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ABTR Storage
Traffic Impact Study
(LSC #S234070)
May 18, 2023

Add PCD File No. CS-232

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.

5-19-23
Date

ABTR Storage

Transportation Memorandum

Prepared for:
Mike Jacobson
11745 Howells Road
Colorado Springs, CO 80908
Mike@FlyingHorseRealty.com

MAY 18, 2023

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

LSC #S234070

CONTENTS

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May 18, 2023

Mike Jacobson
11745 Howells Road
Colorado Springs, CO 80908
Mike@FlyingHorseRealty.com

RE: ABTR Storage
Transportation Memorandum
El Paso County, CO
LSC # S234070

Dear Mr. Jacobson,

LSC Transportation Consultants, Inc. has prepared this transportation memorandum for the proposed ABTR storage site in El Paso County, Colorado. The 38.5-acre site is located on the southeast corner of the intersection of State Highway (SH) 94/Franceville Coal Mine Road (El Paso County parcel ID 4400000565).

Access to the site is proposed via a single access driveway on Franceville Coal Mine Road about 1,230 feet south of SH 94 (centerline spacing). No direct access is proposed to SH 94.

Currently, the site is zoned as Residential Rural District 5 (RR-5) but would be rezoned to Commercial Services District (CS) as part of the application process. Approximately 1,000 vehicle parking spaces for RV and boat storage are proposed for the site.

This report has been prepared for submittal to El Paso County with likely review by the Colorado Department of Transportation (CDOT).

REPORT CONTENTS

The preparation of this report included the following:

- Inventory of existing adjacent and nearby area road system. This included surface conditions, functional classifications, roadway widths, lane configurations, traffic control, posted speed limits, pavement markings, intersection and access spacing, roadway and intersection alignments, auxiliary left- and right-turn lanes, intersection sight distances, etc.;
- Estimates of existing morning and late-afternoon peak-hour turning-movement traffic counts at the “study-area” intersection of SH 94/Franceville Coal Mine Road;

- Review of previously-completed traffic studies in the vicinity of this site for information and findings relative to this development. Other recent studies completed in the area and any applicable data/transferrable information/analysis etc. from previous LSC studies adjacent to the site were also utilized;
- Evaluation of access sight distance at the proposed access-point on Franceville Coal Mine Road, based on current criteria in the County's *Engineering Criteria Manual* (*ECM*);
- Estimates of average weekday and peak-hour trip generation for the proposed RV storage land use;
- Estimation of directional distribution of site-generated vehicle trips on the area road system, at the study-area intersections, and at the proposed site-access point;
- Projections of site-generated turning-movement traffic volumes at the following "study-area" intersections:
    - SH 94/Franceville Coal Mine Road
    - Franceville Coal Mine Road/proposed site access
- Estimates of short- and long-term background traffic volumes at the study-area intersections and access points;
- Total traffic (site traffic plus background traffic) projections at the study-area intersections for the short and long term;
- Level of service (LOS) analysis at the study-area intersections;
- Evaluation of existing, short-term, and long-term projected intersection volumes to determine the potential need for any new auxiliary right-/left-turn lanes on SH 94 and/or Franceville Coal Mine Road, based on the criteria in the *State Highway Access Code* and *ECM.;*
- Estimated average daily traffic (ADT) on Franceville Coal Mine Road and comparison of the "design ADT" for gravel roads in *ECM* section 2.2.7.B *Road Paving Policy*;"
- Preliminary estimate of El Paso County Road Impact Fee Program fee amount;
- Other recommended improvements/modifications to study-area roads/intersections; and
- Summary of compiled data, analysis, findings, and recommendations.

LAND USE AND ACCESS

Proposed Land Use

Figure 1 shows the site location of the proposed ABTR storage site in El Paso County, Colorado. The 38.5-acre site is located on the southeast corner of the intersection of State Highway (SH) 94/Franceville Coal Mine Road (El Paso County parcel ID 4400000565). A copy of the parcel boundary map is shown in Figure 2.

Currently, the site is zoned as Residential Rural District 5 (RR-5) but would be rezoned to Commercial Services District (CS) as part of the application process. Approximately 1,000 spaces for RV and boat storage are proposed for the site.

Proposed Site Access

One access point to Franceville Coal Mine Road is proposed for the property, near the southeast corner of the site. The proposed location would be about 1,230 feet south of the intersection of SH 94/Franceville Coal Mine Road (centerline spacing). For reference, this is about 60 feet north of an existing gated access for the property to the south.

ROAD AND TRAFFIC CONDITIONS

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:

State Highway 94 (SH 94) is a two-lane highway extending east from US Highway (Hwy) 24 through eastern El Paso County into Lincoln County. In the vicinity of the site, SH 94 is classified as a Non-Rural Principal Highway (NR-A) and has a posted speed limit of 65 miles per hour (mph). Access to SH 94 is subject to the *2012 State Highway 94 Access Management Plan*.

Franceville Coal Mine Road is two-lane rural gravel local roadway that extends south from SH 94 for about three miles, at which point the roadway terminates. The posted speed limit is 35 mph. There are no auxiliary left- and right-turn lanes at the SH 94/Franceville Coal Mine Road intersection and the traffic control is two-way, stop-sign controlled.

Existing Traffic Volumes

Vehicular turning-movement counts were conducted at the State Highway 94/Franceville Coal Mine Road intersection:

- Wednesday, March 1, 2023 from 6:30 to 8:30 a.m.
- Wednesday, March 1, 2023 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.

Machine traffic volume counts were also conducted on Franceville Coal Mine Road.

Short-Term Baseline Traffic Volumes

Due to variations in recent count data from March 2023 compared to previous counts at the SH 94/Franceville Coal Mine Road intersection, LSC established “short-term baseline” traffic volumes, as shown on Figure 4.

SIGHT DISTANCE

LSC conducted a field evaluation to check the proposed access location, determine the optimal location, and evaluate a couple of other alternate locations with respect to entering sight distance. This was completed because there is a vertical curve on Franceville Coal Mine Road in the vicinity of the proposed site access location. Sight-distance field measurements utilized a driver's-eye height of 3.5 feet and a height of 3.5 feet for vehicles approaching from the north and south. The drivers' eye of 3.5 feet is for passenger vehicles. RVs will also regularly utilize the access. Larger RVs typically have a higher drivers' eye. Passenger vehicles towing trailers are most often pickup trucks or SUVs, which may have a higher drivers' eye than 3.5 feet, in which case the 3.5 feet is conservative.

Field measurements recorded the following sight distances looking to the north from several locations in order to determine the ideal proposed site-access location:

- 396 feet – existing gated access (used as a reference point, but not an access for this property - located just south of the south property line of this property)
- 391 feet – 60 feet north of existing gated access (proposed access location)
- 517 feet – 115 feet north of existing gated access
- 557 feet – 245 feet north of existing gated access

Please refer to Figure 10 which shows these graphically.

Sight distance to the south from each of these locations is over 1,000 feet.

El Paso County Requirements

Access points must meet *Engineering Criteria Manual* (*ECM*) standards for sight distance. The criteria is in *ECM* Section 2.4.1.D and two sight-distance metrics need to be met - **entering sight distance and sight distance along the roadway**. .

Entering Sight Distance for Driveways

With a 35-mph posted speed limit on Franceville Coal Mine Road, the prescribed **entering sight distance** looking to the north and south from the proposed site-access location i s 350 feet for passenger vehicles and 455 feet for single unit trucks (and RVs) (per Table 2-35 of the County's *Engineering Criteria Manual*).

Sight Distance along the Roadway

The prescribed, unadjusted **sight distance along the roadway** for both approaches to the proposed site-access location on Franceville Coal Mine Road is 300 feet (per Table 2-33 of the County's *Engineering Criteria Manual*). Spot measurements of the roadway gradient adjacent to

the proposed site-access locations varied from 2.8 – 3.9 percent. As such, a roadway grade adjustment factor of 1.20 (per *ECM* Table 2-34) is reflected in the 300-foot sight distance value.

Findings

As seen above, the site access would need to be at least about 115 feet north of the existing gated access (based on the potential locations from which measurements were taken) in order to meet minimum *ECM* entering sight distance to the north. Based on the field evaluation, the location at the crest of the hill (located approximately 245 feet north of the existing gated access just south of the property line) on Franceville Coal Mine Road near the southwest corner of the property would maximize sight distance in **both** directions.

However, the optimal location for sight distance is not optimal for the site layout. The site access is 1,230 feet south of SH 94 (centerline spacing). Please refer to Figure 10 for an exhibit with more details.

As the field-measured sight distance to the north would be short of the ECM standard for single-unit trucks, RVs, etc., LSC recommends that only the right turn movement out of the site onto northbound Franceville Coal Mine Road be permitted (sight distance is acceptable looking south to approaching northbound vehicles). This should not be problematic as Franceville Coal Mine Road terminates to the south, with all but a very infrequent reason for vehicles to turn south – the gun club is located to the south. A right turn only sign should be placed at the site access.

Submit a deviation request in the next submittal for not meeting sight distance requirements. Deviation request shall include a plan and profile exhibit for the line of site.

TRIP GENERATION

Typically, estimates of the existing and
been made using nationally-published average trip-generation rates for associated land use codes in *Trip Generation, 11th Edition, 2021* by the Institute of Transportation Engineers (ITE). However, for this report "RV/Vehicle Storage" rates (shown in the attached Table 3) are estimates by LSC based on other traffic studies utilizing trip generation data collected at RV storage facilities. Please refer to Appendix A for details. LSC has estimated the trip generation rates for this land use, as ITE's *Trip Generation, 11th Edition, 2021* does not include trip-generation rates specifically for RV/boat storage businesses.

Table 1 (attached) presents the estimated site trip generation.

Based on the trip generation estimate for the proposed RV Storage development, the site is projected to generate about 129 vehicle trips on the average weekday. During the weekday morning peak hour, approximately 6 vehicles would enter and 8 vehicles would exit the site. Approximately 18 entering vehicles and 16 exiting vehicles are projected for the weekday afternoon peak hour.

Revise to list studies that were used for trip generation data. Explain what adjustments were made to come up with the trip generation numbers in the appendix.

Include a trip gen for the highest and best use for commercial zoning. The RV and boat storage should be a separate calculation for necessary improvements.

Note: One of the TIS reports used to estimate the trip generation for **this** report identifies a higher Sunday afternoon peak-hour trip generation (Sunday "peak hour of the generator" in ITE terminology). This is also shown in Appendix A.

Missing. Provide Appendix A for review.

Revise since it was not provided. Only weekday estimates were provided.

TION AND ASSIGNMENT

Trip Directional Distribution

Estimating the directional distribution of site-generated vehicle trips to the study-area roads and intersections is a necessary component in determining the site's traffic impacts. Figure 5 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 proposed land use, the area road system serving the site, the traffic-count data at the intersection of SH 94/Franceville Coal Mine Road, previously-conducted traffic studies in the area, and the site's geographic location relative to the surrounding area.

Site-Generated Traffic

Figure 6 shows projected short-term site-generated traffic volumes for the weekday morning and evening peak hours. Site-generated traffic volumes at the study-area intersections have been calculated by applying the directional-distribution percentages estimated by LSC (from Figure 5) to the trip-generation estimates (from Table 3).

Existing-Plus-Site-Generated Traffic Volumes

Figure 7 shows the sum of existing traffic volumes (from Figure 3) and site-generated peak-hour traffic volumes (shown in Figure 6). These volum al traffic.

Adjust background to include the trips generated by Gateway Trucking in addition to the background traffic from the referenced report or revise the statement if the Gateway Trucking is already incorporated.

Estimated Future 2043 Background Traffic Volum

LSC has estimated two future 2043 background traffic scenarios – high growth and low growth." The long-term "high-growth" traffic scenario assumes significant background growth on Franceville Coal Mine Road in the vicinity of the site, due to potential additional single-family residential development that might access Franceville Coal Mine Road. Alternatively, the long-term "low-growth" traffic scenario assumes no additional single-family residential development along Franceville Coal Mine Road. The background traffic was taken from LSC's TIS report for Gateway Trucking.

Figure 8 shows the projected 20-year background traffic volumes for the year 2043. Estimated 2043 background through traffic volumes on SH 94 and Franceville Coal Mine Road account for projected background growth of undeveloped parcels nearby and align with long-term traffic projections from previous LSC traffic studies in the vicinity of the site. Projected 20-year

background traffic volumes do **not** include projected traffic to be generated by the proposed ABTR Storage development.

Future 2043 Total Traffic Volumes

Figure 9 shows the projected 2043 total traffic volumes, which are the sum of 2043 background traffic volumes (from Figure 8) plus the site-generated traffic volumes (from Figure 6).

LEVEL OF SERVICE ANALYSIS

The following intersections have been analyzed to determine the projected intersection levels of service for short- and long-term traffic scenarios for the morning and evening peak-hour time periods:

- SH 94/Franceville Coal Mine Road
- Franceville Coal Mine Road/proposed site access

Level of service (LOS) is a quantitative measure of the level of congestion or delay at an intersection and is indicated on a scale from "A" to "F." LOS A is indicative of little congestion or delay. LOS F indicates a high level of congestion or delay. Table 2 shows the level of service delay ranges for signalized and unsignalized intersections.

Table 2: Intersection Levels of Service Delay Ranges

Level of Service	Signalized Intersections Average Control Delay (Seconds per Vehicle)	Unsignalized Intersections 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.		

Detailed Synchro reports are attached. A summary of LOS during the weekday morning and evening peak hours for the following unsignalized intersections is shown in the following figures:

- Figure 3: Existing Traffic, Lane Geometry, Traffic Control, and LOS
- Figure 7: Short-Term Baseline + Site Traffic, Lane Geometry, Traffic Control, and LOS
- Figure 8: 2043 Background Traffic, Lane Geometry, Traffic Control, and LOS
- Figure 9: 2043 Background + Site Traffic, Lane Geometry, Traffic Control, and LOS

SH 94/Franceville Coal Mine Road

Short Term

During the short-term baseline scenario, the northbound single-lane approach is projected to operate at LOS E during both peak hours. Following the development of the RV storage use on the site, the northbound single-lane approach is projected to operate at LOS F during both peak hours.

Long Term

The long-term "high-growth" traffic scenario assumes significant background growth on Franceville Coal Mine Road in the vicinity of the site, likely due to additional single-family residential development. Alternatively, no additional single-family residential development along Franceville Coal Mine Road was assumed for the long-term "low-growth" traffic scenario. LSC has assumed that SH 94 would be improved to a four-lane highway by 2043. Both long-term scenarios were analyzed with LOS results and assumed laneage shown on Figure 8 and Figure 9.

During the 2043 "low-growth" scenario, the northbound single-lane approach is projected to operate at LOS E or LOS F during both peak hours, with or without the addition of site traffic.

During the 2043 "high-growth" scenario, the northbound approach is projected to operate at LOS F during both peak hours, with or without the addition of site-generated traffic.

Franceville Coal Mine Road/Proposed Site Access

All individual turning movements at the proposed site-access intersection with Franceville Coal Mine Road are projected to operate at LOS A during all short-term and long-term scenarios following the addition of site-generated traffic.

AUXILIARY TURN-LANE NEEDS ANALYSIS

The *Engineering Criteria Manual* contains turning-volume thresholds which require auxiliary left- or right-turn lanes by roadway classifications.

- SH 94 – NR-A, Non-Rural Principal Highway
- Franceville Coal Mine Road – Local

SH 94/Franceville Coal Mine Road Intersection (CDOT)

Westbound-Left-Turn Deceleration Lane

Left-turn deceleration auxiliary turn lanes are required on an NR-A highway with a projected peak-hour left-ingress turning volume of 10 vph or greater. The westbound-left-turn volume is

Clarify. Fig 9 shows 14 vph for the High-Growth.

not projected to exceed this 10-vph threshold during either peak hour following the completion of the ABTR Storage residential development. As such, no modifications would be required to the existing westbound approach on SH 94 approaching Franceville Coal Mine Road.

Eastbound-Right-Turn Deceleration Lane

Right-turn deceleration auxiliary turn lanes are required for an NR-A access with a projected peak-hour right-ingress turning volume of 25 vph or greater. The eastbound-right-turn volume currently exceeds this 25-vph threshold during the PM peak hour (based on April 2021 counts), with or without the completion of the ABTR Storage residential development. As such, an eastbound-right-turn deceleration lane would be required on the eastbound approach on SH 94 approaching Franceville Coal Mine Road.

This lane should be 500 feet long plus a 300-foot transition taper. A four-foot paved shoulder will be required adjacent to this turn lane. This turn lane will extend back across an existing access on the south side of SH 94, as that access is located about 400 feet west of the west edge of Franceville Coal Mine Road.

