.8	0	41.2	0	0	5.9	0	5.9	23.5	17.6	0	0	41.2	

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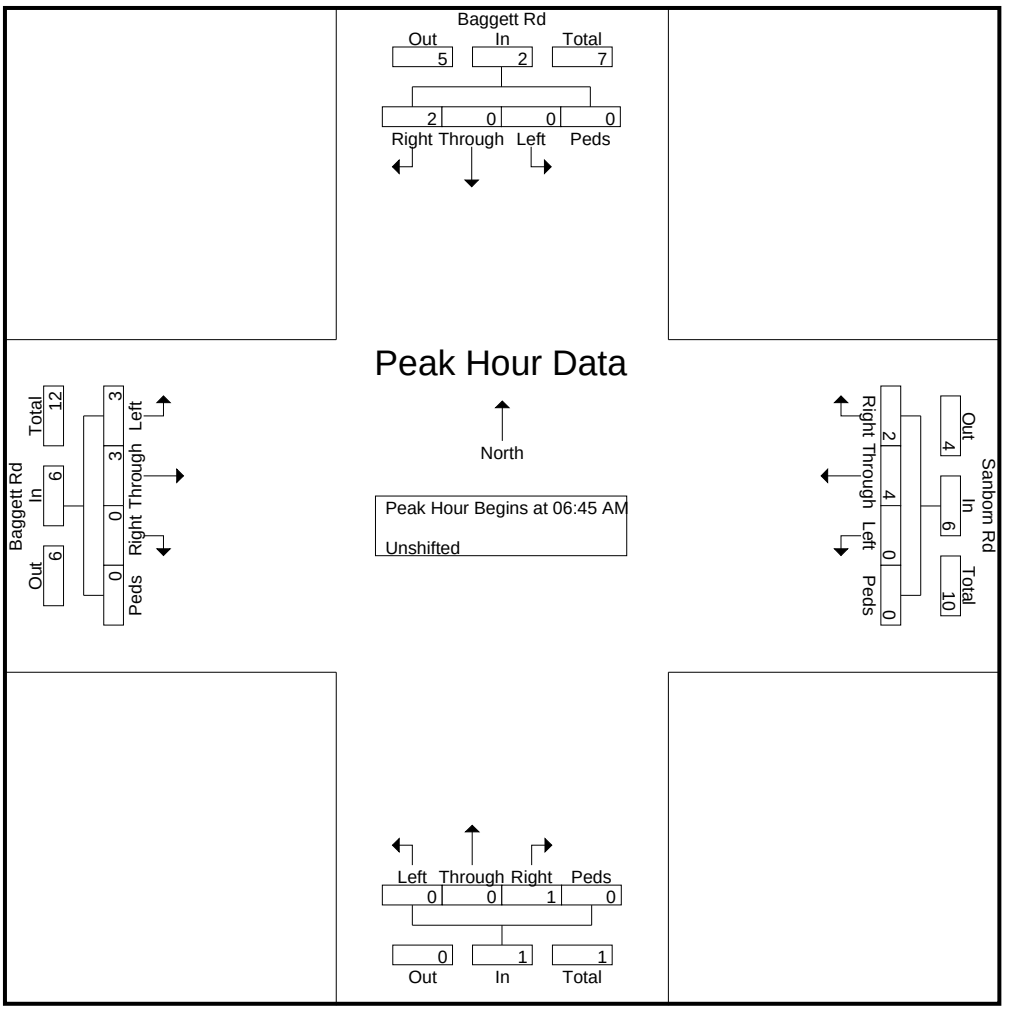
719-633-2868

File Name : Baggette Rd - Sanborn Rd AM
Site Code : 00194980
Start Date : 12/11/2019
Page No : 2

