

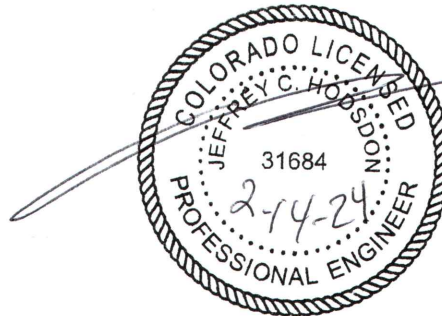


LSC TRANSPORTATION CONSULTANTS, INC.
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16050 Old Denver Road Rezone
Traffic Impact Study
PCD File No. CS235
(LSC #S234320)
February 14, 2024

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.

Kristin Ottaway

02/15/2024

Date

16050 Old Denver Rd Rezone

Traffic Impact Study

Prepared for:

All In Investments, LLC

PO Box 1204

Monument, CO 80132-1204

Contact: Kristin Ottaway, Manager

FEBRUARY 14, 2024

LSC Transportation Consultants

Prepared by: Kirstin D. Ferrin, P.E.

Reviewed by: Jeffrey C. Hodsdon, P.E.

LSC #S234320

PCD File No.: CS235



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February 14, 2024

Kristin Ottaway, Manager
All In Investments, LLC
PO Box 1204
Monument, CO 80132-1204

RE: 16050 Old Denver Road Rezone
El Paso County, CO
Traffic Impact Study
PCD File No.: [CS235](#)
LSC #S234320

Dear Ms. Ottaway,

LSC Transportation Consultants, Inc. has prepared this traffic impact study for the proposed rezone of an eight-acre parcel at 16050 Old Denver Road in unincorporated El Paso County, Colorado. The site is located on the west side of Old Denver Road about one-half mile north of Baptist Road (El Paso County parcel ID 7126004010). This report has been prepared to accompany a rezone submittal to El Paso County.

REPORT CONTENTS

The preparation of this report included the following:

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

- Projected site-generated and resulting total peak-hour intersection traffic volumes at the site access points;
- Projected total daily and peak-hour traffic volumes at the study-area site-access points;
- Intersection level of service analysis at the site-access points;
- Evaluation of the long-term projected intersection volumes to determine potential requirements for any auxiliary right-/left-turn lanes at the proposed site-access points, based on the Town criteria; and
- Findings and recommendations.

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

LSC utilized the following previous traffic reports to assist in the production of this report:

- *Conexus Phases 2 & 3 Preliminary PUD Plan Traffic Impact Study* – dated January 14, 2022 (with minor revisions February 2 & 3, 2022)
- *Conexus Lost Island Traffic Technical Memorandum* – dated October 3, 2023
- *Conexus Filing 2 Lot 1 Traffic Technical Memorandum* – dated November 7, 2023

Appendix Table 1 contains a list of other traffic studies in the area of study completed within the past five years (that LSC is aware of). This study accounts for the land use, trip generation, and roadway network included in these studies.

LAND USE AND ACCESS

The eight-acre parcel at 16050 Old Denver Road is currently zoned RR-5 zoning. An existing single-family dwelling unit on the site was being leased as an office by a contractor but is now vacant.

The currently-proposed rezone would allow for the uses shown on the proposed site plan (shown in Figure 2). The site is divided by a 2.5-acre flood plain area that extends diagonally from the southwest corner to the northeast corner of the site. The northern 3.5 acres is planned to be rezoned to allow for outdoor boat & RV storage or outdoor contractor storage. The final use (one of these two) will be determined at the site development plan stage. The southern 2 acres is planned to be developed with a 15,000-square-foot warehouse use (as defined by the ITE Land Use). Should the site be developed with different land uses, an updated traffic impact study will be required.

The northern portion of the site is planned to access Old Denver Road via an existing full-movement access point located about 55 feet south of an access for a parcel owned by the Mountain View Electric Association (MVEA). The southern portion of the site is planned to access Old Denver Road via a full-movement intersection at the location of an existing driveway about 490 feet south of the northern access (centerline spacing).

SIGHT DISTANCE ANALYSIS

Entering Sight Distance

Figures 3a and 3b also show the available intersection sight distance at the north and south site-access points, respectively. Based on a design speed of 45 miles per hour (mph) and the Town criteria (references are shown on the figures), the required intersection sight distance at the site-access points is 500 feet. The following are the existing sight-distance measurements. These measurements were conducted in the field by LSC. The measurements were taken from a driver's eye height of 3.5 feet to an approaching vehicle height of 3.5 feet.

- North Access:
 - 545 feet looking to the north
 - 600 feet looking to the south
- South Access:
 - Over 1,000 feet looking to the north
 - Over 1,000 feet looking to the south

Please refer to Figures 3a and 3b for details. The lines of sight for both access-point intersections will need to be kept clear of any sight-distance obstructions. This includes roadside vegetation, landscaping, signage, etc. proposed for the development.

Stopping Sight Distance

Figures 3a and 3b also show the required stopping sight distance at the north and south site-access points, respectively. Based on a design speed of 45 miles per hour (mph) and the Town criteria, the stopping sight distance at the site-access points is 360 feet (or 378 feet when adjusted for downgrade as noted in the figures). As shown in Figures 3a and 3b, this requirement is met at both of the site-access points.

ROAD AND TRAFFIC CONDITIONS AND MTCP CLASSIFICATION

Figure 4 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. Copies of the *2016 El Paso County Major Transportation Corridors Plan (MTCP) 2040 Roadway Plan* and *2016 MTCP 2060 Corridor Preservation Plan (CPP)* with the site location identified on them have been attached to this report.

Old Denver Road extends north from Baptist Road to Santa Fe Avenue and then continues north as Beacon Lite Road. Old Denver Road has one through lane in each direction and a posted speed limit of 40 miles per hour (mph) adjacent to the site. Old Denver Road was recently designed and approved as a three-lane, Major Collector facility. North of the Baptist Road roundabout, Old Denver Road is controlled and maintained by the Town of Monument.

2nd Street is a paved, two-lane Town of Monument street that extends east from Mitchell Road to State Highway 105. In the vicinity of Beacon Lite Road, the posted speed limit on 2nd Street is 25 mph. The intersection of 2nd Street/Beacon Lite Road is all-way, stop-sign controlled (AWSC).

Baptist Road is a Principal Arterial that extends east of Hay Creek Road to the intersection of Roller Coaster Road and Hodgen Road. Baptist Road has one through lane in each direction and a posted speed limit of 40 miles per hour (mph) between Hay Creek Road and Interstate 25. The intersection of Baptist/Denver is a one lane modern roundabout.

Existing Traffic Volumes

Figure 4 shows the exiting morning and afternoon peak-hour traffic volumes at the southern access point, based on traffic counts conducted by LSC in September 2023. Figure 4 also shows the estimated average weekday traffic volumes on Old Denver Road adjacent to the site. This volume is an estimate by LSC, based on the peak-hour counts.

Figure 4 also shows the morning and afternoon peak-hour traffic volumes at the intersections of 2nd Street/Beacon Lite Road and Baptist Road/Old Denver Road, based on traffic counts conducted by LSC in December 2022 and May 2023. Per Appendix B of El Paso County's *Engineering Criteria Manual (ECM)*, analysis at these intersections was not carried forward through this report as the proposed development is projected to contribute less than 3 percent to each approach volume. Traffic-count reports are attached.

BACKGROUND TRAFFIC

Figure 5 shows the projected 2043 background traffic volumes. Background traffic is the traffic estimated to be on the adjacent roadways without consideration of the proposed development. Background traffic includes existing traffic volumes plus the traffic expected to be generated by nearby existing and approved developments, but it assumes zero traffic generated by the site.