The radius at the end of this eastbound-right-turn lane will need to be designed to accommodate regular use by multi-unit trucks (currently using Franceville Coal Mine Road), RVs, and vehicles towing large trailers. Use of three centered compound curves or spiral curves rather than simple radius will likely provide the best and least costly design – especially given the existing topography/slopes on the southwest corner of the intersection. The design should allow trucks, RVs, and vehicles towing large trailers to turn from the new eastbound right-turn lane into the southbound through lane of Franceville Coal Mine Road without encroachment into the other highway travel lanes or the northbound lane of Franceville Coal Mine Road.

Northbound-to-Eastbound-Right-Turn Acceleration Lane

Per *State Highway Access Code* criteria, a right-turn acceleration lane is required for any access with a projected peak-hour right-turning volume of 50 vph or greater when the posted speed on the roadway is greater than 40 mph. The northbound-to-eastbound-right-turn volume is **not** projected to exceed this 50-vph threshold during either peak hour following the completion of the ABTR Storage residential development. As such, a northbound-to-eastbound-right-turn acceleration lane would **not** be required at the intersection of SH 94/Franceville Coal Mine Road.

Northbound-to-Westbound-Left-Turn Acceleration Lane

Per *State Highway Access Code* criteria, a left-turn acceleration lane is required for any access “if it would be a benefit to the safety and operation of the roadway.”

Provide recommendation for left turn lane.

Proposed Site Access/Franceville Coal Mine Road Intersection (El Paso County)

Right-turn deceleration lanes are typically required on Minor Arterials (or lower classifications, such as Franceville Coal Mine Road (Collector)) for accesses with an ingress volume greater than 50 vph. The northbound-right-turn volume is not projected to exceed this 50-vph threshold during either peak hour following the completion of the ABTR Storage development. Similarly, the southbound-left-turn volume is not projected to exceed 25 vph. As such, no auxiliary turn lanes would be required at the proposed Franceville Coal Mine Road/site-access intersection.

AVERAGE DAILY TRAFFIC IMPACTS RELATIVE TO ROADWAY DESIGN ADT BY CLASSIFICATION

Franceville Coal Mine Road – El Paso County

The projected buildout average daily traffic (ADT) impacts have been compared to the roadway design ADTs shown in Tables 2-4 and 2-5 of the *Engineering Criteria Manual* (*ECM*). Actual current roadway capacities for specific roadway segments may differ from these *ECM*-identified "Design-ADT" values for County-standard roadways by classification.

Existing and Short Term

Franceville Coal Mine Road is classified by the MTCP as a Local roadway. Any development that causes an existing gravel roadway to exceed 200 vehicles per day (the design ADT for this type of roadway) shall require the gravel roadway to be paved, per *ECM* criteria.

Figure 3 shows the existing average **weekday** traffic AWT (260 vehicles per day) and Figure 4 shows the Short-Term Baseline AWT (540 vehicles per day). the Short-Term Baseline -plus site scenario projects an ADT of 670 vehicles per day on Franceville Coal Mine Road between SH 94 and the proposed site access (shown in Figure 7).

Long Term

The long-term background projections consider projections developed with the *MTCP*. Map 2 of the 2043 *MTCP* shows "Low Growth" for residential households in the vicinity of the site. Locally, the volumes take into consideration the partially developed Franceville Coal Mine Ranch subdivision on the east side of SH 94. Figure 8 shows LSC's estimates of 2043 background volumes on SH 94 and Franceville Coal Mine Road. Future turning-movement volumes at Franceville Coal Mine/SH 94 are relatively light and may vary significantly depending on additional area subdivisions and/or other development served by Franceville Coal Mine Road. Any future changes in area roadway conditions may also have an effect on these projected volumes.

The section of Franceville Coal Mine Road between SH 94 and the proposed site access, at 260 vehicles per day (Average Weekday Traffic), exceeds the 200 ADT threshold for paving, **without** the proposed ABTR Storage residential development.

RECOMMENDATIONS

SH 94/Franceville Coal Mine Road Intersection – CDOT

- At the site development plan stage, a Colorado State Highway Access Permit application will need to be submitted to CDOT. The County Engineer signature will be needed on the application form.
- An eastbound right-turn deceleration lane should be constructed on SH 94. This lane should be 500 feet long plus a 300-foot transition taper. A four-foot paved shoulder will be required adjacent to this turn lane. This turn lane will extend back across an existing access on the south side of SH 94, as the access is located about 400 feet west of the west edge of Franceville Coal Mine Road. The radius at the end of this right-turn lane will need to be designed to accommodate regular use by RVs, vehicles towing trailers and multi-unit trucks. Use of three-centered compound curves or spiral curves rather than simple radius will likely provide the best and least costly design – especially given the existing topography/slopes on the southwest corner of the intersection. The design should allow trucks to turn from the new eastbound right-turn lane into the southbound through lane of Franceville Coal Mine Road without encroachment into the other highway travel lanes or the northbound lane of Franceville Coal Mine Road.
- The intersection approach grade on the northbound approach does not meet CDOT standards. However, correction to meet standard may not be feasible given the drop in elevation and associated existing roadway centerline profile between the edge of SH 94 and the drainage crossing to the south, the available right-of-way, and current foreslopes. There are already relatively steep foreslopes with significant elevation difference between the edges of the roadway and the bottom of these slopes. Also, there is an existing driveway on the east side of the roadway that would likely be impacted and any significant raising of the roadway, with profile regrading, at the low point south of SH 94 would likely be infeasible. Any significant regrading of the roadway to mitigate the intersection approach grade may not be feasible given the foregoing. LSC recommends repaving and extending the pavement “apron” on the south side of the intersection to meet CDOT standards for extent of paving. This will help mitigate the approach grades by improving passenger-vehicle, RV, and truck-tractor traction for accelerating from a stop condition and turning onto SH 94 from the stop-sign-controlled approach.
- LSC recommends that the civil engineer investigate and evaluate the feasibility of approach roadway grade improvements given the constraints identified above. Also, if significant improvement in the approach grade proves not to be feasible, LSC recommends consideration of the use of pavement material designed for increased traction. The intersection approach slopes down to the south, which is beneficial for melting snow and ice. Keeping the pavement surface free of sand and gravel (that may have been tracked onto the pavement) when not needed for traction on snow and ice will also help mitigate the effect of the relatively steep approach grade.

Franceville Coal Mine Road – El Paso County

The following improvement alternatives are based on the traffic projections in the section above entitled "AVERAGE DAILY TRAFFIC IMPACTS RELATIVE TO ROADWAY DESIGN ADT BY CLASSIFICATION"

- Under the high growth scenario, upgrade to a Rural Minor Collector cross section, based on the potential ADT between 750 and 1,500 would meet criteria.
- However, as potential growth is unknown and ROW is limited, LSC recommends planning to achieve upgrade to the Rural Local cross section to the extent possible as described in Section 6.
- As the roadway exceeds the gravel roadway design ADT of 200 vehicles per day. Options include:
    - Paving to a Rural Local standard width (28 feet) with 2' gravel shoulders on each side.
    - Paving the 24'-wide roadway (if available ROW and necessary drainage structures limit cross-section widening).
    - The pavement design should consider annual average daily-truck volume and empty-truck weight (Gateway Trucking haul trucks are empty when traveling along Franceville Coal Mine Road) and RVs.

Note that a significant portion of the vehicles on Franceville Coal Mine Road on weekday off-peak workday hours are commercial vehicles (between 40 and 50 percent based on the count data). The weekend volumes are lower, absent these commercial vehicles. Thus, average **daily** traffic (7-day average) is lower than the average **weekday** volume.

POTENTIAL PARTICIPATION IN ROADWAY IMPROVEMENTS

At the site development plan stage, this project will potentially be required to participate on a pro-rata basis for roadway paving and potentially roadway section upgrades to Franceville Coal Mine Road for the portion between Highway 94 and the site access. Fair share participation in intersection improvements at SH 94/Franceville Coal Mine Road may also be required.

LSC has previously recommended consideration of a planned and phased overall solution for potential future improvements at the SH 94/Franceville Coal Mine intersection and a cooperative approach to funding the planning, design, and implementation of an attainable and practical phased improvement plan. The approach to developing such a plan and its funding should be fair for both current and future applicants and based on relative traffic impacts and should consider the extent to which those traffic impacts are causing the need for certain components of the improvement plan. Such an approach could be to create a local improvement or special district or to create a program using a combination of advance escrow of funds for future improvements and/or cost recovery mechanisms (for improvements completed in earlier phases of said program).

MAJOR TRANSPORTATION CORRIDORS PLAN (MTCP)

Reimbursable Improvements

The following roadway improvement projects have been identified as being needed by the year 2043 per Map 13 and Table 4 of El Paso County's 2016 *MTCP*:

- SH1 – SH 94 from Colorado Springs city limits to Slocum Line ($31,129,000)
- Existing conditions – 2-lane Rural Principal Arterial
- Future conditions – 2-lane Rural Principal Arterial

See the attached *MTCP* maps for reference. Note: SH 94 is a CDOT facility and improvements to SH 94 are underway.

COUNTY ROAD IMPROVEMENT FEE PROGRAM

See snippet below, recalculate road impact fees to use method identified int the faq for rv storage.

Transportation Impact Fees

This project will be required to participate in the El Paso Coun[illegible] Program. Although the project is only at the zoning stage, currently, per LSC's understanding of previous correspondence received from the County Principal Transportation Planner on another proposed RV Storage use, the roadway impact fee shall be calculated based on:

- 129 daily trips generated by the site on the average weekday
- Therefore, the calculated County Roadway Impact Fee for the RV storage use is $37,233. This would be confirmed/finalized with the site development plan and payable at the building permit stage.

Note: This is based on the current rate of $398.55 per daily trip times adjustment factors (0.71 x 1.02 x $398.55/trip). Rates are subject to change with periodic El Paso County updates.

MULTI-MODAL TRANSPORTATION AND TDM OPPORTUNITIES

The following multi-modal improvement projects have been identified as being needed by the year 2043 per Map 15 and Table 5 of El Paso County's 2016 *MTCP*:

- Proposed Secondary Regional Trail on SH 94 adjacent to Franceville Coal Mine Road

No sidewalks would be required on Franceville Coal Mine Road, as all study-area roadways are Rural roadways.

EL PASO COUNTY DEVIATIONS

No transportation-related deviations to *ECM* design criteria are requested.

Submit a deviation for not meeting sight distance.

For RV Storage, this use is similar to a mini-storage category and there is no ITE trip rate for this use. Instead of gross square feet, the square feet of parking spaces could be used (not to include driveways, trash building, etc.

SUMMARY OF FINDINGS

- The proposed development is projected to generate about 129 vehicle trips on the average weekday.
- During the AM peak hour, 6 vehicles would enter the site while 8 vehicles would exit.
- During the PM peak hour, 18 vehicles would enter the site while 16 vehicles would exit.
- The level of service analysis indicates peak-period delays in the LOS F range for the northbound approach to SH 94/Franceville Coal Mine Road intersection. This is primarily due to high peak-period traffic volumes on SH 94. Please refer to the "Level of Service" section above for detailed LOS analysis results.
- Based on existing eastbound-right-turn movement volume at the SH 94/Franceville Coal Mine intersection, an eastbound-right-turn lane is currently prescribed by *State Highway Access Code* criteria. Please refer to the "Auxiliary Turn Lane Analysis" section above for more details.
- At the site development plan stage, this project will potentially be required to participate on a pro-rata basis for roadway paving and potentially roadway-section upgrades to Franceville Coal Mine Road for the portion between Highway 94 and the site access. Fair share participation in intersection improvements at SH 94/Franceville Coal Mine Road may also be required. Please refer to the "Recommendations" section above.
- This project will be required to participate in the El Paso County Road Improvement Fee Program. The calculated County Roadway Impact Fee for the RV storage use is $37,233.

* County will require paving Franceville Coal Mine Road from Highway 94 to the site access, not pro-rata.

Provide a recommendation for the Franceville Coal Mine Road street classification.

Please contact me if you have any ques

Respectfully Submitted,

LSC TRANSPORTATION CONSULTANTS, INC.

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

Coordinate with CDOT regarding the recommended improvements to SH 94 and the intersection with Franceville Coal Mine Road and provide a summary of CDOT's requirement.

JCH/JAB:jas

Enclosures: Table 3
Figure 1 - Figure 10
Traffic Counts
Synchro LOS Reports
MTCP Maps

Tables

Add a sheet labeled appendix A since it is referenced in the report.

TRANSPORTATION CONSULTANTS, INC.

Table 2 : Trip Generation Estimate

ITE		Value	Units [1]	Trip Generation Rates [2]					Total Trips Generated				
				Average	A.M.		P.M.		Average	A.M.		P.M.	
Code	Description			Weekday	In	Out	In	Out	Weekday	In	Out	In	Out
n/a	RV/Vehicle/Boat Storage	10	100 Parking Spaces	12.90	0.65	0.80	1.75	1.57	129	6	8	18	16

[1] 100 Parking Spaces = each 100 RV and boat storage spaces

[2] "RV/Vehicle Storage" rates based on RV storage facility traffic studies. See Appendix A.

5/11/2023

Revise table to show trip generation per the ITE and provide another row showing adjustments made to ITE trip generation amounts. It is unclear how these numbers were determined.

Include another trip gen for the highest and best use for commercial zoning. The rezone should focus on the zoning for the entire parcel, which is CS.