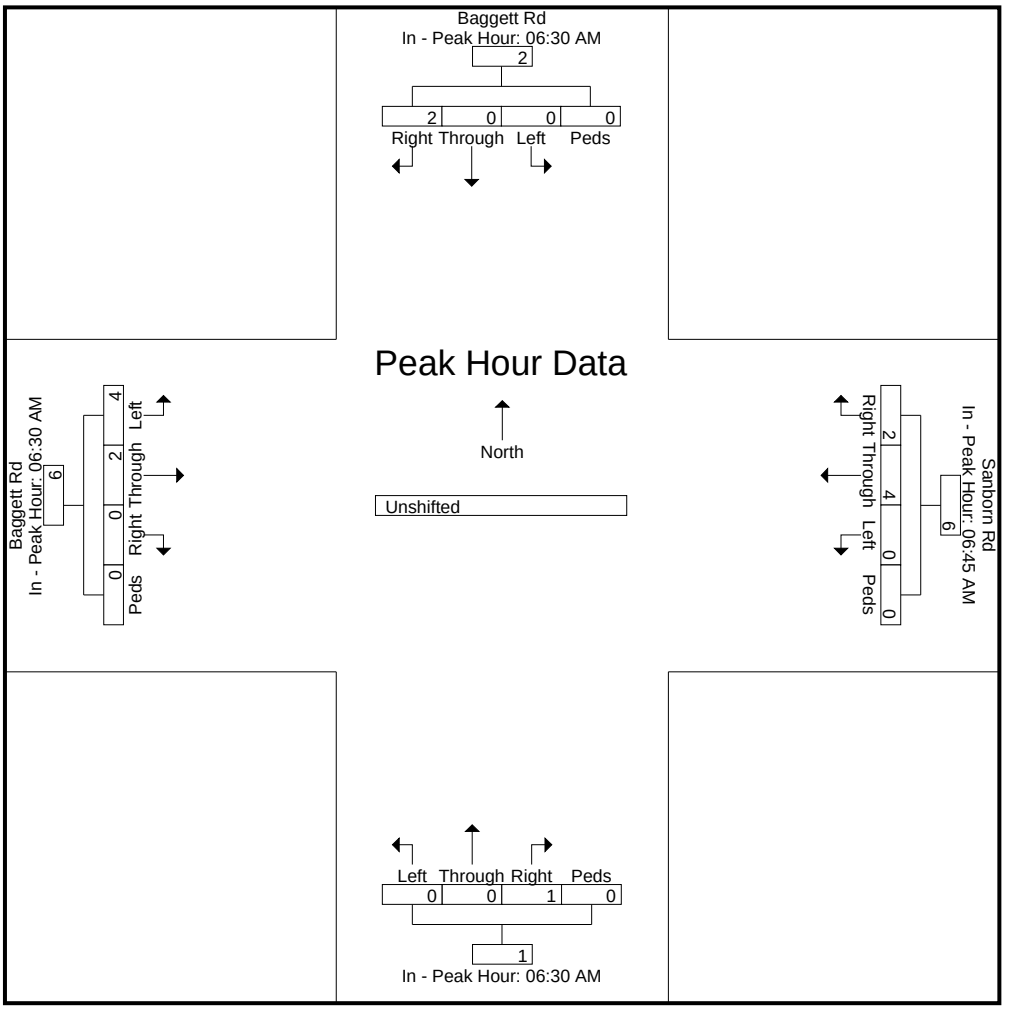
	Baggett Rd Southbound					Sanborn Rd Westbound					Northbound					Baggett Rd Eastbound					
Start Time	**Left**	Through	**Right**	**Peds**	App. Total	**Left**	Through	**Right**	**Peds**	App. Total	**Left**	Through	**Right**	**Peds**	App. Total	**Left**	Through	**Right**	**Peds**	App. Total	**Int. Total**
Peak Hour Analysis From 06:30 AM to 08:15 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 06:45 AM																					
06:45 AM	0	0	0	0	0	0	**3**	0	0	**3**	0	0	**1**	0	**1**	**2**	0	0	0	**2**	**6**
07:00 AM	0	0	**2**	0	**2**	0	0	**1**	0	1	0	0	0	0	0	0	**1**	0	0	1	4
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	2	2
07:30 AM	0	0	0	0	0	0	1	1	0	2	0	0	0	0	0	0	1	0	0	1	3
Total Volume	0	0	2	0	2	0	4	2	0	6	0	0	1	0	1	3	3	0	0	6	15
% App. Total	0	0	100	0		0	66.7	33.3	0		0	0	100	0		50	50	0	0		
PHF	.000	.000	.250	.000	.250	.000	.333	.500	.000	.500	.000	.000	.250	.000	.250	.375	.750	.000	.000	.750	.625



LSC Transportation Consultants, Inc.
545 E Pikes Peak Ave, Suite 210
Colorado Springs, CO 80905
719-633-2868

File Name : Baggette Rd - Sanborn Rd AM
Site Code : 00194980
Start Date : 12/11/2019
Page No : 3

	Baggett Rd Southbound					Sanborn Rd Westbound					Northbound					Baggett Rd Eastbound					
Start Time	**Left**	Through	**Right**	**Peds**	App. Total	**Left**	Through	**Right**	**Peds**	App. Total	**Left**	Through	**Right**	**Peds**	App. Total	**Left**	Through	**Right**	**Peds**	App. Total	Int. Total
Peak Hour Analysis From 06:30 AM to 08:15 AM - Peak 1 of 1																					
Peak Hour for Each Approach Begins at:																					
	06:30 AM					06:45 AM					06:30 AM					06:30 AM					
+0 mins.	0	0	0	0	0	0	**3**	0	0	**3**	0	0	0	0	0	1	0	0	0	1	
+15 mins.	0	0	0	0	0	0	0	**1**	0	1	0	0	**1**	0	**1**	**2**	0	0	0	**2**	
+30 mins.	0	0	**2**	0	**2**	0	0	0	0	0	0	0	0	0	0	0	**1**	0	0	1	
+45 mins.	0	0	0	0	0	0	1	1	0	2	0	0	0	0	0	1	1	0	0	2	
Total Volume	0	0	2	0	2	0	4	2	0	6	0	0	1	0	1	4	2	0	0	6	
% App. Total	0	0	100	0		0	66.7	33.3	0		0	0	100	0		66.7	33.3	0	0		
PHF	.000	.000	.250	.000	.250	.000	.333	.500	.000	.500	.000	.000	.250	.000	.250	.500	.500	.000	.000	.750	



LSC Transportation Consultants, Inc.