The 2043 background traffic-volume estimates were based on the current traffic conditions, the expected development in the surrounding area, the *Baptist Road West Traffic Report* by Felsburg Holt & Ullevig (dated August 2013), other traffic studies completed in the area by LSC (including studies for Conexus, Willow Springs Ranch, Forest Lakes, and Santa Fe Park), and traffic studies completed by other consultants including the *Falcon Commerce Center TIS* prepared by SM Rocha, LLC in August 2020.

The above procedure was followed for estimation of the long-term background traffic, rather than use of a blanket annual percentage growth rate(s) or application of a growth "factor." The above procedure was used because aside from known, approved and anticipated future area developments (and planned future roadway connections such as the extension of Synthes Avenue south to Baptist Road), there is minimal likelihood for general through traffic increases (typically estimated using general growth rates) given the limited continuity of the study-area

roadways (due to the limited continuity of these roadways to the west, south, and north and due to the Pike National Forest, the Air Force Academy, etc.).

TRIP GENERATION

The site-generated vehicle trips for southern portion of the site have been estimated using the nationally published trip-generation rates for warehouses from *Trip Generation, 11th Edition, 2021* by the Institute of Transportation Engineers (ITE).

Two scenarios were analyzed to determine the worst-case trip-generation scenario for the northern portion of the site. The first scenario assumed the northern portion of the site is developed for RV/Boat Storage and the second scenario assumed the northern portion of the site is developed for outdoor contractor storage. ITE does not have trip-generation rates for either of these uses. The number of site-generated vehicles expected if the northern portion of the site is developed for Boat/RV storage was based on trip-generation studies completed by other transportation consultants for similar facilities. Please refer to Appendix A for details. The number of site-generated vehicles expected if the northern portion of the site is developed for outdoor contractor was based on a trip-generation study of similar sites in El Paso and Arapahoe County, Colorado conducted by LSC in October 2023. Please refer to Appendix B for details. Table 1 (included as an attachment to this report) shows the trip-generation estimate. As shown in Table 1, the northern portion of the site is expected to generate more vehicle trips if it is developed for outdoor contractor storage than if it is developed for RV/Boat storage. Therefore, the second scenario was carried forward through this report.

If the northern portion of the site is developed for the worst-case scenario with outdoor contractor storage the entire site is expected to generate 194 vehicle trips on the average weekday, with about half entering and half exiting the site during a 24-hour period. During the morning peak hour, which generally occurs for one hour between 6:30 and 8:30 a.m., about nine vehicles would enter and six vehicles would exit the site. During the afternoon peak hour, which generally occurs for one hour between 4:15 and 6:15 p.m., about nine vehicles would enter and eight vehicles would exit the site.

Should the site be developed with different land uses, an updated traffic impact study will be required.

TRIP DISTRIBUTION AND ASSIGNMENT

Figure 6 shows the distribution estimates for the site-generated trips. The trip distribution represents the percentages of site-generated traffic projected to be oriented to and from the major approaches to the site. The estimates are based on the following factors: the land use proposed for the site; the roadway system serving the site; the proposed access system for the site; the location of the site with respect to local area and regional residential, employment, commercial, and activity centers; the location of the site with respect to the Town of Monument, the Tri-Lakes region, and northern Colorado Springs; and recent traffic counts.

When the distribution percentages (from Figure 6) are applied to the worst-case buildout trip-generation estimates (from Table 1), the site-generated traffic volumes on the adjacent roadways can be determined. Figure 7 shows the projected site-generated traffic volumes at the site-access intersections.

TOTAL TRAFFIC

Existing-Plus-Site-Generated Traffic Volumes

Figure 8 shows the sum of the existing traffic volumes (from) and site-generated peak-hour traffic volumes (shown in Figure 6). These volumes represent the projected short-term total traffic following site buildout. Figure 8 also shows the lane geometry and traffic control assumed for these intersections in the short-term analysis.

2043 Total Traffic Volumes

Figure 9 shows the sum of 2043 background traffic volumes (from Figure 5) plus site-generated traffic volumes (from Figure 6). Figure 9 also shows the lane geometry and traffic control assumed for these intersections in the 2043 analysis. By 2043, it was assumed that the Town of Monument would improve Old Denver Road adjacent to the site to a three-lane, Major Collector facility.

LEVEL OF SERVICE ANALYSIS

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

Table 2: Intersection Levels of Service Delay Ranges

| Level of Service | Signalized Intersections | Unsignalized Intersections |
|------------------|---------------------------------------------|------------------------------------------------------------|
| | Average Control Delay (seconds per vehicle) | Average Control Delay (seconds per vehicle) ⁽¹⁾ |
| A | 10.0 sec or less | 10.0 sec or less |
| B | 10.1-20.0 sec | 10.1-15.0 sec |
| C | 20.1-35.0 sec | 15.1-25.0 sec |
| D | 35.1-55.0 sec | 25.1-35.0 sec |
| E | 55.1-80.0 sec | 35.1-50.0 sec |
| F | 80.1 sec or more | 50.1 sec or more |

(1) For unsignalized intersections, if V/C ratio is greater than 1.0 the level of service is LOS F, regardless of the projected average control delay per vehicle.

The site-access points have been analyzed to determine the projected future levels of service, based on the unsignalized method of analysis procedures from the *Highway Capacity Manual, 6th Edition* by the Transportation Research Board. The results of the analysis are shown in Figures 8 and 9. Both site-access points are projected to operate at LOS C or better for all movements through 2043 as stop-sign-controlled intersections.

AUXILIARY TURN-LANE ANALYSIS, INTERSECTION CONFIGURATION, AND TRAFFIC CONTROL

Auxiliary turn lanes at the access points would be required to meet design criteria specified in *The Town of Monument Roadway Design and Technical Criteria*. Based on the projected 2043 total traffic volumes shown in Figure 9, no auxiliary turn lanes would be required on Old Denver Road approaching the site-access points. It is our understanding that a portion of Old Denver Road to the north was recently designed and approved as a three-lane, Major Collector facility. It is likely that in the future, the section in the vicinity of this site will also have a similar cross section. When Old Denver Road is ultimately improved adjacent to the site, the center lane would provide a left-turn, striped median for left turns.

Both access points to Old Denver Road must be at 90 degrees and paving will be required for the first 50 feet.

DEVIATIONS

Deviations are not typically included with a rezone submittal.

COUNTY ROAD IMPROVEMENT FEE PROGRAM

Transportation Impact Fees

The applicant will select a PID option at the site development plan stage of development process, and the calculation of applicable fees will be determined at that time.

MTCP Improvements

Per the County TIS Checklist: *State whether the MTCP or other approved corridor study calls for the construction of improvements in the immediate area.*

No improvement projects have been identified as being needed in the vicinity of the site by the year 2040 per Map 13: Roadway Improvement Projects and Table 4: 2040 Roadway Improvement Projects of El Paso County's 2016 *MTCP*.

MULTI-MODAL TRANSPORTATION AND TDM OPPORTUNITIES

The New Sante Fe Regional Trail is located east of Old Denver Road in the vicinity of the site. No new improvement projects have been identified as being needed by the year 2040 per Map 15: Bicycle and Pedestrian Network Improvements and Table 5 Multi-modal Improvement Projects of El Paso County's 2016 *MTCP*.

FINDINGS AND CONCLUSIONS

- The northern portion of the site is planned to be developed for either RV/Boat storage or outdoor contractor storage. The final use (one of these two) will be determined at the site development plan stage. Should the site be developed with a different land use, an updated traffic impact study will be required. If the northern portion of the site is developed for the worst-case scenario with outdoor contractor storage the entire site is expected to generate 194 vehicle trips on the average weekday, with about half entering and half exiting the site during a 24-hour period. During the morning peak hour, which generally occurs for one hour between 6:30 and 8:30 a.m., about nine vehicles would enter and six vehicles would exit the site. During the afternoon peak hour, which generally occurs for one hour between 4:15 and 6:15 p.m., about nine vehicles would enter and eight vehicles would exit the site.
- Both site-access points are projected to operate at a satisfactory level of service as stop-sign-controlled intersections.
- Based on the Town criteria and the projected 2043 total traffic volumes shown in Figure 9, no auxiliary turn lanes would be required on Old Denver Road approaching the site-access points. When Old Denver Road is ultimately improved adjacent to the site, a striped center median for left turns will be provided.