Figures

TRANSPORTATION
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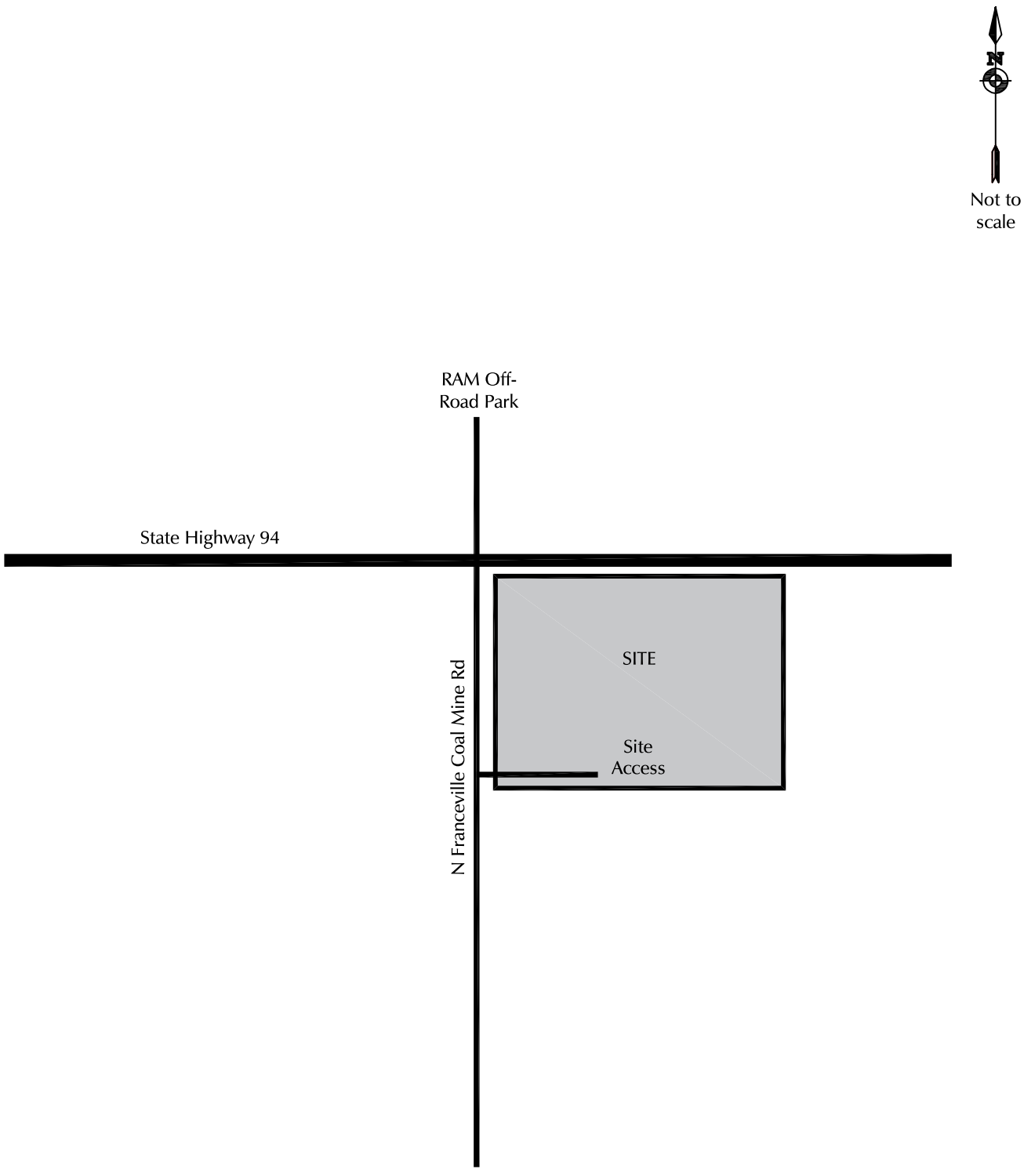
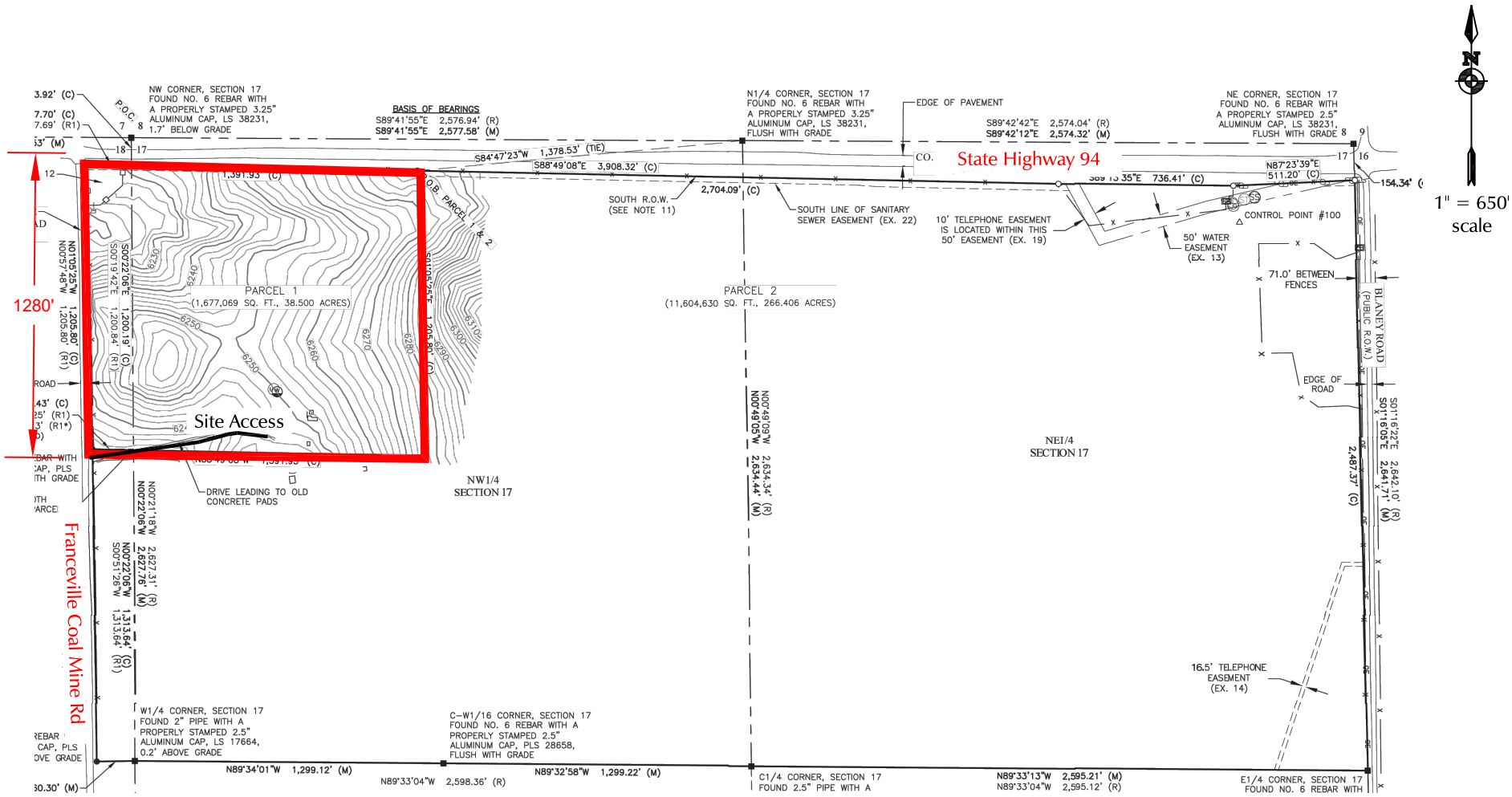


TRANSPORTATION CONSULTANTS, INC.

Figure 1

Vicinity Map

ABTR Storage (LSC# S234070)

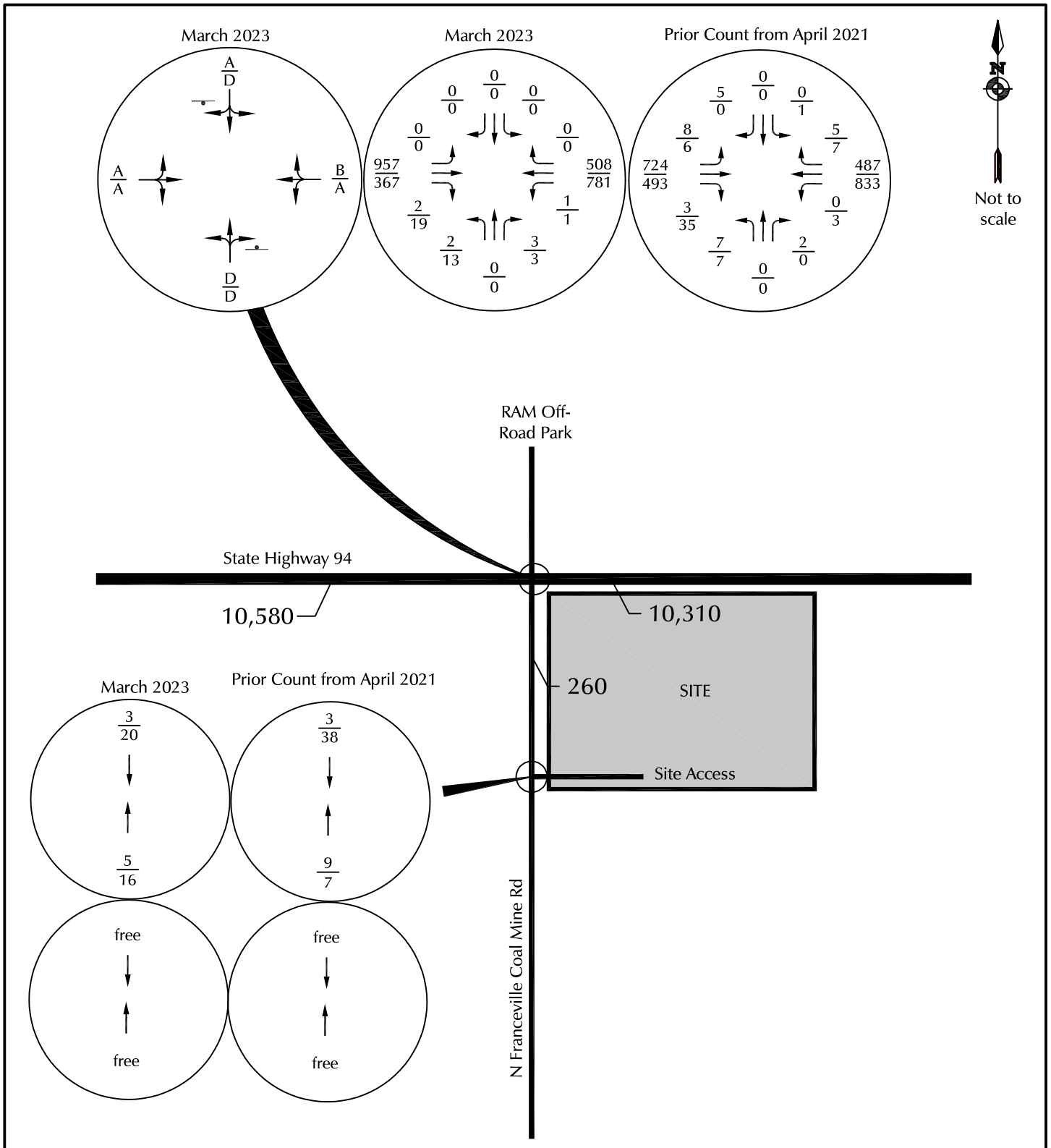


TRANSPORTATION CONSULTANTS, INC.

Figure 2

Site Plan

ABTR Storage (LSC# S234070)



Counts by LSC (March 2023)

= Stop Sign

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) (estimates by LSC)

TRANSPORTATION CONSULTANTS, INC.

Figure 3

Existing Traffic, Lane Geometry, Traffic Control, and LOS

ABTR Storage (LSC# S234070)

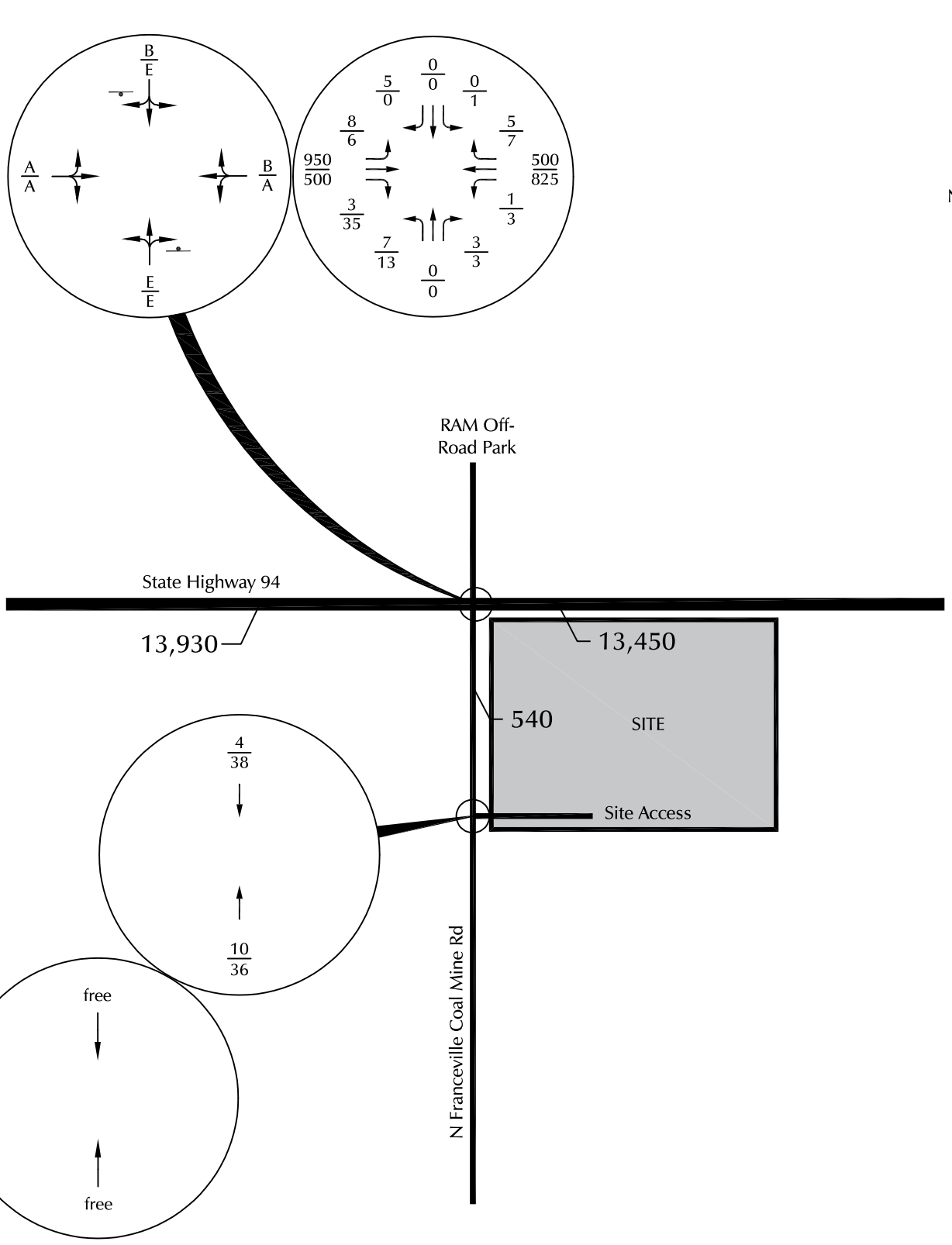


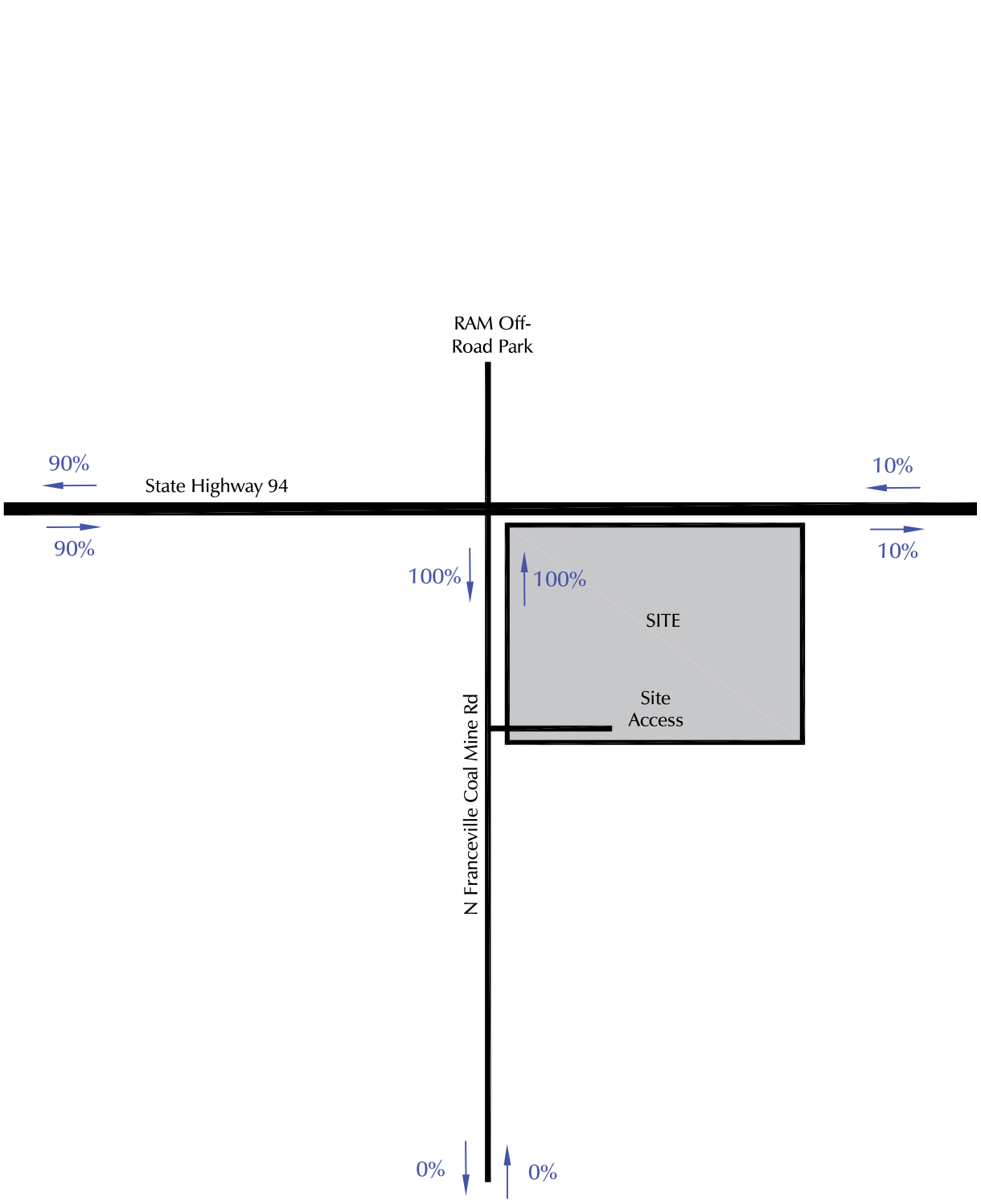
Figure 4

Short-Term Baseline Traffic, Lane Geometry, Traffic Control, and LOS

ABTR Storage (LSC# S234070)

TRANSPORTATION CONSULTANTS, INC.