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

File Name : Baggett Rd - Sanborn Rd PM
Site Code : 00194980
Start Date : 12/18/2019
Page No : 1

Groups Printed- Unshifted

	Baggett Rd Southbound					Sanborn Rd Westbound					Northbound					Baggett Rd Eastbound					
Start Time	**Left**	**Through**	**Right**	**Peds**	**App. Total**	**Left**	**Through**	**Right**	**Peds**	**App. Total**	**Left**	**Through**	**Right**	**Peds**	**App. Total**	**Left**	**Through**	**Right**	**Peds**	**App. Total**	**Int. Total**
04:00 PM	1	0	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
04:15 PM	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	3
04:30 PM	0	0	2	0	2	0	1	0	0	1	0	0	0	0	0	1	1	0	0	2	5
04:45 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	2	1	0	0	3	4
Total	1	0	4	0	5	0	2	0	0	2	0	0	0	0	0	5	2	0	0	7	14
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	2
05:15 PM	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	2
05:30 PM	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	2
05:45 PM	0	0	1	0	1	0	1	0	0	1	0	0	0	0	0	1	1	0	0	2	4
Total	0	0	3	0	3	0	1	0	0	1	0	0	0	0	0	3	3	0	0	6	10
Grand Total	1	0	7	0	8	0	3	0	0	3	0	0	0	0	0	8	5	0	0	13	24
Apprch %	12.5	0	87.5	0		0	100	0	0		0	0	0	0		61.5	38.5	0	0		
Total %	4.2	0	29.2	0	33.3	0	12.5	0	0	12.5	0	0	0	0	0	33.3	20.8	0	0	54.2	

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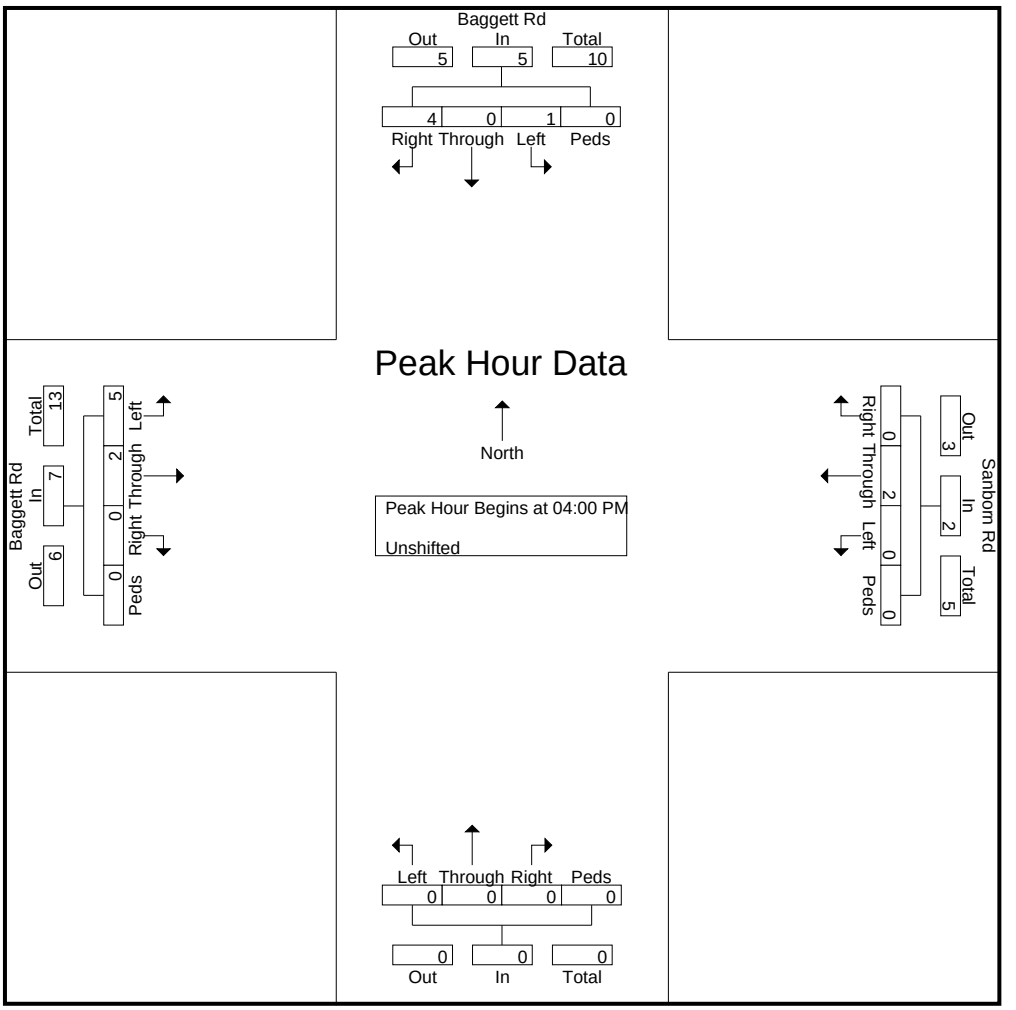
File Name : Baggett Rd - Sanborn Rd PM
Site Code : 00194980
Start Date : 12/18/2019
Page No : 2

	Baggett Rd Southbound					Sanborn Rd Westbound					Northbound					Baggett Rd Eastbound					
Start Time	**Left**	Through	**Right**	**Peds**	App. Total	**Left**	Through	**Right**	**Peds**	App. Total	**Left**	Through	**Right**	**Peds**	App. Total	**Left**	Through	**Right**	**Peds**	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:00 PM																					
04:00 PM	**1**	0	1	0	**2**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
04:15 PM	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	**2**	0	0	0	2	3
04:30 PM	0	0	**2**	0	2	0	**1**	0	0	**1**	0	0	0	0	0	1	**1**	0	0	2	**5**
04:45 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	2	1	0	0	**3**	4
Total Volume	1	0	4	0	5	0	2	0	0	2	0	0	0	0	0	5	2	0	0	7	14
% App. Total	20	0	80	0		0	100	0	0		0	0	0	0		71.4	28.6	0	0		
PHF	.250	.000	.500	.000	.625	.000	.500	.000	.000	.500	.000	.000	.000	.000	.000	.625	.500	.000	.000	.583	.700