* * * * *

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/KDF/JAB:jas

Enclosures: Table 1
Figures 1-9
Appendix Table 1
Traffic Count Reports
Synchro LOS Reports
MTCP Maps
Appendix A and Appendix B

Table 2



**Table 1
Trip Generation Estimate
16050 Old Denver Road**

| Land Use Code | Land Use Description | Trip Generation Units | Trip Generation Rates ⁽¹⁾ | | | | Total Trips Generated | | | | | |
|----------------------------------------------------------------------------------------------|-------------------------------------------|-----------------------|--------------------------------------|----------------------|-----------------------|------------------------|-------------------------|-------------------------|----------------------|-----------------------|------------------------|-------------------------|
| | | | Average Weekday Traffic | Morning Peak Hour In | Morning Peak Hour Out | Afternoon Peak Hour In | Afternoon Peak Hour Out | Average Weekday Traffic | Morning Peak Hour In | Morning Peak Hour Out | Afternoon Peak Hour In | Afternoon Peak Hour Out |
| Trip Generation Estimate for the Southern Portion of the Site | | | | | | | | | | | | |
| 150 | Warehousing | 15 KSF ⁽²⁾ | 4.13 | 0.13 | 0.04 | 0.05 | 0.13 | 62 | 2 | 1 | 1 | 2 |
| Scenario 1 Trip Generation Estimate for the Northern Portion of the Site | | | | | | | | | | | | |
| --- | RV/Boat Storage ⁽³⁾ | 3.5 acres | 12.94 | 0.50 | 0.47 | 0.93 | 1.12 | 45 | 2 | 1 | 3 | 4 |
| Scenario 2 Trip Generation Estimate for the Northern Portion of the Site - WORST CASE | | | | | | | | | | | | |
| --- | Contractor Outdoor Storage ⁽⁴⁾ | 3.5 acres | 37.68 | 2.02 | 1.33 | 2.19 | 1.74 | 132 | 7 | 5 | 8 | 6 |
| Total Worst Case Scenario Trip Generation Estimate | | | | | | | | 194 | 9 | 6 | 9 | 8 |

Notes:

(1) Source: "Trip Generation, 11th Edition, 2021" by the Institute of Transportation Engineers (ITE)

(2) KSF = thousand square feet

(3) For RV/Boat Storage Rates refer to Appendix A

(3) For Contractor Outdoor Storage rates refer to Appendix B

Source: LSC Transportation Consultants, Inc.

Dec-23

Figures 1-9



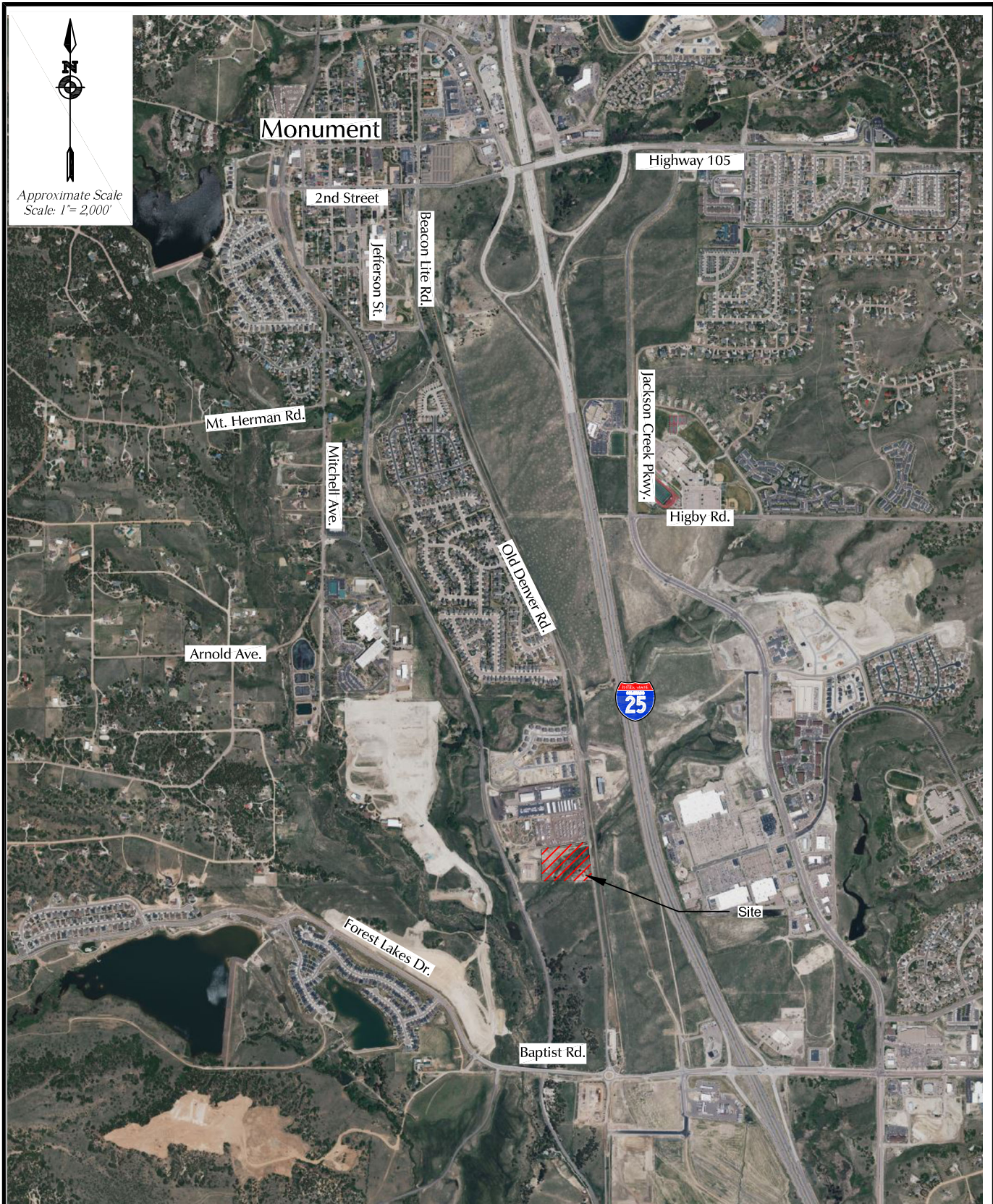


Figure 1
Vicinity Map
16050 Old Denver Rezone (LSC #S234320)