	=	Stop Sign
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)



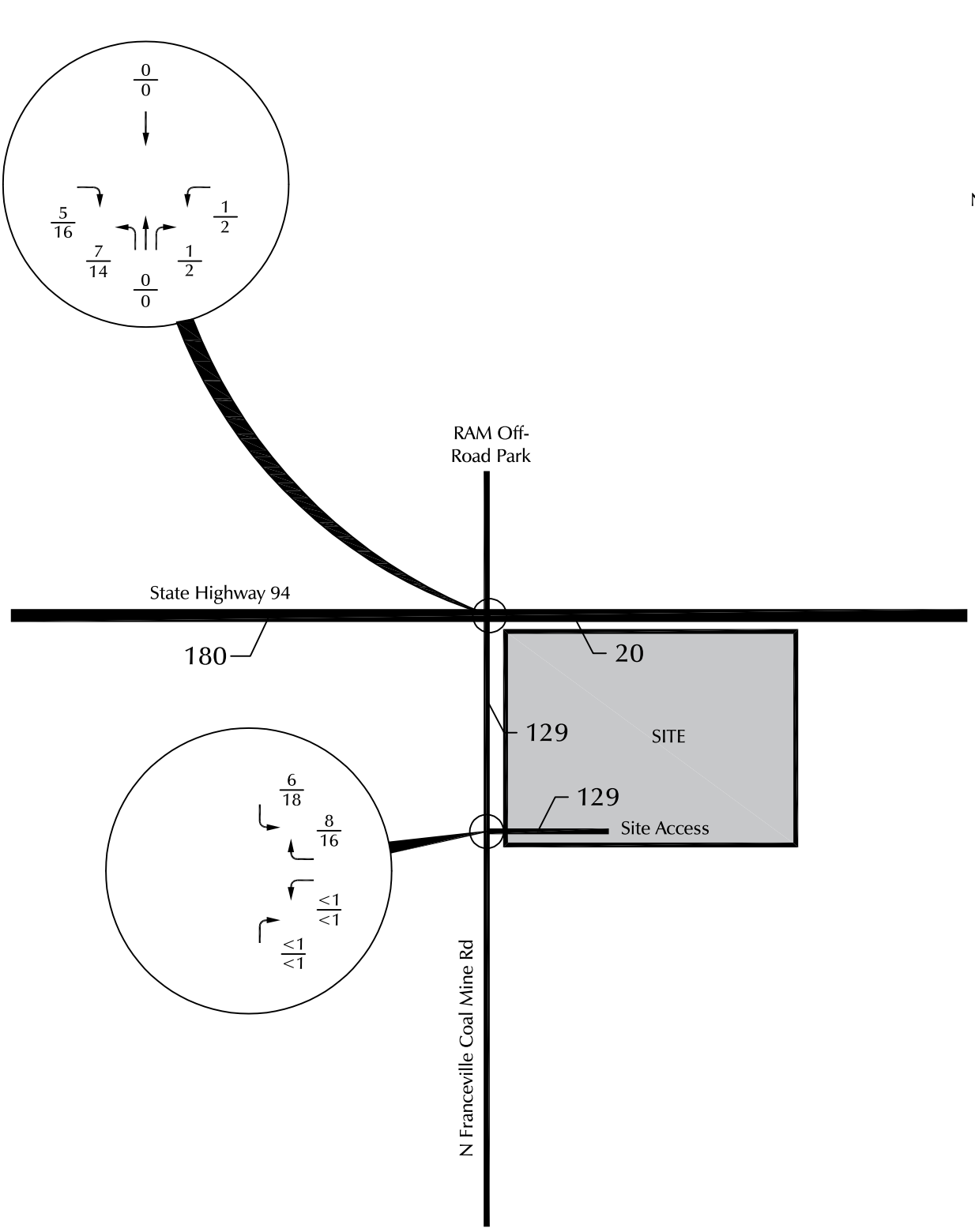
TRANSPORTATION CONSULTANTS, INC.

XX% / XX% = A.M. Peak Hour % Distribution / P.M. Peak Hour % Distribution

Figure 5

Directional Distribution

ABTR Storage (LSC# S234070)



AM peak hour = 6:40am - 7:40am
PM peak hour = 4:00pm - 5:00pm

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

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

TRANSPORTATION CONSULTANTS, INC.

Figure 6

Site-Generated Traffic

ABTR Storage (LSC# S234070)

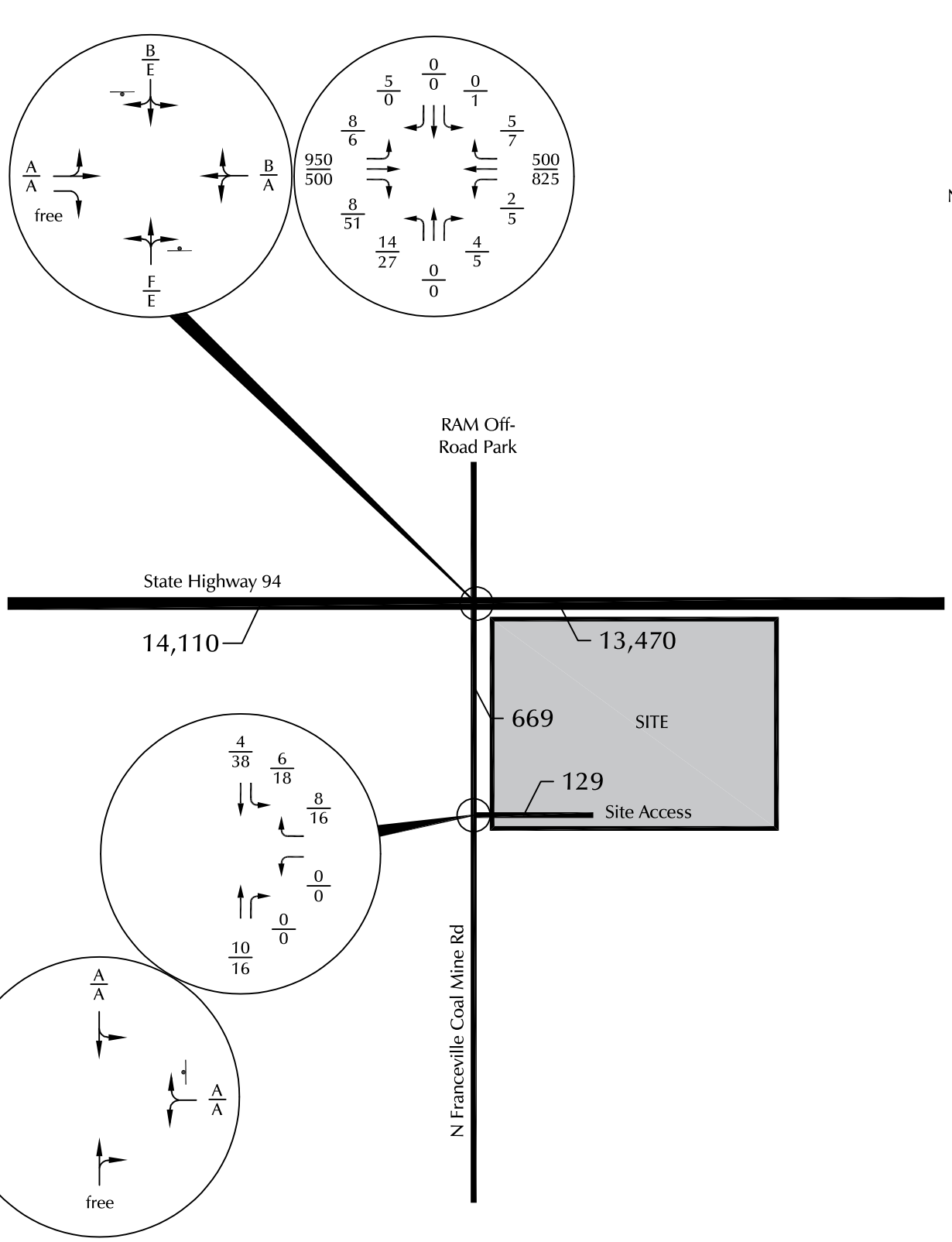


Figure 7

Short-Term Baseline + Site Traffic, Lane Geometry, Traffic Control, and LOS

ABTR Storage (LSC# S234070)

TRANSPORTATION CONSULTANTS, INC.

= Stop Sign

$\frac{X}{X}$ = 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)

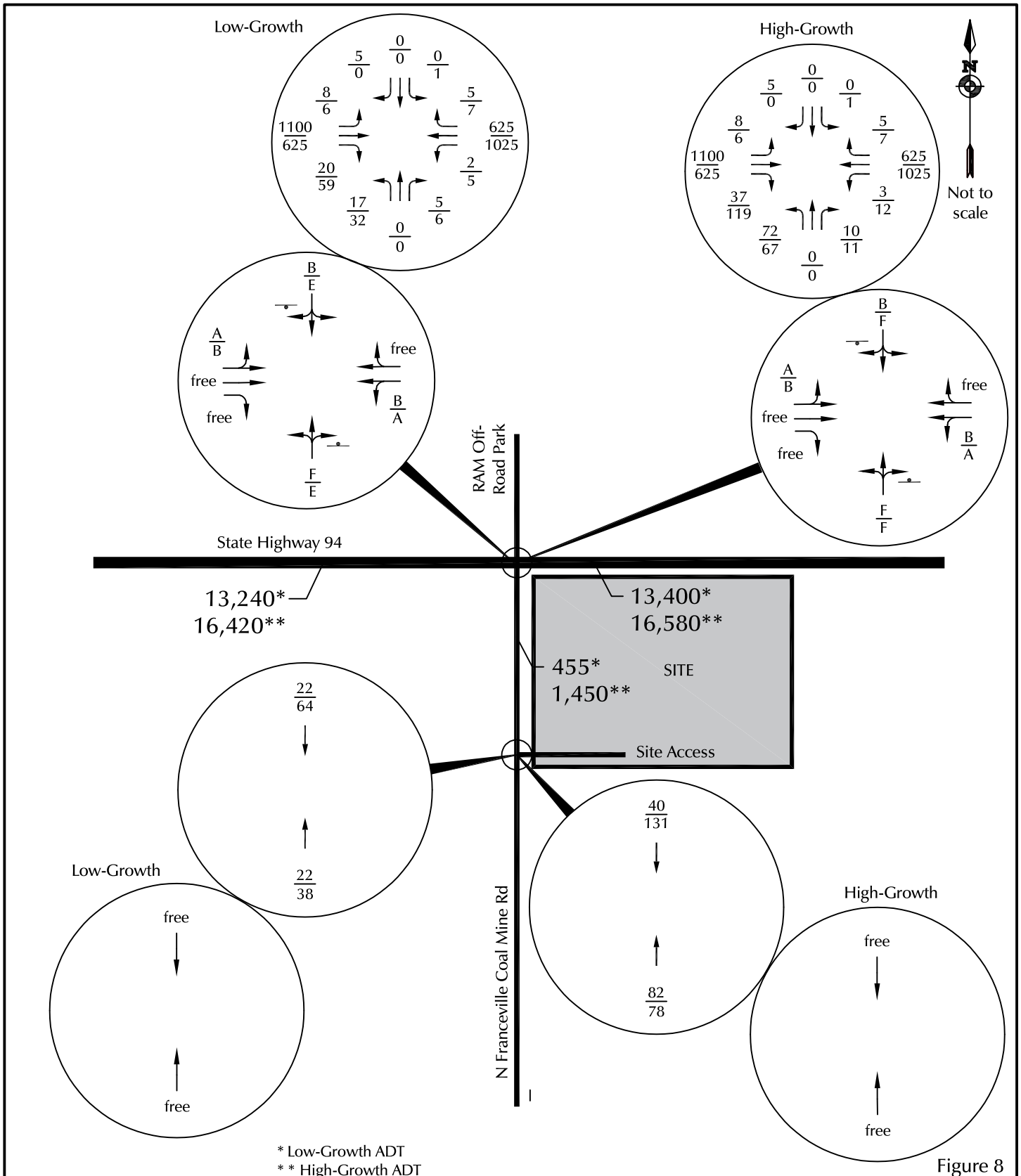


Figure 8

2043 Background Traffic, Lane Geometry, Traffic Control, and LOS

ABTR Storage (LSC# S234070)

TRANSPORTATION CONSULTANTS, INC.

= Stop Sign

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)

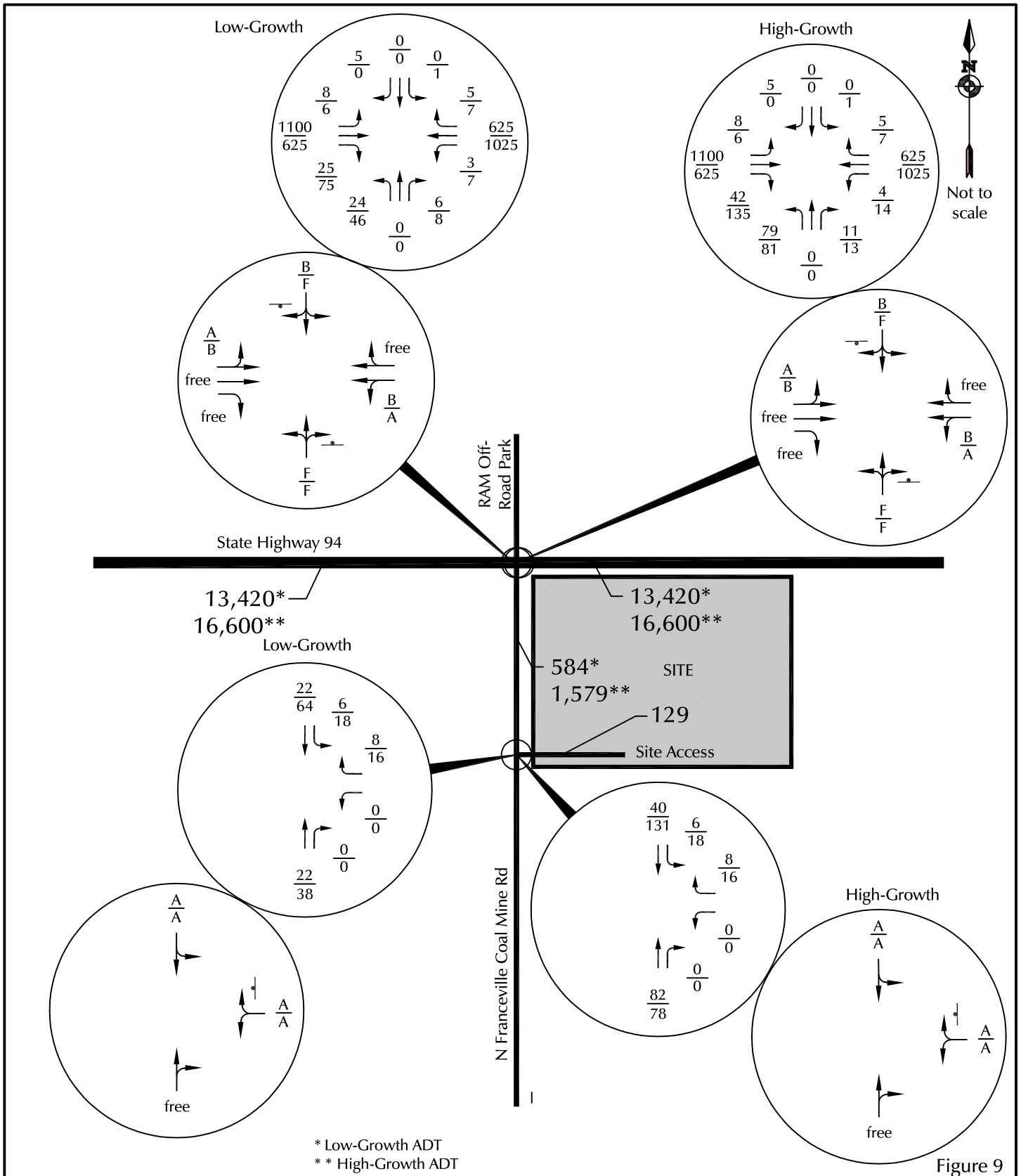


Figure 9

2043 Total Traffic, Lane Geometry, Traffic Control, and LOS

ABTR Storage (LSC# S234070)