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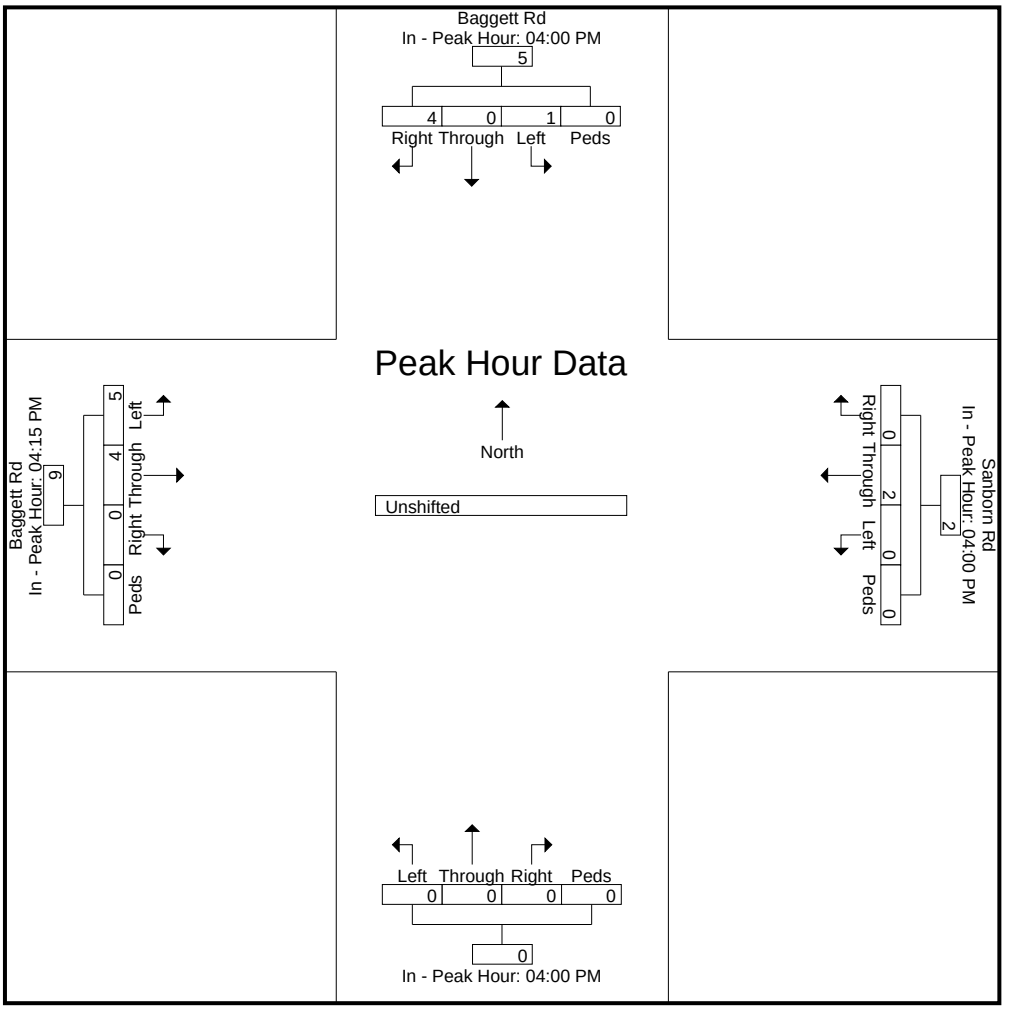
File Name : Baggett Rd - Sanborn Rd PM
Site Code : 00194980
Start Date : 12/18/2019
Page No : 3

	Baggett Rd Southbound					Sanborn Rd Westbound					Northbound					Baggett Rd Eastbound					
Start Time	**Left**	Through	**Right**	**Peds**	App. Total	**Left**	Through	**Right**	**Peds**	App. Total	**Left**	Through	**Right**	**Peds**	App. Total	**Left**	Through	**Right**	**Peds**	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Each Approach Begins at:																					
	04:00 PM					04:00 PM					04:00 PM					04:15 PM					
+0 mins.	**1**	0	1	0	**2**	0	0	0	0	0	0	0	0	0	0	**2**	0	0	0	2	
+15 mins.	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1	1	0	0	2	
+30 mins.	0	0	**2**	0	2	0	**1**	0	0	**1**	0	0	0	0	0	2	1	0	0	**3**	
+45 mins.	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	**2**	0	0	2	
Total Volume	1	0	4	0	5	0	2	0	0	2	0	0	0	0	0	5	4	0	0	9	
% App. Total	20	0	80	0		0	100	0	0		0	0	0	0		55.6	44.4	0	0		
PHF	.250	.000	.500	.000	.625	.000	.500	.000	.000	.500	.000	.000	.000	.000	.000	.625	.500	.000	.000	.750	



Levels of Service

TRANSPORTATION
CONSULTANTS, INC.