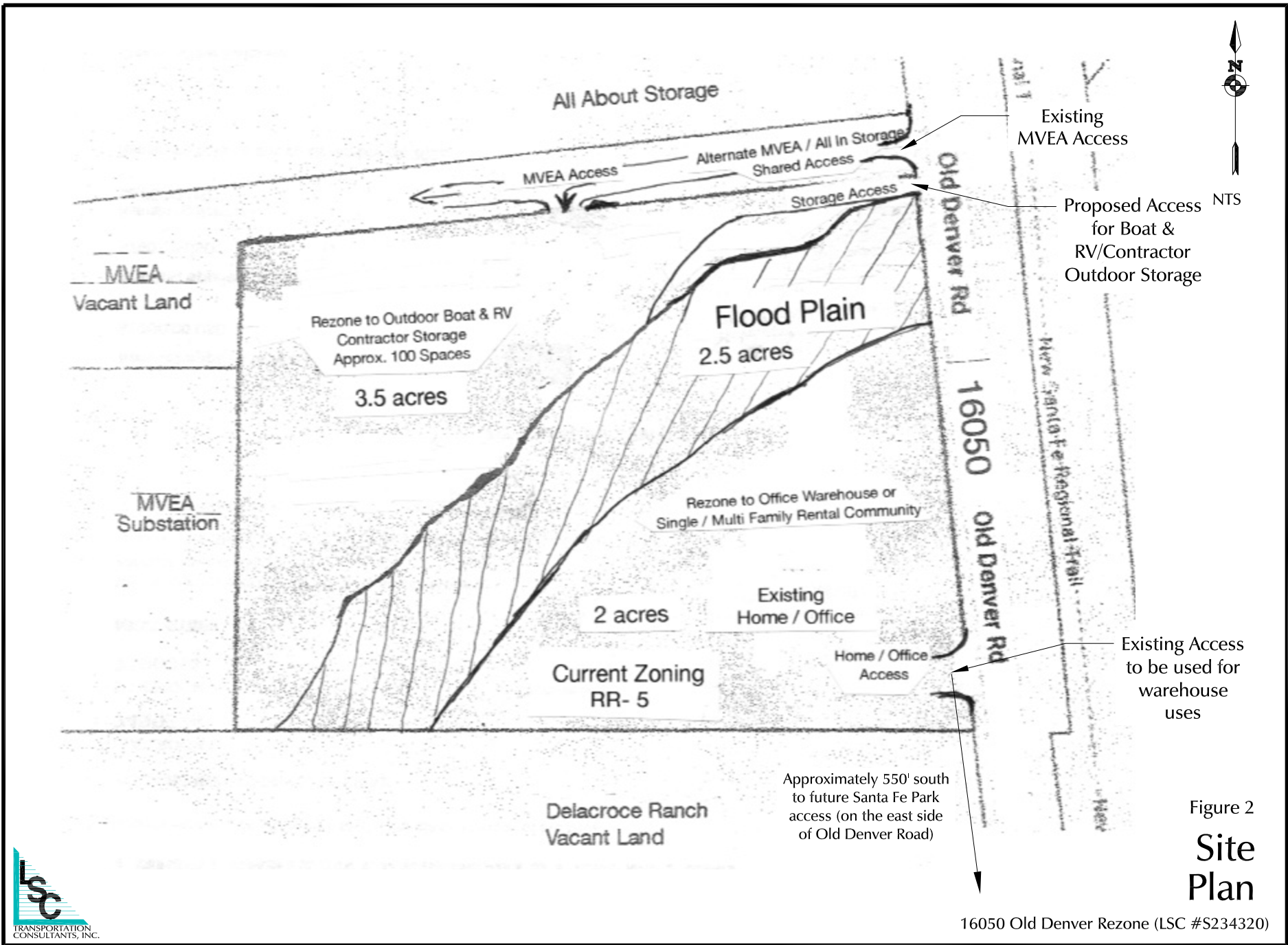


Figure 2
Site Plan

16050 Old Denver Rezone (LSC #S234320)





Approximate Scale
1" = 150'

Posted Speed: 40mph on Old Denver Road
Design Speed used in this evaluation:
45mph on Old Denver Road

Town Sight Distance Criteria:
Intersection Sight Distance: Page DT 25 of Appendix B, Town of Monument Roadway Design and Technical Criteria (and AASHTO "Green Book" Table 9-7).
Stopping Sight Distance: Table 5-6 of Appendix B, Town of Monument Roadway Design and Technical Criteria (and AASHTO "Green Book" Table 3-2). Assumes estimated grade of at least 3 percent, but less than 6 percent on Old Denver Road.

Figure 3a

Sight Distance Analysis North Site Access

16050 Old Denver Road Rezone (LSC #S234320)





Approximate Scale
1" = 150'

Posted Speed: 40mph on Old Denver Road
Design Speed used in this evaluation:
45mph on Old Denver Road

Town Sight Distance Criteria:
Intersection Sight Distance: Page DT 25 of Appendix B, Town of Monument Roadway Design and Technical Criteria (and AASHTO "Green Book" Table 9-7).
Stopping Sight Distance: Table 5-5 of Appendix B, Town of Monument Roadway Design and Technical Criteria (and AASHTO "Green Book" Table 3-1).

Note: While the southbound approach to the south access is generally an upgrade, to be conservative at this stage of the process, the criteria for level terrain (grades <3%) was used instead of the criteria with adjustment for an upgrade. This is because a detailed roadway centerline profile is not available.

Figure 3b

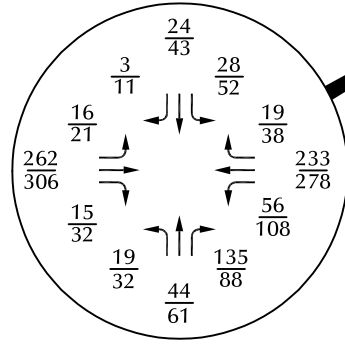
Sight Distance Analysis South Site Access

16050 Old Denver Road Rezone (LSC #S234320)

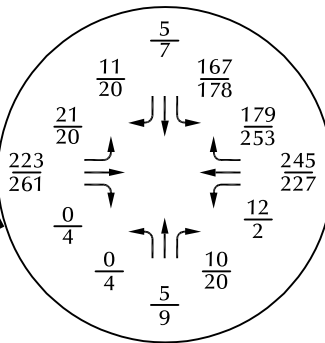
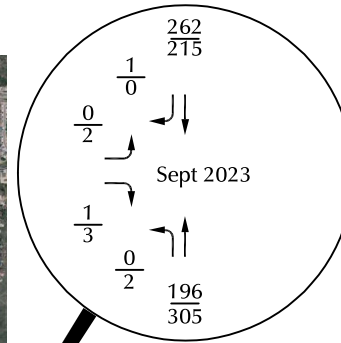
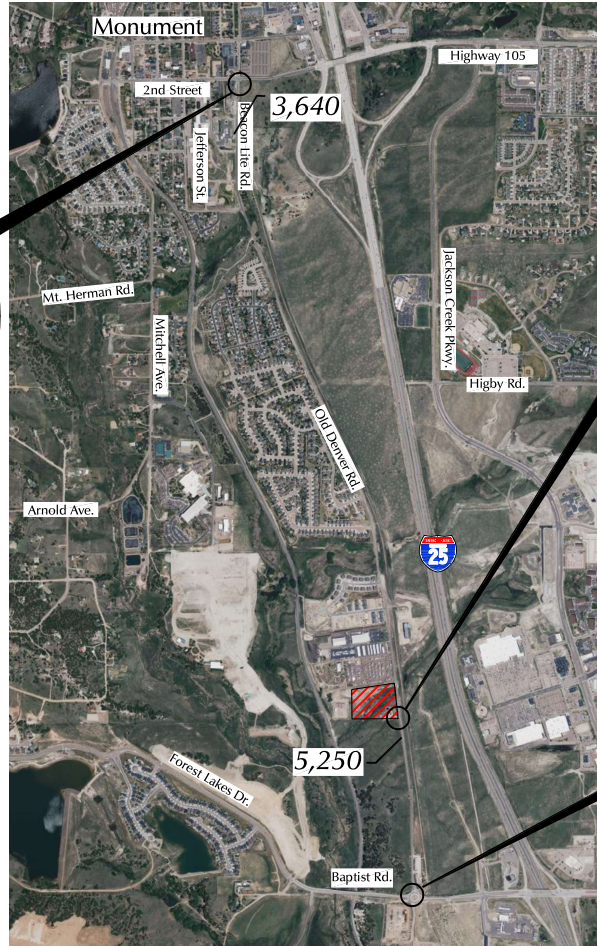