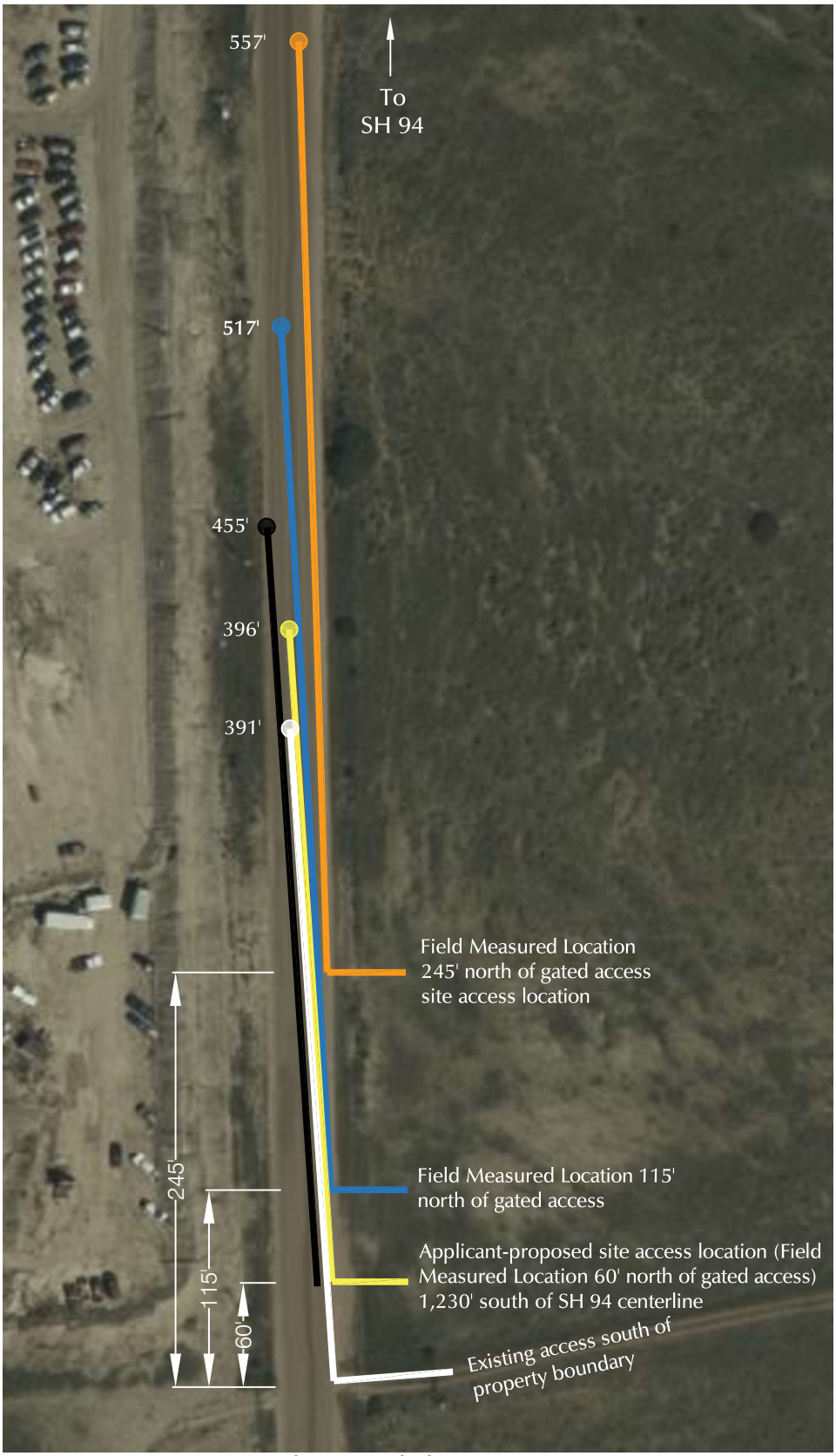
TRANSPORTATION CONSULTANTS, INC.

= Stop Sign

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)



N

1" = 100'
scale

XXX' = field-measured sight distance

ECM-required entering sight distance (per Table 2-35):
350' - PU Trucks
455' - SU Trucks, RVs, PC and PU Towing Trailers

Sight Distance along the Roadway
ECM Table 2-33 (with grade adjustment from ECM table 2-34) 250' x 1.2 = 300'

Note: Sight Distance looking south is greater than 1,000'

TRANSPORTATION CONSULTANTS, INC.

Figure 10

Sight Distance Analysis

ABTR Storage (LSC# S234070)

Traffic Counts

TRANSPORTATION
CONSULTANTS, INC.

LSC Transportation Consultants, Inc.

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

File Name : Franceville Coal Mine Rd - Hwy 94 AM
Site Code : S234070
Start Date : 3/1/2023
Page No : 1

Groups Printed- Unshifted

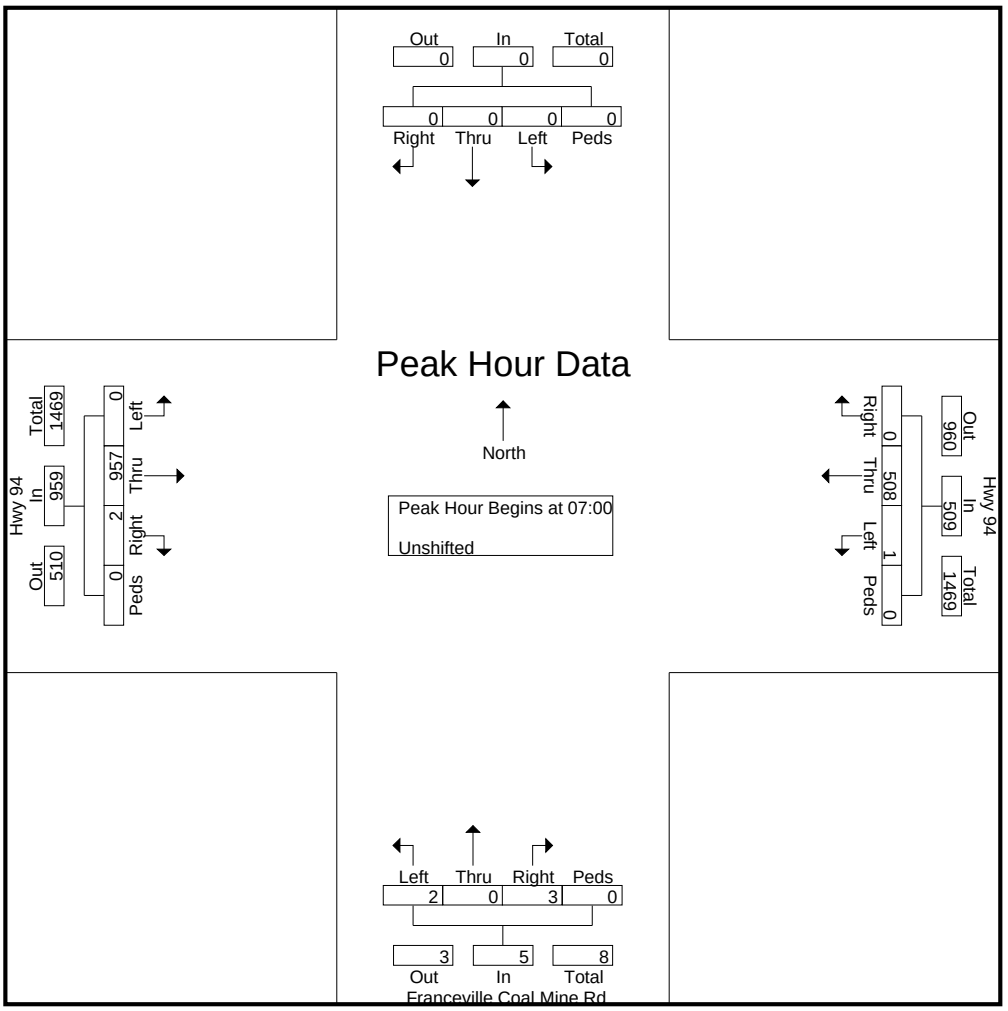
	Southbound					Hwy 94 Westbound					Franceville Coal Mine Rd Northbound					Hwy 94 Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
06:30	0	0	0	0	0	0	34	0	0	34	1	0	0	0	1	0	52	0	0	52	87
06:35	0	0	0	0	0	0	33	0	0	33	0	0	0	0	0	0	67	0	0	67	100
06:40	0	0	0	0	0	0	29	0	0	29	0	0	0	0	0	0	69	0	0	69	98
06:45	0	0	0	0	0	0	48	0	0	48	0	0	0	0	0	1	69	0	0	70	118
06:50	0	0	0	0	0	0	31	0	0	31	0	0	0	0	0	1	69	0	0	70	101
06:55	0	0	0	0	0	0	41	0	0	41	0	0	1	0	1	0	57	0	0	57	99
Total	0	0	0	0	0	0	216	0	0	216	1	0	1	0	2	2	383	0	0	385	603
07:00	0	0	0	0	0	0	36	0	0	36	2	0	0	0	2	0	81	0	0	81	119
07:05	0	0	0	0	0	0	55	1	0	56	0	0	0	0	0	1	80	0	0	81	137
07:10	0	0	0	0	0	0	51	0	0	51	0	0	0	0	0	0	87	0	0	87	138
07:15	0	0	0	0	0	0	58	0	0	58	0	0	0	0	0	1	77	0	0	78	136
07:20	0	0	0	0	0	0	38	0	0	38	0	0	0	0	0	0	90	0	0	90	128
07:25	0	0	0	0	0	0	33	0	0	33	0	0	0	0	0	0	70	0	0	70	103
07:30	0	0	0	0	0	0	37	0	0	37	0	0	0	0	0	0	91	0	0	91	128
07:35	0	0	0	0	0	0	57	0	0	57	0	0	1	0	1	0	90	0	0	90	148
07:40	0	0	0	0	0	0	29	0	0	29	0	0	0	0	0	0	70	0	0	70	99
07:45	0	0	0	0	0	0	42	0	0	42	1	0	0	0	1	0	69	0	0	69	112
07:50	0	0	0	0	0	0	21	0	0	21	0	0	1	0	1	0	82	0	0	82	104
07:55	0	0	0	0	0	0	51	0	0	51	0	0	0	0	0	0	70	0	0	70	121
Total	0	0	0	0	0	0	508	1	0	509	3	0	2	0	5	2	957	0	0	959	1473
08:00	0	0	0	0	0	0	29	0	0	29	0	0	0	0	0	1	61	0	0	62	91
08:05	0	0	0	0	0	0	41	0	0	41	0	0	0	0	0	1	44	0	0	45	86
08:10	0	0	0	0	0	0	22	0	0	22	0	0	0	0	0	1	44	0	0	45	67
08:15	0	0	0	0	0	0	27	1	0	28	0	0	1	0	1	0	29	0	0	29	58
08:20	0	0	0	0	0	0	25	1	0	26	0	0	0	0	0	2	57	0	0	59	85
08:25	0	0	0	0	0	0	30	1	0	31	0	0	0	0	0	0	28	0	0	28	59
Grand Total	0	0	0	0	0	0	898	4	0	902	4	0	4	0	8	9	1603	0	0	1612	2522
Apprch %	0	0	0	0		0	99.6	0.4	0		50	0	50	0		0.6	99.4	0	0		
Total %	0	0	0	0	0	0	35.6	0.2	0	35.8	0.2	0	0.2	0	0.3	0.4	63.6	0	0	63.9	

LSC Transportation Consultants, Inc.

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

File Name : Franceville Coal Mine Rd - Hwy 94 AM
Site Code : S234070
Start Date : 3/1/2023
Page No : 2

	Southbound					Hwy 94 Westbound					Franceville Coal Mine Rd Northbound					Hwy 94 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 06:30 to 08:25 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:00																					
07:00	0	0	0	0	0	0	36	0	0	36	**2**	0	0	0	**2**	0	81	0	0	81	119
07:05	0	0	0	0	0	0	55	**1**	0	56	0	0	0	0	0	**1**	80	0	0	81	137
07:10	0	0	0	0	0	0	51	0	0	51	0	0	0	0	0	0	87	0	0	87	138
07:15	0	0	0	0	0	0	**58**	0	0	**58**	0	0	0	0	0	1	77	0	0	78	136
07:20	0	0	0	0	0	0	38	0	0	38	0	0	0	0	0	0	90	0	0	90	128
07:25	0	0	0	0	0	0	33	0	0	33	0	0	0	0	0	0	70	0	0	70	103
07:30	0	0	0	0	0	0	37	0	0	37	0	0	0	0	0	0	**91**	0	0	**91**	128
07:35	0	0	0	0	0	0	57	0	0	57	0	0	**1**	0	1	0	90	0	0	90	**148**
07:40	0	0	0	0	0	0	29	0	0	29	0	0	0	0	0	0	70	0	0	70	99
07:45	0	0	0	0	0	0	42	0	0	42	1	0	0	0	1	0	69	0	0	69	112
07:50	0	0	0	0	0	0	21	0	0	21	0	0	1	0	1	0	82	0	0	82	104
07:55	0	0	0	0	0	0	51	0	0	51	0	0	0	0	0	0	70	0	0	70	121
Total Volume	0	0	0	0	0	0	508	1	0	509	3	0	2	0	5	2	957	0	0	959	1473
% App. Total	0	0	0	0		0	99.8	0.2	0		60	0	40	0		0.2	99.8	0	0		
PHF	.000	.000	.000	.000	.000	.000	.730	.083	.000	.731	.125	.000	.167	.000	.208	.167	.876	.000	.000	.878	.829



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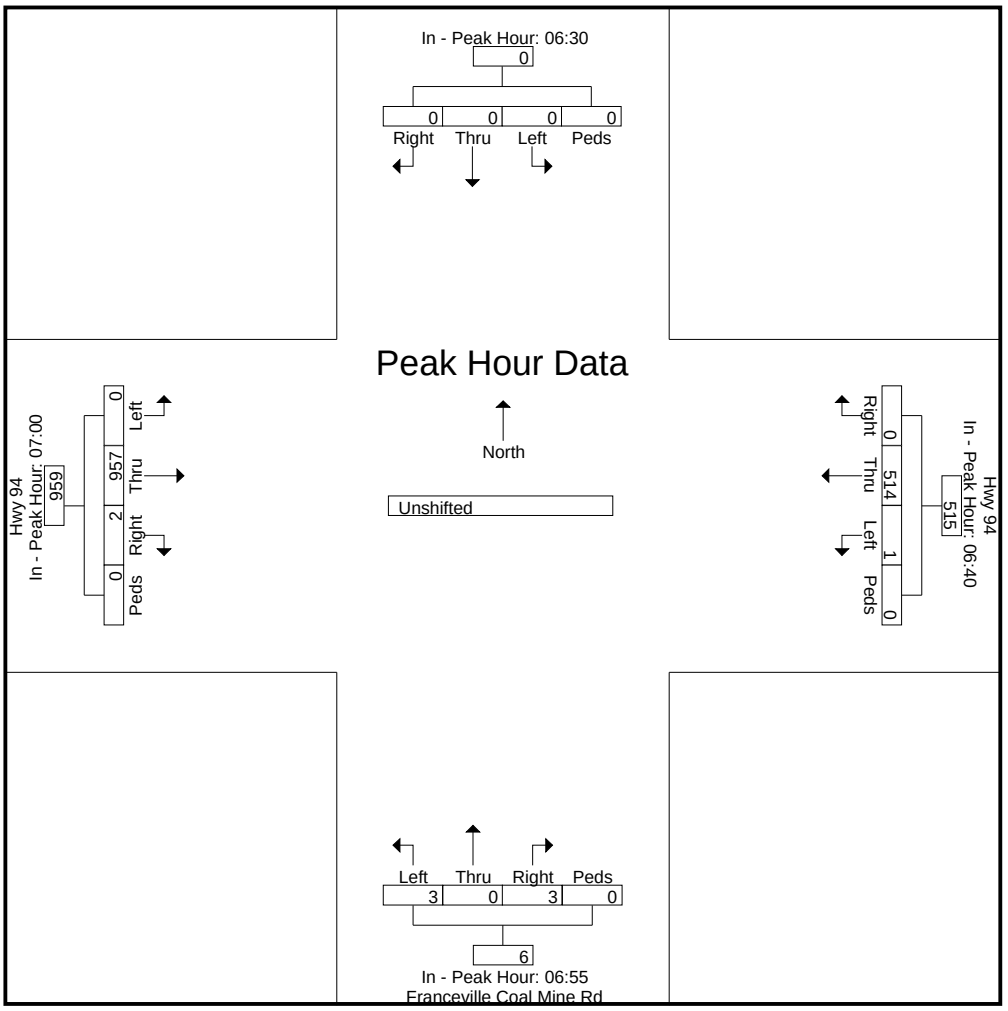
2504 E. Pikes Peak Ave, Suite 304
Colorado Springs, CO 80909
719-633-2868

File Name : Franceville Coal Mine Rd - Hwy 94 AM
Site Code : S234070
Start Date : 3/1/2023
Page No : 3

	Southbound					Hwy 94 Westbound					Franceville Coal Mine Rd Northbound					Hwy 94 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 06:30 to 08:25 - Peak 1 of 1																					
Peak Hour for Each Approach Begins at:																					
	06:30					06:40					06:55					07:00					
+0 mins.	0	0	0	0	0	0	29	0	0	29	0	0	**1**	0	1	0	81	0	0	81	
+5 mins.	0	0	0	0	0	0	48	0	0	48	**2**	0	0	0	**2**	**1**	80	0	0	81	
+10 mins.	0	0	0	0	0	0	31	0	0	31	0	0	0	0	0	0	87	0	0	87	
+15 mins.	0	0	0	0	0	0	41	0	0	41	0	0	0	0	0	1	77	0	0	78	
+20 mins.	0	0	0	0	0	0	36	0	0	36	0	0	0	0	0	0	90	0	0	90	
+25 mins.	0	0	0	0	0	0	55	**1**	0	56	0	0	0	0	0	0	70	0	0	70	
+30 mins.	0	0	0	0	0	0	51	0	0	51	0	0	0	0	0	0	**91**	0	0	**91**	
+35 mins.	0	0	0	0	0	0	**58**	0	0	**58**	0	0	0	0	0	0	90	0	0	90	
+40 mins.	0	0	0	0	0	0	38	0	0	38	0	0	1	0	1	0	70	0	0	70	
+45 mins.	0	0	0	0	0	0	33	0	0	33	0	0	0	0	0	0	69	0	0	69	
+50 mins.	0	0	0	0	0	0	37	0	0	37	1	0	0	0	1	0	82	0	0	82	
+55 mins.	0	0	0	0	0	0	57	0	0	57	0	0	1	0	1	0	70	0	0	70	
Total Volume	0	0	0	0	0	0	514	1	0	515	3	0	3	0	6	2	957	0	0	959	
% App. Total	0	0	0	0		0	99.8	0.2	0		50	0	50	0		0.2	99.8	0	0		
PHF	.000	.000	.000	.000	.000	.000	.739	.083	.000	.740	.125	.000	.250	.000	.250	.167	.876	.000	.000	.878	



LSC Transportation Consultants, Inc.