Intersection	
Int Delay, s/veh	1.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	2	61	4	0	154	0	23	0	0	0	0	15
Future Vol, veh/h	2	61	4	0	154	0	23	0	0	0	0	15
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	77	77	77	100	100	100	100	100	100	47	47	47
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	3	79	5	0	154	0	23	0	0	0	0	32

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	154	0	0	84	0	0	258	242	82	242	244	154
Stage 1	-	-	-	-	-	-	88	88	-	154	154	-
Stage 2	-	-	-	-	-	-	170	154	-	88	90	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1426	-	-	1513	-	-	695	660	978	712	658	892
Stage 1	-	-	-	-	-	-	920	822	-	848	770	-
Stage 2	-	-	-	-	-	-	832	770	-	920	820	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1426	-	-	1513	-	-	669	659	978	711	657	892
Mov Cap-2 Maneuver	-	-	-	-	-	-	669	659	-	711	657	-
Stage 1	-	-	-	-	-	-	918	820	-	846	770	-
Stage 2	-	-	-	-	-	-	802	770	-	918	818	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0	10.6	9.2
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	669	1426	-	-	1513	-	-	892
HCM Lane V/C Ratio	0.034	0.002	-	-	-	-	-	0.036
HCM Control Delay (s)	10.6	7.5	0	-	0	-	-	9.2
HCM Lane LOS	B	A	A	-	A	-	-	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.1

Intersection	
Int Delay, s/veh	2.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	3	3	4	2	0	2
Future Vol, veh/h	3	3	4	2	0	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	75	75	50	50	50	50
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	4	4	8	4	0	4

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	12	0	-	0	22	10
Stage 1	-	-	-	-	10	-
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	1607	-	-	-	995	1071
Stage 1	-	-	-	-	1013	-
Stage 2	-	-	-	-	1011	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1607	-	-	-	993	1071
Mov Cap-2 Maneuver	-	-	-	-	993	-
Stage 1	-	-	-	-	1011	-
Stage 2	-	-	-	-	1011	-

Approach	EB	WB	SB
HCM Control Delay, s	3.6	0	8.4
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1607	-	-	-	1071
HCM Lane V/C Ratio	0.002	-	-	-	0.004
HCM Control Delay (s)	7.2	0	-	-	8.4
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	152	14	0	87	0	18	0	0	0	0	5
Future Vol, veh/h	10	152	14	0	87	0	18	0	0	0	0	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	400	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	84	84	99	99	99	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	12	181	17	0	88	0	18	0	0	0	0	5

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	88	0	0	198	0	0	296	293	181	302	310	88
Stage 1	-	-	-	-	-	-	205	205	-	88	88	-
Stage 2	-	-	-	-	-	-	91	88	-	214	222	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1508	-	-	1375	-	-	656	618	862	650	605	970
Stage 1	-	-	-	-	-	-	797	732	-	920	822	-
Stage 2	-	-	-	-	-	-	916	822	-	788	720	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1508	-	-	1375	-	-	648	612	862	645	600	970
Mov Cap-2 Maneuver	-	-	-	-	-	-	648	612	-	645	600	-
Stage 1	-	-	-	-	-	-	790	725	-	912	822	-
Stage 2	-	-	-	-	-	-	911	822	-	781	714	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.4	0	10.7	8.7
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	648	1508	-	-	1375	-	-	970
HCM Lane V/C Ratio	0.028	0.008	-	-	-	-	-	0.005
HCM Control Delay (s)	10.7	7.4	0	-	0	-	-	8.7
HCM Lane LOS	B	A	A	-	A	-	-	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0

Intersection	
Int Delay, s/veh	5.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	5	2	2	0	1	4
Future Vol, veh/h	5	2	2	0	1	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	88	88	50	50	63	63
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	6	2	4	0	2	6

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	4	0	-	0	18	4
Stage 1	-	-	-	-	4	-
Stage 2	-	-	-	-	14	-
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	1618	-	-	-	1000	1080
Stage 1	-	-	-	-	1019	-
Stage 2	-	-	-	-	1009	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1618	-	-	-	996	1080
Mov Cap-2 Maneuver	-	-	-	-	996	-
Stage 1	-	-	-	-	1015	-
Stage 2	-	-	-	-	1009	-

Approach	EB	WB	SB
HCM Control Delay, s	5.2	0	8.4
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1618	-	-	-	1062
HCM Lane V/C Ratio	0.004	-	-	-	0.007
HCM Control Delay (s)	7.2	0	-	-	8.4
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

Intersection	
Int Delay, s/veh	1.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	2	61	7	0	154	0	26	0	0	0	0	15
Future Vol, veh/h	2	61	7	0	154	0	26	0	0	0	0	15
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	77	77	77	100	100	100	100	100	100	47	47	47
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	3	79	9	0	154	0	26	0	0	0	0	32

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	154	0	0	88	0	0	260	244	84	244	248	154
Stage 1	-	-	-	-	-	-	90	90	-	154	154	-
Stage 2	-	-	-	-	-	-	170	154	-	90	94	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1426	-	-	1508	-	-	693	658	975	710	655	892
Stage 1	-	-	-	-	-	-	917	820	-	848	770	-
Stage 2	-	-	-	-	-	-	832	770	-	917	817	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1426	-	-	1508	-	-	667	657	975	709	654	892
Mov Cap-2 Maneuver	-	-	-	-	-	-	667	657	-	709	654	-
Stage 1	-	-	-	-	-	-	915	818	-	846	770	-
Stage 2	-	-	-	-	-	-	802	770	-	915	815	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0	10.6	9.2
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	667	1426	-	-	1508	-	-	892
HCM Lane V/C Ratio	0.039	0.002	-	-	-	-	-	0.036
HCM Control Delay (s)	10.6	7.5	0	-	0	-	-	9.2
HCM Lane LOS	B	A	A	-	A	-	-	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.1