Not to scale



May 2023



Dec 2022

LEGEND:

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

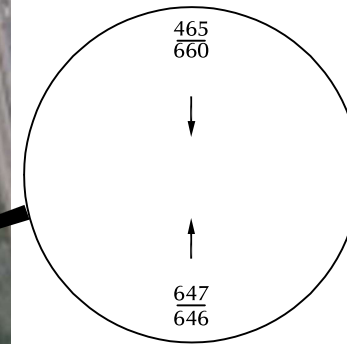
xxx = Average Weekday Traffic (vehicles per day) (est. by LSC)



Figure 4

Existing Traffic

16050 Old Denver Rezone (LSC #S234320)



LEGEND:

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

XXX = Average Weekday Traffic (vehicles per day)

Figure 5

2043 Background Traffic

16050 Old Denver Rezone (LSC #S234320)



Not to scale

LEGEND:



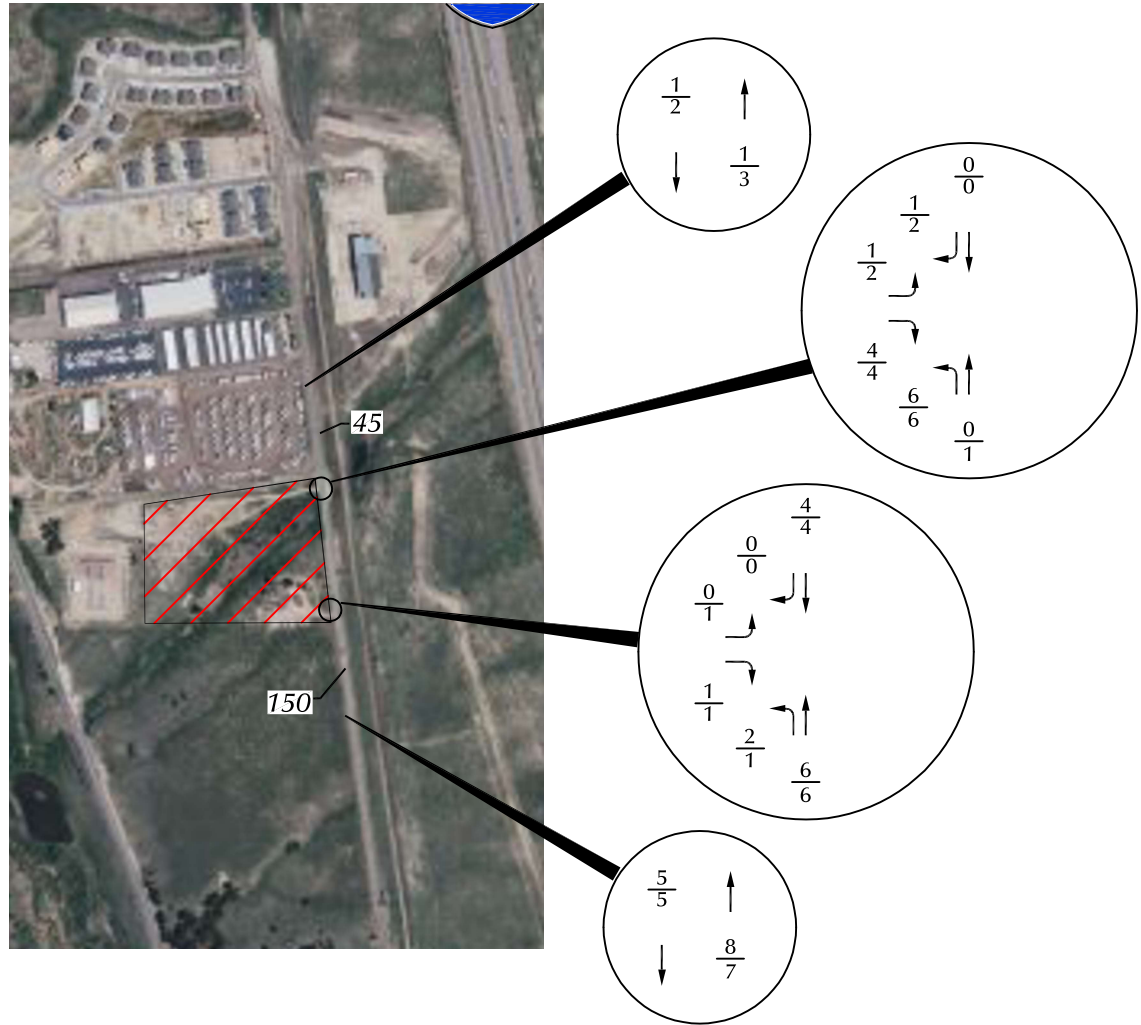
XX% = Percent Directional Distribution



Estimated Directional Distribution of Site-Generated Traffic

Figure 6

16050 Old Denver Rezone (LSC #S234320)



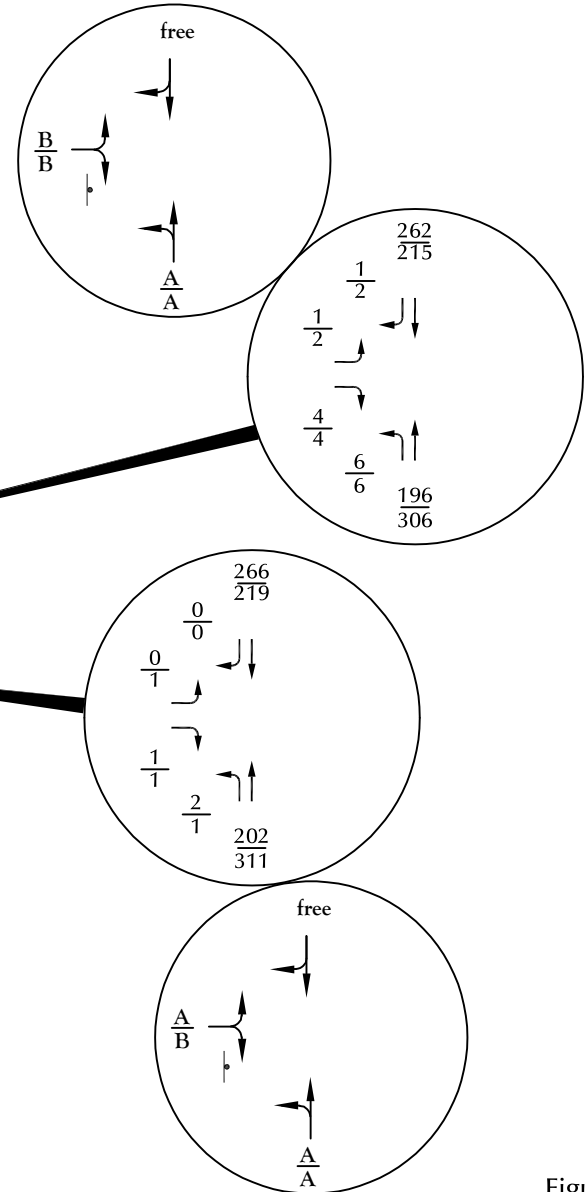
LEGEND:

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

XXX = Average Weekday Traffic (vehicles per day)

Figure 7
Site-Generated Traffic

16050 Old Denver Rezone (LSC #S234320)



LEGEND:

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

XXX = Average Weekday Traffic (vehicles per day)