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

File Name : Franceville Coal Mine Rd - Hwy 94 PM
Site Code : S234070
Start Date : 3/1/2023
Page No : 1

Groups Printed- Unshifted

	Southbound					Hwy 94 Westbound					Franceville Coal Mine Rd Northbound					Hwy 94 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
16:05	0	0	0	0	0	0	59	0	0	59	0	0	2	0	2	2	30	0	0	32	93
16:10	0	0	0	0	0	0	72	0	0	72	1	0	1	0	2	5	27	0	0	32	106
16:15	0	0	0	0	0	0	62	0	0	62	0	0	0	0	0	3	36	0	0	39	101
16:20	0	0	0	0	0	0	85	0	0	85	0	0	0	0	0	1	37	0	0	38	123
16:25	0	0	0	0	0	0	72	0	0	72	0	0	1	0	1	0	26	0	0	26	99
16:30	0	0	0	0	0	0	79	0	0	79	0	0	1	0	1	3	30	0	0	33	113
16:35	0	0	0	0	0	0	78	0	0	78	0	0	2	0	2	0	31	0	0	31	111
16:40	0	0	0	0	0	0	68	0	0	68	0	0	1	0	1	0	33	0	0	33	102
16:45	0	0	0	0	0	0	58	0	0	58	0	0	1	0	1	0	31	0	0	31	90
16:50	0	0	0	0	0	0	56	0	0	56	2	0	1	0	3	2	36	0	0	38	97
16:55	0	0	0	0	0	0	51	1	0	52	0	0	1	0	1	1	19	0	0	20	73
Total	0	0	0	0	0	0	740	1	0	741	3	0	11	0	14	17	336	0	0	353	1108
17:00	0	0	0	0	0	0	41	0	0	41	0	0	2	0	2	2	31	0	0	33	76
17:05	0	0	0	0	0	0	38	0	0	38	2	0	6	0	8	0	20	0	0	20	66
17:10	0	0	0	0	0	0	45	0	0	45	1	0	7	0	8	1	42	0	0	43	96
17:15	0	0	0	0	0	0	49	0	0	49	2	0	2	0	4	1	43	0	0	44	97
17:20	0	0	0	0	0	0	38	0	0	38	1	0	3	0	4	0	38	0	0	38	80
17:25	0	0	0	0	0	0	36	0	0	36	1	0	0	0	1	0	30	0	0	30	67
17:30	0	0	0	0	0	0	41	0	0	41	1	0	1	0	2	1	55	0	0	56	99
17:35	0	0	0	0	0	0	28	0	0	28	0	0	1	0	1	0	30	0	0	30	59
17:40	0	0	0	0	0	0	25	0	0	25	0	0	2	0	2	0	24	0	0	24	51
17:45	0	0	0	0	0	0	32	0	0	32	0	0	0	0	0	2	34	0	0	36	68
17:50	0	0	0	0	0	0	30	0	0	30	0	0	1	0	1	0	24	0	0	24	55
17:55	0	0	0	0	0	0	25	1	0	26	0	0	0	0	0	0	37	0	0	37	63
Total	0	0	0	0	0	0	428	1	0	429	8	0	25	0	33	7	408	0	0	415	877
Grand Total	0	0	0	0	0	0	1168	2	0	1170	11	0	36	0	47	24	744	0	0	768	1985
Apprch %	0	0	0	0		0	99.8	0.2	0		23.4	0	76.6	0		3.1	96.9	0	0		
Total %	0	0	0	0	0	0	58.8	0.1	0	58.9	0.6	0	1.8	0	2.4	1.2	37.5	0	0	38.7	

LSC Transportation Consultants, Inc.

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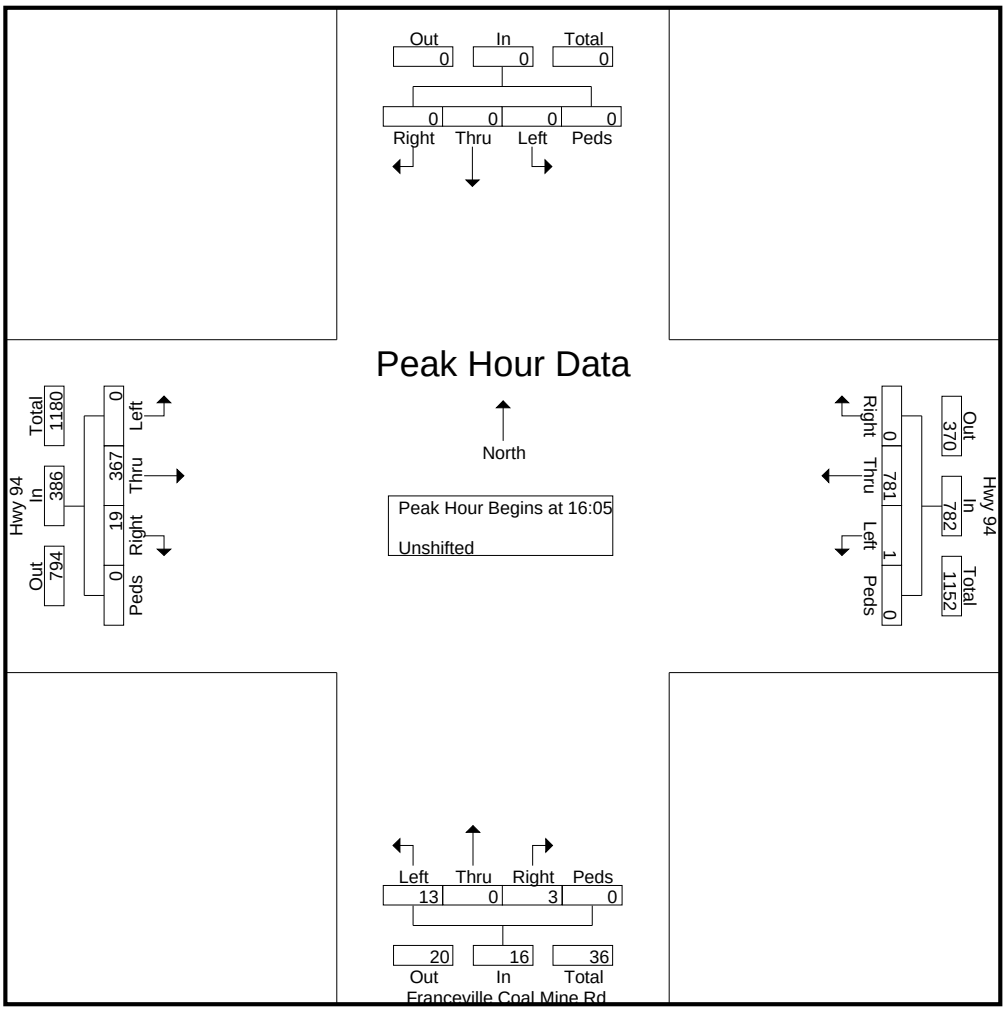
719-633-2868

File Name : Franceville Coal Mine Rd - Hwy 94 PM
Site Code : S234070
Start Date : 3/1/2023
Page No : 2

	Southbound					Hwy 94 Westbound					Franceville Coal Mine Rd Northbound					Hwy 94 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 16:05 to 17:55 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 16:05																					
16:05	0	0	0	0	0	0	59	0	0	59	0	0	**2**	0	2	2	30	0	0	32	93
16:10	0	0	0	0	0	0	72	0	0	72	1	0	1	0	2	**5**	27	0	0	32	106
16:15	0	0	0	0	0	0	62	0	0	62	0	0	0	0	0	3	36	0	0	**39**	101
16:20	0	0	0	0	0	0	**85**	0	0	**85**	0	0	0	0	0	1	**37**	0	0	38	**123**
16:25	0	0	0	0	0	0	72	0	0	72	0	0	1	0	1	0	26	0	0	26	99
16:30	0	0	0	0	0	0	79	0	0	79	0	0	1	0	1	3	30	0	0	33	113
16:35	0	0	0	0	0	0	78	0	0	78	0	0	2	0	2	0	31	0	0	31	111
16:40	0	0	0	0	0	0	68	0	0	68	0	0	1	0	1	0	33	0	0	33	102
16:45	0	0	0	0	0	0	58	0	0	58	0	0	1	0	1	0	31	0	0	31	90
16:50	0	0	0	0	0	0	56	0	0	56	**2**	0	1	0	**3**	2	36	0	0	38	97
16:55	0	0	0	0	0	0	51	**1**	0	52	0	0	1	0	1	1	19	0	0	20	73
17:00	0	0	0	0	0	0	41	0	0	41	0	0	2	0	2	2	31	0	0	33	76
Total Volume	0	0	0	0	0	0	781	1	0	782	3	0	13	0	16	19	367	0	0	386	1184
% App. Total	0	0	0	0		0	99.9	0.1	0		18.8	0	81.2	0		4.9	95.1	0	0		
PHF	.000	.000	.000	.000	.000	.000	.766	.083	.000	.767	.125	.000	.542	.000	.444	.317	.827	.000	.000	.825	.802

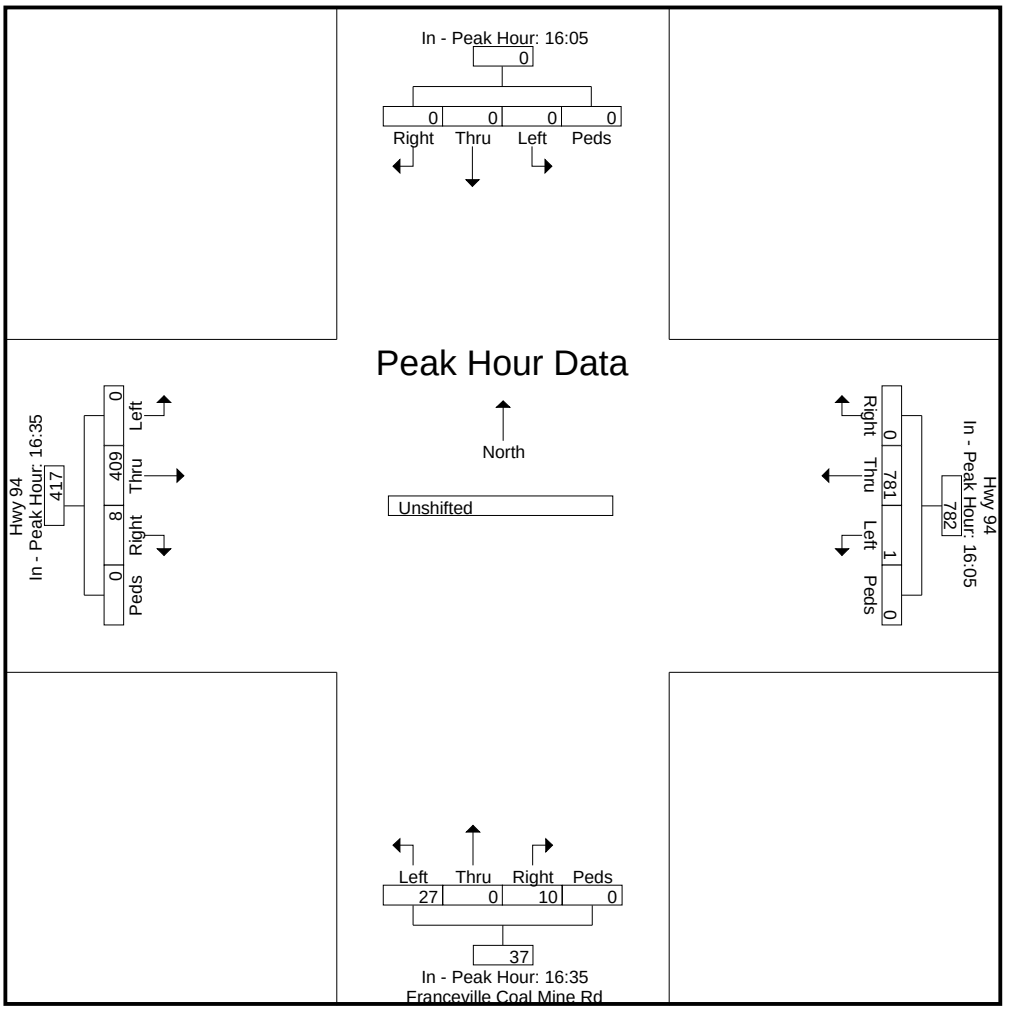


LSC Transportation Consultants, Inc.

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

File Name : Franceville Coal Mine Rd - Hwy 94 PM
Site Code : S234070
Start Date : 3/1/2023
Page No : 3

	Southbound					Hwy 94 Westbound					Franceville Coal Mine Rd Northbound					Hwy 94 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 16:05 to 17:55 - Peak 1 of 1																					
Peak Hour for Each Approach Begins at:																					
	16:05					16:05					16:35					16:35					
+0 mins.	0	0	0	0	0	0	59	0	0	59	0	0	2	0	2	0	31	0	0	31	
+5 mins.	0	0	0	0	0	0	72	0	0	72	0	0	1	0	1	0	33	0	0	33	
+10 mins.	0	0	0	0	0	0	62	0	0	62	0	0	1	0	1	0	31	0	0	31	
+15 mins.	0	0	0	0	0	0	**85**	0	0	**85**	**2**	0	1	0	3	**2**	36	0	0	38	
+20 mins.	0	0	0	0	0	0	72	0	0	72	0	0	1	0	1	1	19	0	0	20	
+25 mins.	0	0	0	0	0	0	79	0	0	79	0	0	2	0	2	2	31	0	0	33	
+30 mins.	0	0	0	0	0	0	78	0	0	78	2	0	6	0	**8**	0	20	0	0	20	
+35 mins.	0	0	0	0	0	0	68	0	0	68	1	0	**7**	0	8	1	42	0	0	43	
+40 mins.	0	0	0	0	0	0	58	0	0	58	2	0	2	0	4	1	43	0	0	44	
+45 mins.	0	0	0	0	0	0	56	0	0	56	1	0	3	0	4	0	38	0	0	38	
+50 mins.	0	0	0	0	0	0	51	**1**	0	52	1	0	0	0	1	0	30	0	0	30	
+55 mins.	0	0	0	0	0	0	41	0	0	41	1	0	1	0	2	1	**55**	0	0	**56**	
Total Volume	0	0	0	0	0	0	781	1	0	782	10	0	27	0	37	8	409	0	0	417	
% App. Total	0	0	0	0		0	99.9	0.1	0		27	0	73	0		1.9	98.1	0	0		
PHF	.000	.000	.000	.000	.000	.000	.766	.083	.000	.767	.417	.000	.321	.000	.385	.333	.620	.000	.000	.621	



Levels of Service

TRANSPORTATION
CONSULTANTS, INC.