Intersection	
Int Delay, s/veh	3.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	6	6	4	2	0	5
Future Vol, veh/h	6	6	4	2	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	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	75	75	50	50	50	50
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	8	8	8	4	0	10

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	12	0	-	0	34	10
Stage 1	-	-	-	-	10	-
Stage 2	-	-	-	-	24	-
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	1607	-	-	-	979	1071
Stage 1	-	-	-	-	1013	-
Stage 2	-	-	-	-	999	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1607	-	-	-	974	1071
Mov Cap-2 Maneuver	-	-	-	-	974	-
Stage 1	-	-	-	-	1008	-
Stage 2	-	-	-	-	999	-

Approach	EB	WB	SB
HCM Control Delay, s	3.6	0	8.4
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1607	-	-	-	1071
HCM Lane V/C Ratio	0.005	-	-	-	0.009
HCM Control Delay (s)	7.3	0	-	-	8.4
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

Intersection	
Int Delay, s/veh	2.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	6	6	6	3	3	0
Future Vol, veh/h	6	6	6	3	3	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	75	75	50	50	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	8	8	12	6	3	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	18	0	-	0	39	15
Stage 1	-	-	-	-	15	-
Stage 2	-	-	-	-	24	-
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	1599	-	-	-	973	1065
Stage 1	-	-	-	-	1008	-
Stage 2	-	-	-	-	999	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1599	-	-	-	968	1065
Mov Cap-2 Maneuver	-	-	-	-	968	-
Stage 1	-	-	-	-	1003	-
Stage 2	-	-	-	-	999	-

Approach	EB	WB	SB
HCM Control Delay, s	3.6	0	8.7
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1599	-	-	-	968
HCM Lane V/C Ratio	0.005	-	-	-	0.003
HCM Control Delay (s)	7.3	0	-	-	8.7
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	10	152	10	0	87	0	8	0	0	0	0	5
Future Vol, veh/h	10	152	10	0	87	0	8	0	0	0	0	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	84	84	99	99	99	100	100	100	100	100	100
Heavy Vehicles, %	6	6	6	6	6	6	2	2	2	2	2	2
Mvmt Flow	12	181	12	0	88	0	8	0	0	0	0	5

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	88	0	0	193	0	0	302	299	187	299	305	88
Stage 1	-	-	-	-	-	-	211	211	-	88	88	-
Stage 2	-	-	-	-	-	-	91	88	-	211	217	-
Critical Hdwy	4.16	-	-	4.16	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.254	-	-	2.254	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1483	-	-	1357	-	-	650	613	855	653	608	970
Stage 1	-	-	-	-	-	-	791	728	-	920	822	-
Stage 2	-	-	-	-	-	-	916	822	-	791	723	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1483	-	-	1357	-	-	642	607	855	648	603	970
Mov Cap-2 Maneuver	-	-	-	-	-	-	642	607	-	648	603	-
Stage 1	-	-	-	-	-	-	784	721	-	912	822	-
Stage 2	-	-	-	-	-	-	911	822	-	784	716	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.4	0	10.7	8.7
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	642	1483	-	-	1357	-	-	970
HCM Lane V/C Ratio	0.012	0.008	-	-	-	-	-	0.005
HCM Control Delay (s)	10.7	7.4	0	-	0	-	-	8.7
HCM Lane LOS	B	A	A	-	A	-	-	A
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0

Intersection	
Int Delay, s/veh	5.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	6	2	2	0	1	5
Future Vol, veh/h	6	2	2	0	1	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	88	88	50	50	63	63
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	7	2	4	0	2	8

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	4	0	-	0	20	4
Stage 1	-	-	-	-	4	-
Stage 2	-	-	-	-	16	-
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	1618	-	-	-	997	1080
Stage 1	-	-	-	-	1019	-
Stage 2	-	-	-	-	1007	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1618	-	-	-	993	1080
Mov Cap-2 Maneuver	-	-	-	-	993	-
Stage 1	-	-	-	-	1015	-
Stage 2	-	-	-	-	1007	-

Approach	EB	WB	SB
HCM Control Delay, s	5.4	0	8.4
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1618	-	-	-	1064
HCM Lane V/C Ratio	0.004	-	-	-	0.009
HCM Control Delay (s)	7.2	0	-	-	8.4
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

Intersection	
Int Delay, s/veh	2.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	5	5	1	1	6
Future Vol, veh/h	0	5	5	1	1	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	88	88	50	50	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	6	10	2	1	7

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	12	0	-	0	17	11
Stage 1	-	-	-	-	11	-
Stage 2	-	-	-	-	6	-
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	1607	-	-	-	1001	1070
Stage 1	-	-	-	-	1012	-
Stage 2	-	-	-	-	1017	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1607	-	-	-	1001	1070
Mov Cap-2 Maneuver	-	-	-	-	1001	-
Stage 1	-	-	-	-	1012	-
Stage 2	-	-	-	-	1017	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	8.4
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1607	-	-	-	1060
HCM Lane V/C Ratio	-	-	-	-	0.007
HCM Control Delay (s)	0	-	-	-	8.4
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