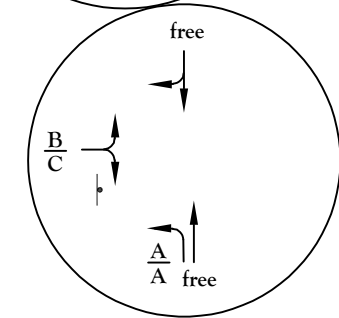
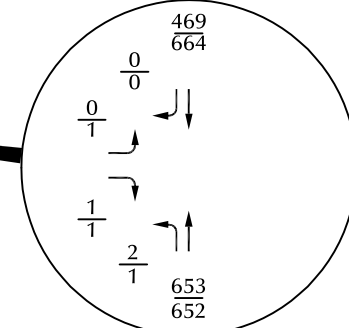
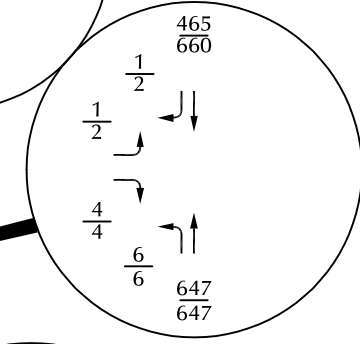
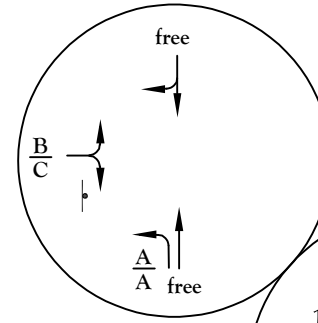
⊥ = Stop Sign $\frac{A}{B}$ = $\frac{\text{AM Individual Movement Peak-Hour Level of Service}}{\text{PM Individual Movement Peak-Hour Level of Service}}$

Figure 8

Existing plus Site-Generated Traffic

16050 Old Denver Rezone (LSC #S234320)





LEGEND:

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

XXX = Average Weekday Traffic (vehicles per day)

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



Figure 9

2043 Total Traffic

16050 Old Denver Rezone (LSC #S234320)

Appendix Table 1



**Appendix Table 1
Area Traffic Impact Studies
16050 Old Denver Road**

| Study | PCD File No⁽¹⁾ | Consultant | Date |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|-------------------------------------|---------------------------------------|
| Baptist Road West Traffic Report | | Felsburg Holt & Ullevig | August 27, 2013 |
| Forest Lakes Filing No. 5 Transportation Memorandum | SF1915 | LSC Transportation Consultants, Inc | August 30, 2019 |
| Forest Lakes Filing No. 6 Transportation Memorandum | SF2027 | LSC Transportation Consultants, Inc | October 6, 2020 |
| Forest Lakes Filing No. 7 Transportation Memorandum | SF2149 | LSC Transportation Consultants, Inc | August 3, 2021 |
| Willow Springs Ranch Traffic Impact Study | OAR1959 | LSC Transportation Consultants, Inc | February 12, 2020 |
| Santa Fe Park 2022 Update Traffic Impact Study | OAR2243 | LSC Transportation Consultants, Inc | April 8, 2022 |
| Falcon Commerce Center Traffic Impact Study | OAR2023 | SM Rocha, LLC | April 2020 |
| Traffic Generation Analysis Eagle Rock | OAR2213 | SM Rocha, LLC | February 25, 2022 |
| Falcon Commerce Center Phase 2 Traffic Generation Analysis | OAR2238 | SM Rocha, LLC | May 17, 2022 1/14/2022 |
| Conexus Phases 2 & 3 Preliminary PUD Plan Traffic Impact Study | OAR2036 | LSC Transportation Consultants, Inc | (with minor revisions 2/2/2022) |
| Conexus Lost Island Traffic Technical Memorandum | | LSC Transportation Consultants, Inc | November 7, 2023 |
| Conexus Filing 2 Lot 1 Traffic Technical Memorandum | | | |
| Notes: | | | |
| (1) Follow the links listed below to obtain the most recent version of each listed study. To obtain a copy of the version of each study used in preparing this report | | | |
| <i>Source: LSC Transportation Consultants, Inc.</i> | | | <i>Nov-23</i> |

Traffic Counts



LSC Transportation Consultants, Inc.

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

File Name : Old Denver Rd - Driveway Access AM

Site Code : S234320

Start Date : 9/14/2023

Page No : 1

Groups Printed- Unshifted

| Start Time | Old Denver Rd Southbound | | | | | Westbound | | | | | Old Denver Rd Northbound | | | | | Driveway Access Eastbound | | | | | Int. Total |
|--------------------|--------------------------|------------|----------|----------|------------|-----------|----------|----------|----------|------------|--------------------------|------------|----------|----------|------------|---------------------------|----------|----------|----------|------------|------------|
| | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | |
| 07:00 | 0 | 20 | 0 | 0 | 20 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 0 | 0 | 7 | 0 | 0 | 0 | 0 | 0 | 27 |
| 07:05 | 0 | 10 | 0 | 0 | 10 | 0 | 0 | 0 | 0 | 0 | 0 | 12 | 0 | 0 | 12 | 0 | 0 | 0 | 0 | 0 | 22 |
| 07:10 | 0 | 17 | 0 | 0 | 17 | 0 | 0 | 0 | 0 | 0 | 0 | 16 | 0 | 0 | 16 | 0 | 0 | 0 | 0 | 0 | 33 |
| 07:15 | 0 | 21 | 0 | 0 | 21 | 0 | 0 | 0 | 0 | 0 | 0 | 9 | 0 | 0 | 9 | 0 | 0 | 0 | 0 | 0 | 30 |
| 07:20 | 0 | 36 | 0 | 0 | 36 | 0 | 0 | 0 | 0 | 0 | 0 | 8 | 0 | 0 | 8 | 0 | 0 | 0 | 0 | 0 | 44 |
| 07:25 | 0 | 26 | 0 | 0 | 26 | 0 | 0 | 0 | 0 | 0 | 0 | 9 | 0 | 0 | 9 | 0 | 0 | 0 | 0 | 0 | 35 |
| 07:30 | 0 | 23 | 0 | 0 | 23 | 0 | 0 | 0 | 0 | 0 | 0 | 10 | 0 | 0 | 10 | 0 | 0 | 0 | 0 | 0 | 33 |
| 07:35 | 0 | 15 | 0 | 0 | 15 | 0 | 0 | 0 | 0 | 0 | 0 | 18 | 0 | 0 | 18 | 0 | 0 | 0 | 0 | 0 | 33 |
| 07:40 | 0 | 22 | 0 | 0 | 22 | 0 | 0 | 0 | 0 | 0 | 0 | 18 | 0 | 0 | 18 | 0 | 0 | 0 | 0 | 0 | 40 |
| 07:45 | 1 | 23 | 0 | 0 | 24 | 0 | 0 | 0 | 0 | 0 | 0 | 33 | 0 | 0 | 33 | 0 | 0 | 0 | 0 | 0 | 57 |
| 07:50 | 0 | 14 | 0 | 0 | 14 | 0 | 0 | 0 | 0 | 0 | 0 | 34 | 0 | 0 | 34 | 0 | 0 | 0 | 0 | 0 | 48 |
| 07:55 | 0 | 28 | 0 | 0 | 28 | 0 | 0 | 0 | 0 | 0 | 0 | 12 | 0 | 0 | 12 | 0 | 0 | 0 | 0 | 0 | 40 |
| Total | 1 | 255 | 0 | 0 | 256 | 0 | 0 | 0 | 0 | 0 | 0 | 186 | 0 | 0 | 186 | 0 | 0 | 0 | 0 | 0 | 442 |
| 08:00 | 0 | 21 | 0 | 0 | 21 | 0 | 0 | 0 | 0 | 0 | 0 | 12 | 0 | 0 | 12 | 0 | 0 | 0 | 0 | 0 | 33 |
| 08:05 | 0 | 16 | 0 | 0 | 16 | 0 | 0 | 0 | 0 | 0 | 0 | 17 | 0 | 0 | 17 | 1 | 0 | 0 | 0 | 1 | 34 |
| 08:10 | 0 | 16 | 0 | 0 | 16 | 0 | 0 | 0 | 0 | 0 | 0 | 13 | 1 | 0 | 14 | 0 | 0 | 0 | 0 | 0 | 30 |
| 08:15 | 0 | 15 | 0 | 0 | 15 | 0 | 0 | 0 | 0 | 0 | 0 | 15 | 1 | 0 | 16 | 0 | 0 | 0 | 0 | 0 | 31 |
| 08:20 | 0 | 17 | 0 | 0 | 17 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 21 |
| 08:25 | 1 | 16 | 0 | 0 | 17 | 0 | 0 | 0 | 0 | 0 | 0 | 11 | 0 | 0 | 11 | 0 | 0 | 0 | 0 | 0 | 28 |
| 08:30 | 0 | 10 | 0 | 0 | 10 | 0 | 0 | 0 | 0 | 0 | 0 | 14 | 0 | 0 | 14 | 0 | 0 | 0 | 0 | 0 | 24 |
| 08:35 | 0 | 11 | 0 | 0 | 11 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 16 |
| 08:40 | 0 | 15 | 0 | 0 | 15 | 0 | 0 | 0 | 0 | 0 | 0 | 20 | 0 | 0 | 20 | 0 | 0 | 0 | 0 | 0 | 35 |
| 08:45 | 0 | 12 | 0 | 0 | 12 | 0 | 0 | 0 | 0 | 0 | 0 | 14 | 1 | 0 | 15 | 0 | 0 | 0 | 0 | 0 | 27 |
| 08:50 | 0 | 13 | 0 | 0 | 13 | 0 | 0 | 0 | 0 | 0 | 0 | 16 | 0 | 0 | 16 | 0 | 0 | 0 | 0 | 0 | 29 |
| *** BREAK *** | | | | | | | | | | | | | | | | | | | | | |
| Total | 1 | 162 | 0 | 0 | 163 | 0 | 0 | 0 | 0 | 0 | 0 | 141 | 3 | 0 | 144 | 1 | 0 | 0 | 0 | 1 | 308 |
| Grand Total | 2 | 417 | 0 | 0 | 419 | 0 | 0 | 0 | 0 | 0 | 0 | 327 | 3 | 0 | 330 | 1 | 0 | 0 | 0 | 1 | 750 |
| Apprch % | 0.5 | 99.5 | 0 | 0 | | 0 | 0 | 0 | 0 | | 0 | 99.1 | 0.9 | 0 | | 100 | 0 | 0 | 0 | | |
| Total % | 0.3 | 55.6 | 0 | 0 | 55.9 | 0 | 0 | 0 | 0 | | 0 | 43.6 | 0.4 | 0 | 44 | 0.1 | 0 | 0 | 0 | 0.1 | |