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	0	957	2	1	508	0	2	0	3	0	0	0
Future Vol, veh/h	0	957	2	1	508	0	2	0	3	0	0	0
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	93	93	93	92	92	92	78	78	78	78	78	78
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	1029	2	1	552	0	3	0	4	0	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	552	0	0	1031	0	0	1584	1584	1030	1586	1585	552
Stage 1	-	-	-	-	-	-	1030	1030	-	554	554	-
Stage 2	-	-	-	-	-	-	554	554	-	1032	1031	-
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	1018	-	-	674	-	-	88	108	283	87	108	533
Stage 1	-	-	-	-	-	-	282	311	-	517	514	-
Stage 2	-	-	-	-	-	-	517	514	-	281	310	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1018	-	-	674	-	-	88	108	283	86	108	533
Mov Cap-2 Maneuver	-	-	-	-	-	-	88	108	-	86	108	-
Stage 1	-	-	-	-	-	-	282	311	-	517	513	-
Stage 2	-	-	-	-	-	-	516	513	-	277	310	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	30.1	0
HCM LOS			D	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	150	1018	-	-	674	-	-	-
HCM Lane V/C Ratio	0.043	-	-	-	0.002	-	-	-
HCM Control Delay (s)	30.1	0	-	-	10.3	0	-	0
HCM Lane LOS	D	A	-	-	B	A	-	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	-

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	0	367	19	1	781	1	13	0	3	1	0	0
Future Vol, veh/h	0	367	19	1	781	1	13	0	3	1	0	0
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	92	92	92	93	93	93	78	78	78	78	78	78
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	399	21	1	840	1	17	0	4	1	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	841	0	0	420	0	0	1253	1253	410	1255	1263	841
Stage 1	-	-	-	-	-	-	410	410	-	843	843	-
Stage 2	-	-	-	-	-	-	843	843	-	412	420	-
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	794	-	-	1139	-	-	149	172	642	148	170	365
Stage 1	-	-	-	-	-	-	619	595	-	358	380	-
Stage 2	-	-	-	-	-	-	358	380	-	617	589	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	794	-	-	1139	-	-	149	172	642	147	170	365
Mov Cap-2 Maneuver	-	-	-	-	-	-	149	172	-	147	170	-
Stage 1	-	-	-	-	-	-	619	595	-	358	379	-
Stage 2	-	-	-	-	-	-	357	379	-	613	589	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	28.4	29.7
HCM LOS			D	D

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	174	794	-	-	1139	-	-	147
HCM Lane V/C Ratio	0.118	-	-	-	0.001	-	-	0.009
HCM Control Delay (s)	28.4	0	-	-	8.2	0	-	29.7
HCM Lane LOS	D	A	-	-	A	A	-	D
HCM 95th %tile Q(veh)	0.4	0	-	-	0	-	-	0

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	0	950	3	1	500	5	7	0	3	0	0	5
Future Vol, veh/h	0	950	3	1	500	5	7	0	3	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	93	93	93	92	92	92	78	78	78	78	78	78
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	1022	3	1	543	5	9	0	4	0	0	6

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	548	0	0	1025	0	0	1575	1574	1024	1574	1573	546
Stage 1	-	-	-	-	-	-	1024	1024	-	548	548	-
Stage 2	-	-	-	-	-	-	551	550	-	1026	1025	-
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	1021	-	-	677	-	-	89	110	286	89	110	538
Stage 1	-	-	-	-	-	-	284	313	-	521	517	-
Stage 2	-	-	-	-	-	-	519	516	-	283	312	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1021	-	-	677	-	-	88	110	286	88	110	538
Mov Cap-2 Maneuver	-	-	-	-	-	-	88	110	-	88	110	-
Stage 1	-	-	-	-	-	-	284	313	-	521	516	-
Stage 2	-	-	-	-	-	-	512	515	-	279	312	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	41.6	11.8
HCM LOS			E	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	111	1021	-	-	677	-	-	538
HCM Lane V/C Ratio	0.116	-	-	-	0.002	-	-	0.012
HCM Control Delay (s)	41.6	0	-	-	10.3	0	-	11.8
HCM Lane LOS	E	A	-	-	B	A	-	B
HCM 95th %tile Q(veh)	0.4	0	-	-	0	-	-	0

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	6	500	35	3	825	7	13	0	3	1	0	0
Future Vol, veh/h	6	500	35	3	825	7	13	0	3	1	0	0
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	92	92	92	93	93	93	78	78	78	78	78	78
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	7	543	38	3	887	8	17	0	4	1	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	895	0	0	581	0	0	1473	1477	562	1475	1492	891
Stage 1	-	-	-	-	-	-	576	576	-	897	897	-
Stage 2	-	-	-	-	-	-	897	901	-	578	595	-
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	758	-	-	993	-	-	105	126	526	104	123	341
Stage 1	-	-	-	-	-	-	503	502	-	334	358	-
Stage 2	-	-	-	-	-	-	334	357	-	501	492	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	758	-	-	993	-	-	103	123	526	102	121	341
Mov Cap-2 Maneuver	-	-	-	-	-	-	103	123	-	102	121	-
Stage 1	-	-	-	-	-	-	496	495	-	329	356	-
Stage 2	-	-	-	-	-	-	332	355	-	490	485	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0	40.7	40.7
HCM LOS			E	E

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	121	758	-	-	993	-	-	102
HCM Lane V/C Ratio	0.17	0.009	-	-	0.003	-	-	0.013
HCM Control Delay (s)	40.7	9.8	0	-	8.6	0	-	40.7
HCM Lane LOS	E	A	A	-	A	A	-	E
HCM 95th %tile Q(veh)	0.6	0	-	-	0	-	-	0

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	8	950	24	3	500	5	19	0	4	0	0	5
Future Vol, veh/h	8	950	24	3	500	5	19	0	4	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	-	-	800	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	92	92	92	78	78	78	78	78	78
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	9	1022	26	3	543	5	24	0	5	0	0	6

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	548	0	0	1048	0	0	1595	1594	1022	1608	1618	546
Stage 1	-	-	-	-	-	-	1040	1040	-	552	552	-
Stage 2	-	-	-	-	-	-	555	554	-	1056	1066	-
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	1021	-	-	664	-	-	86	107	287	84	103	538
Stage 1	-	-	-	-	-	-	278	307	-	518	515	-
Stage 2	-	-	-	-	-	-	516	514	-	272	299	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1021	-	-	664	-	-	83	104	287	81	100	538
Mov Cap-2 Maneuver	-	-	-	-	-	-	83	104	-	81	100	-
Stage 1	-	-	-	-	-	-	272	301	-	507	511	-
Stage 2	-	-	-	-	-	-	506	510	-	262	293	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.1	59.1	11.8
HCM LOS			F	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	95	1021	-	-	664	-	-	538
HCM Lane V/C Ratio	0.31	0.008	-	-	0.005	-	-	0.012
HCM Control Delay (s)	59.1	8.6	0	-	10.4	0	-	11.8
HCM Lane LOS	F	A	A	-	B	A	-	B
HCM 95th %tile Q(veh)	1.2	0	-	-	0	-	-	0

Intersection	
Int Delay, s/veh	5.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	14	10	0	23	4
Future Vol, veh/h	0	14	10	0	23	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	78	78	78	78	78	78
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	18	13	0	29	5

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	76	13	0	0	13	0
Stage 1	13	-	-	-	-	-
Stage 2	63	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	927	1067	-	-	1606	-
Stage 1	1010	-	-	-	-	-
Stage 2	960	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	910	1067	-	-	1606	-
Mov Cap-2 Maneuver	910	-	-	-	-	-
Stage 1	1010	-	-	-	-	-
Stage 2	943	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.4	0	6.2
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	1067	1606	-
HCM Lane V/C Ratio	-	-	0.017	0.018	-
HCM Control Delay (s)	-	-	8.4	7.3	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0.1	-

Intersection	
Int Delay, s/veh	2.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	6	500	53	5	825	7	38	0	6	1	0	0
Future Vol, veh/h	6	500	53	5	825	7	38	0	6	1	0	0
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	-	-	800	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	93	93	93	78	78	78	78	78	78
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	7	543	58	5	887	8	49	0	8	1	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	895	0	0	601	0	0	1458	1462	543	1491	1516	891
Stage 1	-	-	-	-	-	-	557	557	-	901	901	-
Stage 2	-	-	-	-	-	-	901	905	-	590	615	-
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	758	-	-	976	-	-	107	129	540	102	119	341
Stage 1	-	-	-	-	-	-	515	512	-	333	357	-
Stage 2	-	-	-	-	-	-	333	355	-	494	482	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	758	-	-	976	-	-	105	126	540	99	116	341
Mov Cap-2 Maneuver	-	-	-	-	-	-	105	126	-	99	116	-
Stage 1	-	-	-	-	-	-	508	505	-	328	353	-
Stage 2	-	-	-	-	-	-	330	351	-	480	475	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.1	60.7	41.8
HCM LOS			F	E

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	118	758	-	-	976	-	-	99
HCM Lane V/C Ratio	0.478	0.009	-	-	0.006	-	-	0.013
HCM Control Delay (s)	60.7	9.8	0	-	8.7	0	-	41.8
HCM Lane LOS	F	A	A	-	A	A	-	E
HCM 95th %tile Q(veh)	2.1	0	-	-	0	-	-	0

Intersection	
Int Delay, s/veh	3.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	28	16	0	20	38
Future Vol, veh/h	0	28	16	0	20	38
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	78	78	78	78	83	83
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	36	21	0	24	46

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	115	21	0	0	21	0
Stage 1	21	-	-	-	-	-
Stage 2	94	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	881	1056	-	-	1595	-
Stage 1	1002	-	-	-	-	-
Stage 2	930	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	868	1056	-	-	1595	-
Mov Cap-2 Maneuver	868	-	-	-	-	-
Stage 1	1002	-	-	-	-	-
Stage 2	916	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.5	0	2.5
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	1056	1595	-
HCM Lane V/C Ratio	-	-	0.034	0.015	-
HCM Control Delay (s)	-	-	8.5	7.3	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Intersection	
Int Delay, s/veh	9.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑			↑↑			↑			↑	
Traffic Vol, veh/h	8	1100	21	2	625	5	67	0	10	0	0	5
Future Vol, veh/h	8	1100	21	2	625	5	67	0	10	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	95	95	95	93	93	93	83	83	83	78	78	78
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	8	1158	22	2	672	5	81	0	12	0	0	6

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	677	0	0	1180	0	0	1525	1866	590	1274	1875	339
Stage 1	-	-	-	-	-	-	1185	1185	-	679	679	-
Stage 2	-	-	-	-	-	-	340	681	-	595	1196	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	911	-	-	588	-	-	81	72	451	124	71	657
Stage 1	-	-	-	-	-	-	201	261	-	408	449	-
Stage 2	-	-	-	-	-	-	648	448	-	458	258	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	911	-	-	588	-	-	~ 78	70	451	118	69	657
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 78	70	-	118	69	-
Stage 1	-	-	-	-	-	-	196	254	-	397	447	-
Stage 2	-	-	-	-	-	-	638	446	-	434	251	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0	203	10.5
HCM LOS			F	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	87	911	-	-	588	-	-	657
HCM Lane V/C Ratio	1.066	0.009	-	-	0.004	-	-	0.01
HCM Control Delay (s)	203	9	0.1	-	11.1	0	-	10.5
HCM Lane LOS	F	A	A	-	B	A	-	B
HCM 95th %tile Q(veh)	6.3	0	-	-	0	-	-	0

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

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	8	1100	4	1	625	5	12	0	5	0	0	5
Future Vol, veh/h	8	1100	4	1	625	5	12	0	5	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	95	95	95	93	93	93	78	78	78	78	78	78
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	8	1158	4	1	672	5	15	0	6	0	0	6

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	677	0	0	1162	0	0	1514	1855	581	1272	1855	339
Stage 1	-	-	-	-	-	-	1176	1176	-	677	677	-
Stage 2	-	-	-	-	-	-	338	679	-	595	1178	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	911	-	-	597	-	-	82	73	457	125	73	657
Stage 1	-	-	-	-	-	-	203	263	-	409	450	-
Stage 2	-	-	-	-	-	-	650	449	-	458	263	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	911	-	-	597	-	-	79	71	457	121	71	657
Mov Cap-2 Maneuver	-	-	-	-	-	-	79	71	-	121	71	-
Stage 1	-	-	-	-	-	-	198	256	-	399	449	-
Stage 2	-	-	-	-	-	-	642	448	-	440	256	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0	48.6	10.5
HCM LOS			E	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	104	911	-	-	597	-	-	657
HCM Lane V/C Ratio	0.21	0.009	-	-	0.002	-	-	0.01
HCM Control Delay (s)	48.6	9	0.1	-	11	0	-	10.5
HCM Lane LOS	E	A	A	-	B	A	-	B
HCM 95th %tile Q(veh)	0.7	0	-	-	0	-	-	0

Intersection	
Int Delay, s/veh	3.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑			↑↑↑			↑↑↑			↑↑↑	
Traffic Vol, veh/h	6	625	117	12	1025	7	56	0	10	1	0	0
Future Vol, veh/h	6	625	117	12	1025	7	56	0	10	1	0	0
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	93	93	93	93	93	93	78	78	78	78	78	78
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	6	672	126	13	1102	8	72	0	13	1	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1110	0	0	798	0	0	1324	1883	399	1480	1942	555
Stage 1	-	-	-	-	-	-	747	747	-	1132	1132	-
Stage 2	-	-	-	-	-	-	577	1136	-	348	810	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	625	-	-	820	-	-	114	70	601	87	64	475
Stage 1	-	-	-	-	-	-	371	418	-	216	276	-
Stage 2	-	-	-	-	-	-	469	275	-	641	391	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	625	-	-	820	-	-	109	66	601	81	60	475
Mov Cap-2 Maneuver	-	-	-	-	-	-	109	66	-	81	60	-
Stage 1	-	-	-	-	-	-	364	410	-	212	265	-
Stage 2	-	-	-	-	-	-	450	264	-	616	384	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0.3	81	50.2
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	124	625	-	-	820	-	-	81
HCM Lane V/C Ratio	0.682	0.01	-	-	0.016	-	-	0.016
HCM Control Delay (s)	81	10.8	0.1	-	9.5	0.2	-	50.2
HCM Lane LOS	F	B	A	-	A	A	-	F
HCM 95th %tile Q(veh)	3.7	0	-	-	0	-	-	0

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑			↑↑↑			↑↑↑			↑↑↑	
Traffic Vol, veh/h	6	625	57	5	1025	7	21	0	5	1	0	0
Future Vol, veh/h	6	625	57	5	1025	7	21	0	5	1	0	0
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	93	93	93	93	93	93	78	78	78	78	78	78
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	6	672	61	5	1102	8	27	0	6	1	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1110	0	0	733	0	0	1276	1835	367	1464	1861	555
Stage 1	-	-	-	-	-	-	715	715	-	1116	1116	-
Stage 2	-	-	-	-	-	-	561	1120	-	348	745	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	625	-	-	868	-	-	124	75	630	90	72	475
Stage 1	-	-	-	-	-	-	388	433	-	221	281	-
Stage 2	-	-	-	-	-	-	480	280	-	641	419	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	625	-	-	868	-	-	121	73	630	87	70	475
Mov Cap-2 Maneuver	-	-	-	-	-	-	121	73	-	87	70	-
Stage 1	-	-	-	-	-	-	382	426	-	217	277	-
Stage 2	-	-	-	-	-	-	473	276	-	624	412	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0.1	37.7	47
HCM LOS			E	E

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	143	625	-	-	868	-	-	87
HCM Lane V/C Ratio	0.233	0.01	-	-	0.006	-	-	0.015
HCM Control Delay (s)	37.7	10.8	0.1	-	9.2	0.1	-	47
HCM Lane LOS	E	B	A	-	A	A	-	E
HCM 95th %tile Q(veh)	0.9	0	-	-	0	-	-	0