Intersection	
Int Delay, s/veh	3.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	75	5	5	225	5	20	5	5	5	5	35
Future Vol, veh/h	5	75	5	5	225	5	20	5	5	5	5	35
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	500	-	-	500	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	77	77	77	100	100	100	100	100	100	47	47	47
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	6	97	6	5	225	5	20	5	5	11	11	74

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	230	0	0	103	0	0	392	352	100	355	353	228
Stage 1	-	-	-	-	-	-	112	112	-	238	238	-
Stage 2	-	-	-	-	-	-	280	240	-	117	115	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1338	-	-	1489	-	-	567	573	956	600	572	811
Stage 1	-	-	-	-	-	-	893	803	-	765	708	-
Stage 2	-	-	-	-	-	-	727	707	-	888	800	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1338	-	-	1489	-	-	505	569	956	589	568	811
Mov Cap-2 Maneuver	-	-	-	-	-	-	505	569	-	589	568	-
Stage 1	-	-	-	-	-	-	889	800	-	762	706	-
Stage 2	-	-	-	-	-	-	648	705	-	874	797	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.5	0.2	11.8	10.6
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	559	1338	-	-	1489	-	-	744
HCM Lane V/C Ratio	0.054	0.005	-	-	0.003	-	-	0.129
HCM Control Delay (s)	11.8	7.7	-	-	7.4	-	-	10.6
HCM Lane LOS	B	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-	0.4

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	5	65	70	3	2	3
Future Vol, veh/h	5	65	70	3	2	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	75	75	50	50	50	50
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	7	87	140	6	4	6

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	146	0	-	0	244	143
Stage 1	-	-	-	-	143	-
Stage 2	-	-	-	-	101	-
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	1436	-	-	-	744	905
Stage 1	-	-	-	-	884	-
Stage 2	-	-	-	-	923	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1436	-	-	-	740	905
Mov Cap-2 Maneuver	-	-	-	-	740	-
Stage 1	-	-	-	-	880	-
Stage 2	-	-	-	-	923	-

Approach	EB	WB	SB
HCM Control Delay, s	0.5	0	9.4
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1436	-	-	-	831
HCM Lane V/C Ratio	0.005	-	-	-	0.012
HCM Control Delay (s)	7.5	0	-	-	9.4
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	15	225	15	5	125	5	10	5	5	5	5	10
Future Vol, veh/h	15	225	15	5	125	5	10	5	5	5	5	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	500	-	-	500	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	84	84	99	99	99	100	100	100	100	100	100
Heavy Vehicles, %	6	6	6	6	6	6	2	2	2	2	2	2
Mvmt Flow	18	268	18	5	126	5	10	5	5	5	5	10

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	131	0	0	286	0	0	459	454	277	457	461	129
Stage 1	-	-	-	-	-	-	313	313	-	139	139	-
Stage 2	-	-	-	-	-	-	146	141	-	318	322	-
Critical Hdwy	4.16	-	-	4.16	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.254	-	-	2.254	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1430	-	-	1253	-	-	512	502	762	514	497	921
Stage 1	-	-	-	-	-	-	698	657	-	864	782	-
Stage 2	-	-	-	-	-	-	857	780	-	693	651	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1430	-	-	1253	-	-	496	493	762	500	489	921
Mov Cap-2 Maneuver	-	-	-	-	-	-	496	493	-	500	489	-
Stage 1	-	-	-	-	-	-	689	648	-	853	779	-
Stage 2	-	-	-	-	-	-	839	777	-	675	643	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.4	0.3	11.9	10.8
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	543	1430	-	-	1253	-	-	643
HCM Lane V/C Ratio	0.037	0.012	-	-	0.004	-	-	0.031
HCM Control Delay (s)	11.9	7.5	-	-	7.9	-	-	10.8
HCM Lane LOS	B	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.1

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	7	65	60	1	3	6
Future Vol, veh/h	7	65	60	1	3	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	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	8	71	65	1	3	7

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	66	0	-	0	153	66
Stage 1	-	-	-	-	66	-
Stage 2	-	-	-	-	87	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1536	-	-	-	839	998
Stage 1	-	-	-	-	957	-
Stage 2	-	-	-	-	936	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1536	-	-	-	835	998
Mov Cap-2 Maneuver	-	-	-	-	835	-
Stage 1	-	-	-	-	952	-
Stage 2	-	-	-	-	936	-

Approach	EB	WB	SB
HCM Control Delay, s	0.7	0	8.9
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1536	-	-	-	937
HCM Lane V/C Ratio	0.005	-	-	-	0.01
HCM Control Delay (s)	7.4	0	-	-	8.9
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

Intersection	
Int Delay, s/veh	3.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	75	8	5	225	5	23	5	5	5	5	35
Future Vol, veh/h	5	75	8	5	225	5	23	5	5	5	5	35
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	500	-	-	500	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	77	77	77	100	100	100	100	100	100	47	47	47
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	6	97	10	5	225	5	23	5	5	11	11	74