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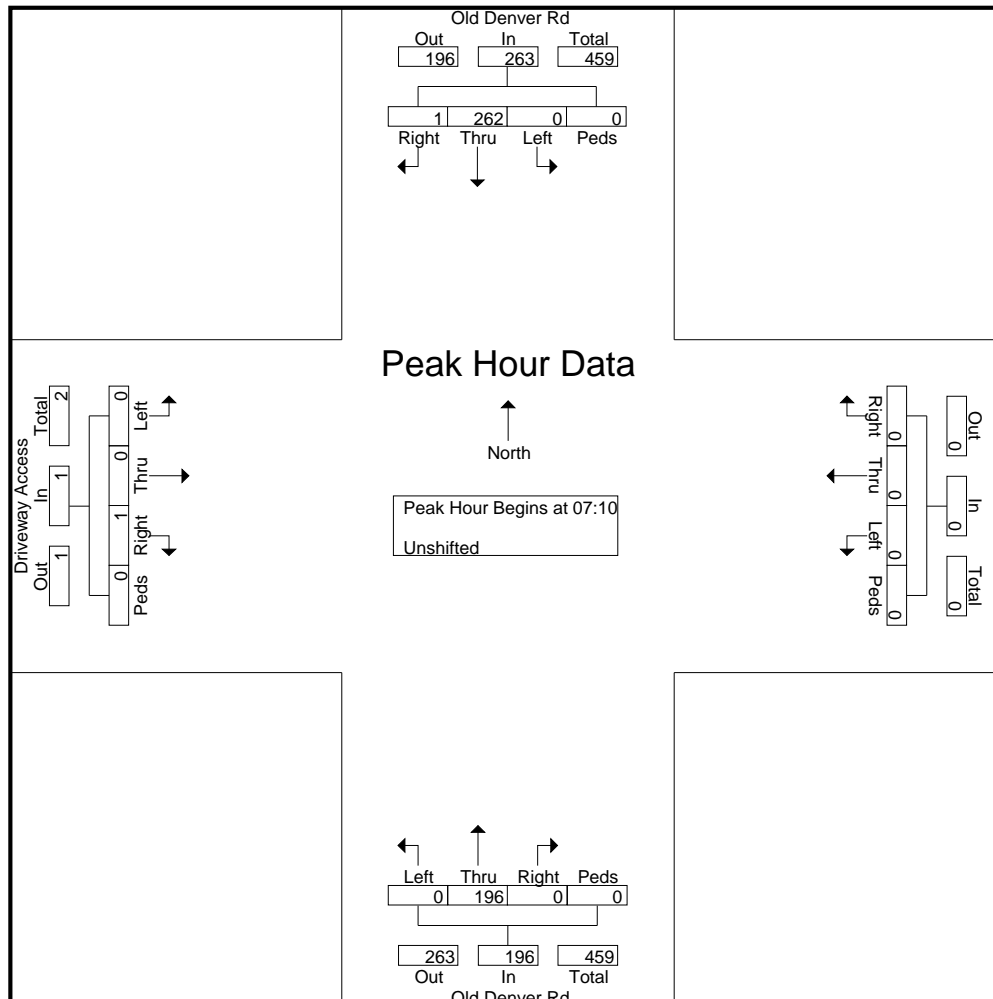
File Name : Old Denver Rd - Driveway Access AM