Intersection	
Int Delay, s/veh	14.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	8	1100	42	4	625	5	79	0	11	0	0	5
Future Vol, veh/h	8	1100	42	4	625	5	79	0	11	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	-	-	800	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	93	93	93	83	83	83	78	78	78
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	8	1158	44	4	672	5	95	0	13	0	0	6

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	677	0	0	1202	0	0	1518	1859	579	1278	1901	339
Stage 1	-	-	-	-	-	-	1174	1174	-	683	683	-
Stage 2	-	-	-	-	-	-	344	685	-	595	1218	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	911	-	-	576	-	-	~ 82	73	458	123	68	657
Stage 1	-	-	-	-	-	-	204	264	-	405	447	-
Stage 2	-	-	-	-	-	-	645	447	-	458	251	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	911	-	-	576	-	-	~ 79	70	458	116	65	657
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 79	70	-	116	65	-
Stage 1	-	-	-	-	-	-	198	257	-	394	442	-
Stage 2	-	-	-	-	-	-	632	442	-	433	244	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0.2	257.6	10.5
HCM LOS			F	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	88	911	-	-	576	-	-	657
HCM Lane V/C Ratio	1.232	0.009	-	-	0.007	-	-	0.01
HCM Control Delay (s)	257.6	9	0.1	-	11.3	0.1	-	10.5
HCM Lane LOS	F	A	A	-	B	A	-	B
HCM 95th %tile Q(veh)	7.8	0	-	-	0	-	-	0

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	2.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	14	76	0	23	23
Future Vol, veh/h	0	14	76	0	23	23
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	78	78	83	83	78	78
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	18	92	0	29	29

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	179	92	0	0	92	0
Stage 1	92	-	-	-	-	-
Stage 2	87	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	811	965	-	-	1503	-
Stage 1	932	-	-	-	-	-
Stage 2	936	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	795	965	-	-	1503	-
Mov Cap-2 Maneuver	795	-	-	-	-	-
Stage 1	932	-	-	-	-	-
Stage 2	917	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.8	0	3.7
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	965	1503	-
HCM Lane V/C Ratio	-	-	0.019	0.02	-
HCM Control Delay (s)	-	-	8.8	7.4	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0.1	-

Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	8	1100	25	3	625	5	24	0	6	0	0	5
Future Vol, veh/h	8	1100	25	3	625	5	24	0	6	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	-	-	800	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	93	93	93	78	78	78	78	78	78
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	8	1158	26	3	672	5	31	0	8	0	0	6

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	677	0	0	1184	0	0	1516	1857	579	1276	1881	339
Stage 1	-	-	-	-	-	-	1174	1174	-	681	681	-
Stage 2	-	-	-	-	-	-	342	683	-	595	1200	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	911	-	-	586	-	-	82	73	458	124	70	657
Stage 1	-	-	-	-	-	-	204	264	-	407	448	-
Stage 2	-	-	-	-	-	-	646	447	-	458	256	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	911	-	-	586	-	-	79	71	458	119	68	657
Mov Cap-2 Maneuver	-	-	-	-	-	-	79	71	-	119	68	-
Stage 1	-	-	-	-	-	-	199	257	-	396	444	-
Stage 2	-	-	-	-	-	-	635	443	-	439	249	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0.1	66.6	10.5
HCM LOS			F	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	95	911	-	-	586	-	-	657
HCM Lane V/C Ratio	0.405	0.009	-	-	0.006	-	-	0.01
HCM Control Delay (s)	66.6	9	0.1	-	11.2	0	-	10.5
HCM Lane LOS	F	A	A	-	B	A	-	B
HCM 95th %tile Q(veh)	1.7	0	-	-	0	-	-	0

Intersection	
Int Delay, s/veh	4.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	14	16	0	23	5
Future Vol, veh/h	0	14	16	0	23	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	78	78	78	78	78	78
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	18	21	0	29	6

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	85	21	0	0	21	0
Stage 1	21	-	-	-	-	-
Stage 2	64	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	916	1056	-	-	1595	-
Stage 1	1002	-	-	-	-	-
Stage 2	959	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	900	1056	-	-	1595	-
Mov Cap-2 Maneuver	900	-	-	-	-	-
Stage 1	1002	-	-	-	-	-
Stage 2	942	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.5	0	6
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	1056	1595	-
HCM Lane V/C Ratio	-	-	0.017	0.018	-
HCM Control Delay (s)	-	-	8.5	7.3	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0.1	-

Intersection	
Int Delay, s/veh	5.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	6	625	135	14	1025	7	81	0	13	1	0	0
Future Vol, veh/h	6	625	135	14	1025	7	81	0	13	1	0	0
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	-	-	800	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	83	83	83	78	78	78
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	6	672	145	15	1102	8	98	0	16	1	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1110	0	0	817	0	0	1265	1824	336	1484	1965	555
Stage 1	-	-	-	-	-	-	684	684	-	1136	1136	-
Stage 2	-	-	-	-	-	-	581	1140	-	348	829	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	625	-	-	807	-	-	126	76	660	87	62	475
Stage 1	-	-	-	-	-	-	405	447	-	215	275	-
Stage 2	-	-	-	-	-	-	467	274	-	641	383	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	625	-	-	807	-	-	120	71	660	81	58	475
Mov Cap-2 Maneuver	-	-	-	-	-	-	120	71	-	81	58	-
Stage 1	-	-	-	-	-	-	398	439	-	211	262	-
Stage 2	-	-	-	-	-	-	444	261	-	615	376	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0.3	102.1	50.2
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	135	625	-	-	807	-	-	81
HCM Lane V/C Ratio	0.839	0.01	-	-	0.019	-	-	0.016
HCM Control Delay (s)	102.1	10.8	0.1	-	9.5	0.2	-	50.2
HCM Lane LOS	F	B	A	-	A	A	-	F
HCM 95th %tile Q(veh)	5.3	0	-	-	0.1	-	-	0

Intersection	
Int Delay, s/veh	1.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	28	66	0	20	129
Future Vol, veh/h	0	28	66	0	20	129
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	78	78	83	83	83	83
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	36	80	0	24	155

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	283	80	0	0	80	0
Stage 1	80	-	-	-	-	-
Stage 2	203	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	707	980	-	-	1518	-
Stage 1	943	-	-	-	-	-
Stage 2	831	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	695	980	-	-	1518	-
Mov Cap-2 Maneuver	695	-	-	-	-	-
Stage 1	943	-	-	-	-	-
Stage 2	817	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.8	0	1
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	980	1518	-
HCM Lane V/C Ratio	-	-	0.037	0.016	-
HCM Control Delay (s)	-	-	8.8	7.4	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.1	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	6	625	75	7	1025	7	46	0	8	1	0	0
Future Vol, veh/h	6	625	75	7	1025	7	46	0	8	1	0	0
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	-	-	800	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	83	83	83	78	78	78
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	6	672	81	8	1102	8	55	0	10	1	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1110	0	0	753	0	0	1251	1810	336	1470	1887	555
Stage 1	-	-	-	-	-	-	684	684	-	1122	1122	-
Stage 2	-	-	-	-	-	-	567	1126	-	348	765	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	625	-	-	853	-	-	129	78	660	89	70	475
Stage 1	-	-	-	-	-	-	405	447	-	219	279	-
Stage 2	-	-	-	-	-	-	476	278	-	641	410	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	625	-	-	853	-	-	125	75	660	85	67	475
Mov Cap-2 Maneuver	-	-	-	-	-	-	125	75	-	85	67	-
Stage 1	-	-	-	-	-	-	398	439	-	215	272	-
Stage 2	-	-	-	-	-	-	464	271	-	621	403	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0.2	50.2	48
HCM LOS			F	E

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	142	625	-	-	853	-	-	85
HCM Lane V/C Ratio	0.458	0.01	-	-	0.009	-	-	0.015
HCM Control Delay (s)	50.2	10.8	0.1	-	9.3	0.1	-	48
HCM Lane LOS	F	B	A	-	A	A	-	E
HCM 95th %tile Q(veh)	2.1	0	-	-	0	-	-	0

Intersection	
Int Delay, s/veh	2.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	28	26	0	20	62
Future Vol, veh/h	0	28	26	0	20	62
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	78	78	78	78	83	83
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	36	33	0	24	75

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	156	33	0	0	33	0
Stage 1	33	-	-	-	-	-
Stage 2	123	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	835	1041	-	-	1579	-
Stage 1	989	-	-	-	-	-
Stage 2	902	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	822	1041	-	-	1579	-
Mov Cap-2 Maneuver	822	-	-	-	-	-
Stage 1	989	-	-	-	-	-
Stage 2	888	-	-	-	-	-

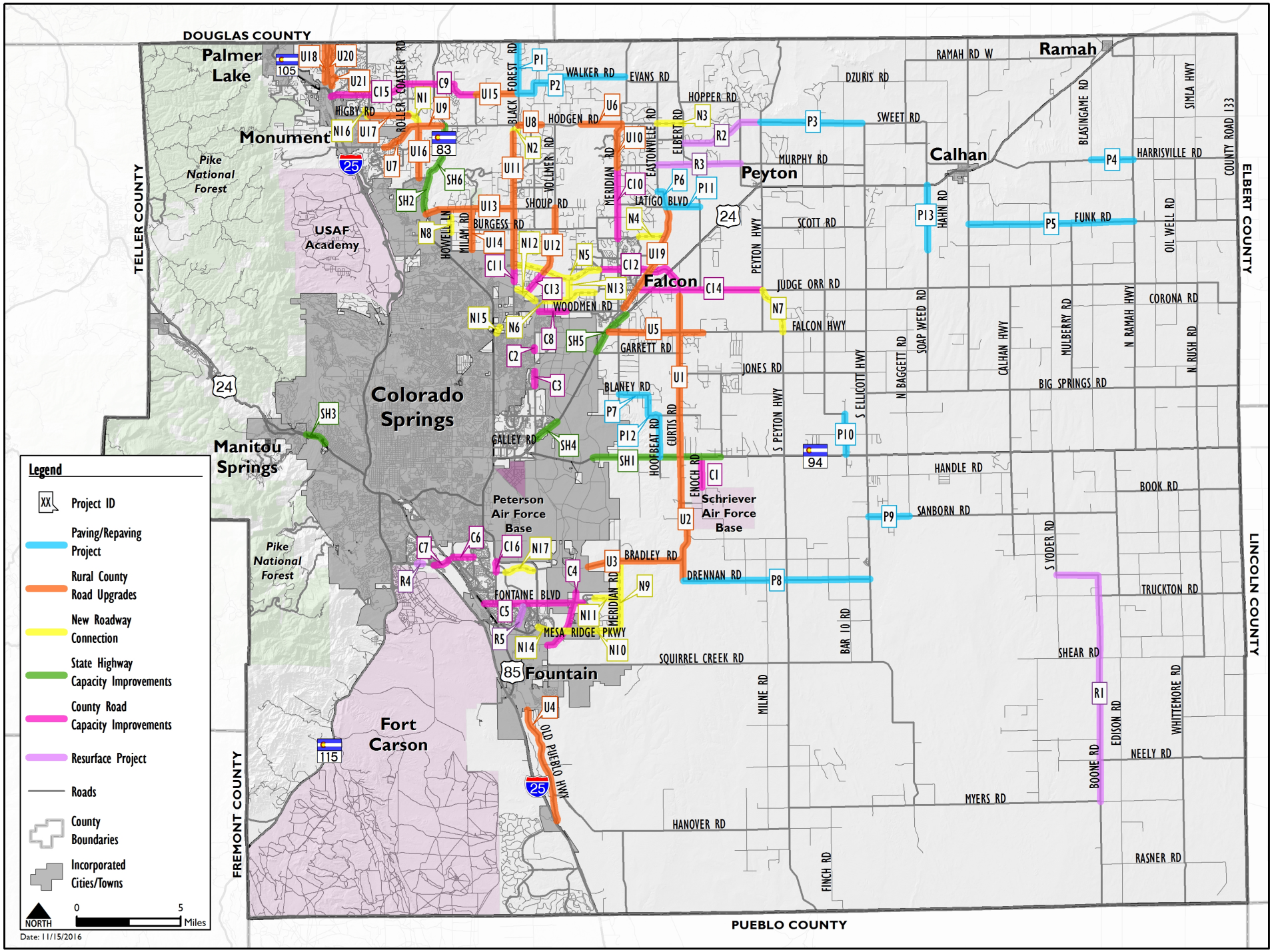
Approach	WB	NB	SB
HCM Control Delay, s	8.6	0	1.8
HCM LOS	A		

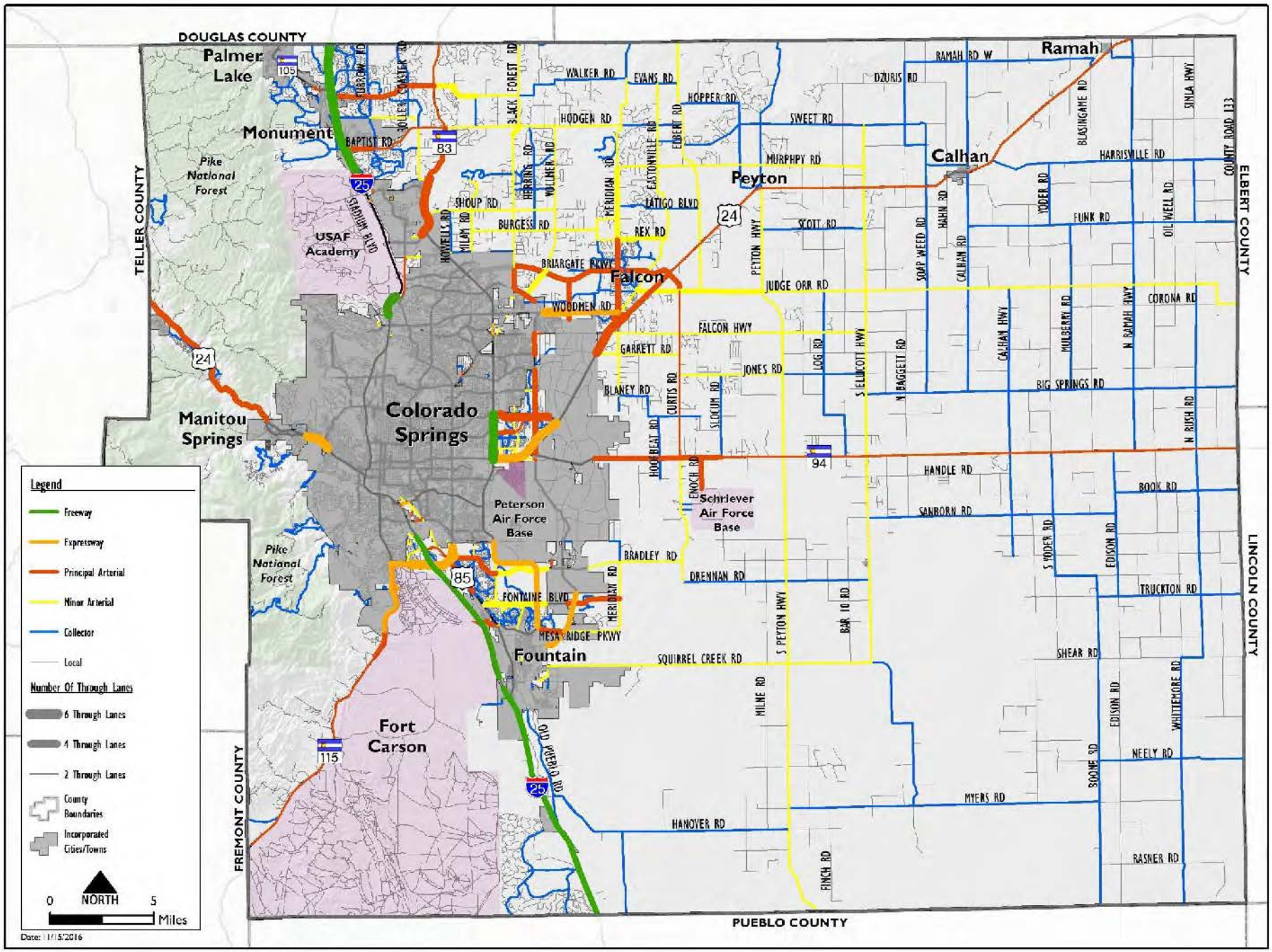
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	1041	1579	-
HCM Lane V/C Ratio	-	-	0.034	0.015	-
HCM Control Delay (s)	-	-	8.6	7.3	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0	-

MTCP Maps

TRANSPORTATION
CONSULTANTS, INC.

Map 13: Improvements Map





Map 14: 2040 Roadway Plan (Classification and Lanes)

Map 15: Multimodal Improvements