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	230	0	0	107	0	0	394	354	102	357	357	228
Stage 1	-	-	-	-	-	-	114	114	-	238	238	-
Stage 2	-	-	-	-	-	-	280	240	-	119	119	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1338	-	-	1484	-	-	566	571	953	598	569	811
Stage 1	-	-	-	-	-	-	891	801	-	765	708	-
Stage 2	-	-	-	-	-	-	727	707	-	885	797	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1338	-	-	1484	-	-	504	567	953	587	565	811
Mov Cap-2 Maneuver	-	-	-	-	-	-	504	567	-	587	565	-
Stage 1	-	-	-	-	-	-	887	798	-	762	706	-
Stage 2	-	-	-	-	-	-	648	705	-	871	794	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.4	0.2	11.9	10.6
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	553	1338	-	-	1484	-	-	744
HCM Lane V/C Ratio	0.06	0.005	-	-	0.003	-	-	0.129
HCM Control Delay (s)	11.9	7.7	-	-	7.4	-	-	10.6
HCM Lane LOS	B	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-	0.4

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	8	65	70	3	2	6
Future Vol, veh/h	8	65	70	3	2	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	75	75	50	50	50	50
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	11	87	140	6	4	12

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	146	0	-	0	252	143
Stage 1	-	-	-	-	143	-
Stage 2	-	-	-	-	109	-
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	1436	-	-	-	737	905
Stage 1	-	-	-	-	884	-
Stage 2	-	-	-	-	916	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1436	-	-	-	731	905
Mov Cap-2 Maneuver	-	-	-	-	731	-
Stage 1	-	-	-	-	877	-
Stage 2	-	-	-	-	916	-

Approach	EB	WB	SB
HCM Control Delay, s	0.8	0	9.3
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1436	-	-	-	854
HCM Lane V/C Ratio	0.007	-	-	-	0.019
HCM Control Delay (s)	7.5	0	-	-	9.3
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	6	61	73	3	3	0
Future Vol, veh/h	6	61	73	3	3	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	75	75	50	50	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	8	81	146	6	3	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	152	0	-	0	246	149
Stage 1	-	-	-	-	149	-
Stage 2	-	-	-	-	97	-
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	1429	-	-	-	742	898
Stage 1	-	-	-	-	879	-
Stage 2	-	-	-	-	927	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1429	-	-	-	738	898
Mov Cap-2 Maneuver	-	-	-	-	738	-
Stage 1	-	-	-	-	874	-
Stage 2	-	-	-	-	927	-

Approach	EB	WB	SB
HCM Control Delay, s	0.7	0	9.9
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1429	-	-	-	738
HCM Lane V/C Ratio	0.006	-	-	-	0.004
HCM Control Delay (s)	7.5	0	-	-	9.9
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	15	225	16	5	125	5	11	5	5	5	5	10
Future Vol, veh/h	15	225	16	5	125	5	11	5	5	5	5	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	500	-	-	500	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	84	84	99	99	99	100	100	100	100	100	100
Heavy Vehicles, %	6	6	6	6	6	6	2	2	2	2	2	2
Mvmt Flow	18	268	19	5	126	5	11	5	5	5	5	10

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	131	0	0	287	0	0	460	455	278	458	462	129
Stage 1	-	-	-	-	-	-	314	314	-	139	139	-
Stage 2	-	-	-	-	-	-	146	141	-	319	323	-
Critical Hdwy	4.16	-	-	4.16	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.254	-	-	2.254	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1430	-	-	1252	-	-	512	501	761	513	497	921
Stage 1	-	-	-	-	-	-	697	656	-	864	782	-
Stage 2	-	-	-	-	-	-	857	780	-	693	650	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1430	-	-	1252	-	-	496	492	761	499	489	921
Mov Cap-2 Maneuver	-	-	-	-	-	-	496	492	-	499	489	-
Stage 1	-	-	-	-	-	-	688	647	-	853	779	-
Stage 2	-	-	-	-	-	-	839	777	-	675	642	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.4	0.3	11.9	10.8
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	540	1430	-	-	1252	-	-	643
HCM Lane V/C Ratio	0.039	0.012	-	-	0.004	-	-	0.031
HCM Control Delay (s)	11.9	7.5	-	-	7.9	-	-	10.8
HCM Lane LOS	B	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.1

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	8	65	60	1	3	7
Future Vol, veh/h	8	65	60	1	3	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	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	9	71	65	1	3	8

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	66	0	-	0	155	66
Stage 1	-	-	-	-	66	-
Stage 2	-	-	-	-	89	-
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	1536	-	-	-	836	998
Stage 1	-	-	-	-	957	-
Stage 2	-	-	-	-	934	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1536	-	-	-	831	998
Mov Cap-2 Maneuver	-	-	-	-	831	-
Stage 1	-	-	-	-	951	-
Stage 2	-	-	-	-	934	-

Approach	EB	WB	SB
HCM Control Delay, s	0.8	0	8.9
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1536	-	-	-	941
HCM Lane V/C Ratio	0.006	-	-	-	0.012
HCM Control Delay (s)	7.4	0	-	-	8.9
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	0	68	60	1	1	6
Future Vol, veh/h	0	68	60	1	1	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	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	74	65	1	1	7

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	66	0	-	0	140	66
Stage 1	-	-	-	-	66	-
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	1536	-	-	-	853	998
Stage 1	-	-	-	-	957	-
Stage 2	-	-	-	-	949	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1536	-	-	-	853	998
Mov Cap-2 Maneuver	-	-	-	-	853	-
Stage 1	-	-	-	-	957	-
Stage 2	-	-	-	-	949	-

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

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1536	-	-	-	974
HCM Lane V/C Ratio	-	-	-	-	0.008
HCM Control Delay (s)	0	-	-	-	8.7
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0