Site Code : S234320

Start Date : 9/14/2023

Page No : 2

| Start Time | Old Denver Rd Southbound | | | | | Westbound | | | | | Old Denver Rd Northbound | | | | | Driveway Access Eastbound | | | | | Int. Total |
|------------------------------------------------------|--------------------------|------|------|------|------------|-----------|------|------|------|------------|--------------------------|------|------|------|------------|---------------------------|------|------|------|------------|------------|
| | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | |
| Peak Hour Analysis From 07:00 to 08:55 - Peak 1 of 1 | | | | | | | | | | | | | | | | | | | | | |
| Peak Hour for Entire Intersection Begins at 07:10 | | | | | | | | | | | | | | | | | | | | | |
| 07:10 | 0 | 17 | 0 | 0 | 17 | 0 | 0 | 0 | 0 | 0 | 0 | 16 | 0 | 0 | 16 | 0 | 0 | 0 | 0 | 0 | 33 |
| 07:15 | 0 | 21 | 0 | 0 | 21 | 0 | 0 | 0 | 0 | 0 | 0 | 9 | 0 | 0 | 9 | 0 | 0 | 0 | 0 | 0 | 30 |
| 07:20 | 0 | 36 | 0 | 0 | 36 | 0 | 0 | 0 | 0 | 0 | 0 | 8 | 0 | 0 | 8 | 0 | 0 | 0 | 0 | 0 | 44 |
| 07:25 | 0 | 26 | 0 | 0 | 26 | 0 | 0 | 0 | 0 | 0 | 0 | 9 | 0 | 0 | 9 | 0 | 0 | 0 | 0 | 0 | 35 |
| 07:30 | 0 | 23 | 0 | 0 | 23 | 0 | 0 | 0 | 0 | 0 | 0 | 10 | 0 | 0 | 10 | 0 | 0 | 0 | 0 | 0 | 33 |
| 07:35 | 0 | 15 | 0 | 0 | 15 | 0 | 0 | 0 | 0 | 0 | 0 | 18 | 0 | 0 | 18 | 0 | 0 | 0 | 0 | 0 | 33 |
| 07:40 | 0 | 22 | 0 | 0 | 22 | 0 | 0 | 0 | 0 | 0 | 0 | 18 | 0 | 0 | 18 | 0 | 0 | 0 | 0 | 0 | 40 |
| 07:45 | 1 | 23 | 0 | 0 | 24 | 0 | 0 | 0 | 0 | 0 | 0 | 33 | 0 | 0 | 33 | 0 | 0 | 0 | 0 | 0 | 57 |
| 07:50 | 0 | 14 | 0 | 0 | 14 | 0 | 0 | 0 | 0 | 0 | 0 | 34 | 0 | 0 | 34 | 0 | 0 | 0 | 0 | 0 | 48 |
| 07:55 | 0 | 28 | 0 | 0 | 28 | 0 | 0 | 0 | 0 | 0 | 0 | 12 | 0 | 0 | 12 | 0 | 0 | 0 | 0 | 0 | 40 |
| 08:00 | 0 | 21 | 0 | 0 | 21 | 0 | 0 | 0 | 0 | 0 | 0 | 12 | 0 | 0 | 12 | 0 | 0 | 0 | 0 | 0 | 33 |
| 08:05 | 0 | 16 | 0 | 0 | 16 | 0 | 0 | 0 | 0 | 0 | 0 | 17 | 0 | 0 | 17 | 1 | 0 | 0 | 0 | 0 | 34 |
| Total Volume | 1 | 262 | 0 | 0 | 263 | 0 | 0 | 0 | 0 | 0 | 0 | 196 | 0 | 0 | 196 | 1 | 0 | 0 | 0 | 1 | 460 |
| % App. Total | 0.4 | 99.6 | 0 | 0 | | 0 | 0 | 0 | 0 | | 0 | 100 | 0 | 0 | | 100 | 0 | 0 | 0 | | |
| PHF | .083 | .606 | .000 | .000 | .609 | .000 | .000 | .000 | .000 | .000 | .000 | .480 | .000 | .000 | .480 | .083 | .000 | .000 | .000 | .083 | .673 |



LSC Transportation Consultants, Inc.

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

File Name : Old Denver Rd - Driveway Access PM

Site Code : S234320

Start Date : 9/13/2023

Page No : 1

Groups Printed- Unshifted

| Start Time | Old Denver Rd Southbound | | | | | Westbound | | | | | Old Denver Rd Northbound | | | | | Driveway Access Eastbound | | | | | Int. Total | |
|--------------------|--------------------------|------|------|------|------------|-----------|------|------|------|------------|--------------------------|------|------|------|------------|---------------------------|------|------|------|------------|------------|------|
| | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | | |
| 16:00 | 0 | 14 | 0 | 0 | 14 | 0 | 0 | 0 | 0 | 0 | 0 | 22 | 0 | 0 | 22 | 0 | 0 | 0 | 0 | 0 | 0 | 36 |
| 16:05 | 0 | 10 | 0 | 0 | 10 | 0 | 0 | 0 | 0 | 0 | 0 | 26 | 0 | 0 | 26 | 0 | 0 | 0 | 0 | 0 | 0 | 36 |
| 16:10 | 0 | 19 | 0 | 0 | 19 | 0 | 0 | 0 | 0 | 0 | 0 | 23 | 0 | 0 | 23 | 0 | 0 | 0 | 0 | 0 | 0 | 42 |
| 16:15 | 0 | 15 | 0 | 0 | 15 | 0 | 0 | 0 | 0 | 0 | 0 | 30 | 0 | 0 | 30 | 0 | 0 | 0 | 0 | 0 | 0 | 45 |
| 16:20 | 0 | 15 | 0 | 0 | 15 | 0 | 0 | 0 | 0 | 0 | 0 | 24 | 1 | 0 | 25 | 0 | 0 | 0 | 0 | 0 | 0 | 40 |
| 16:25 | 0 | 18 | 0 | 0 | 18 | 0 | 0 | 0 | 0 | 0 | 0 | 25 | 0 | 0 | 25 | 2 | 0 | 0 | 0 | 0 | 2 | 45 |
| 16:30 | 0 | 18 | 0 | 0 | 18 | 0 | 0 | 0 | 0 | 0 | 0 | 19 | 0 | 0 | 19 | 0 | 0 | 0 | 0 | 0 | 0 | 37 |
| 16:35 | 0 | 18 | 0 | 0 | 18 | 0 | 0 | 0 | 0 | 0 | 0 | 26 | 0 | 0 | 26 | 1 | 0 | 0 | 0 | 0 | 1 | 45 |
| 16:40 | 0 | 14 | 0 | 0 | 14 | 0 | 0 | 0 | 0 | 0 | 0 | 24 | 0 | 0 | 24 | 0 | 0 | 0 | 0 | 0 | 0 | 38 |
| 16:45 | 0 | 24 | 0 | 0 | 24 | 0 | 0 | 0 | 0 | 0 | 0 | 21 | 0 | 0 | 21 | 0 | 0 | 0 | 0 | 0 | 0 | 45 |
| 16:50 | 0 | 15 | 0 | 0 | 15 | 0 | 0 | 0 | 0 | 0 | 0 | 17 | 0 | 0 | 17 | 0 | 0 | 1 | 0 | 0 | 1 | 33 |
| 16:55 | 0 | 15 | 0 | 0 | 15 | 0 | 0 | 0 | 0 | 0 | 0 | 24 | 0 | 0 | 24 | 1 | 0 | 1 | 0 | 0 | 2 | 41 |
| Total | 0 | 195 | 0 | 0 | 195 | 0 | 0 | 0 | 0 | 0 | 0 | 281 | 1 | 0 | 282 | 4 | 0 | 2 | 0 | 6 | 6 | 483 |
| 17:00 | 0 | 22 | 0 | 0 | 22 | 0 | 0 | 0 | 0 | 0 | 0 | 25 | 0 | 0 | 25 | 0 | 0 | 1 | 0 | 1 | 1 | 48 |
| 17:05 | 0 | 27 | 0 | 0 | 27 | 0 | 0 | 0 | 0 | 0 | 0 | 27 | 1 | 0 | 28 | 2 | 0 | 0 | 0 | 2 | 2 | 57 |
| 17:10 | 0 | 11 | 0 | 0 | 11 | 0 | 0 | 0 | 0 | 0 | 0 | 27 | 0 | 0 | 27 | 1 | 0 | 0 | 0 | 1 | 1 | 39 |
| 17:15 | 0 | 23 | 0 | 0 | 23 | 0 | 0 | 0 | 0 | 0 | 0 | 28 | 1 | 0 | 29 | 0 | 0 | 1 | 0 | 1 | 1 | 53 |
| 17:20 | 0 | 9 | 0 | 0 | 9 | 0 | 0 | 0 | 0 | 0 | 0 | 24 | 0 | 0 | 24 | 0 | 0 | 0 | 0 | 0 | 0 | 33 |
| 17:25 | 0 | 9 | 0 | 0 | 9 | 0 | 0 | 0 | 0 | 0 | 0 | 37 | 0 | 0 | 37 | 0 | 0 | 0 | 0 | 0 | 0 | 46 |
| 17:30 | 0 | 18 | 0 | 0 | 18 | 0 | 0 | 0 | 0 | 0 | 0 | 19 | 0 | 0 | 19 | 0 | 0 | 0 | 0 | 0 | 0 | 37 |
| 17:35 | 0 | 13 | 0 | 0 | 13 | 0 | 0 | 0 | 0 | 0 | 0 | 27 | 0 | 0 | 27 | 0 | 0 | 0 | 0 | 0 | 0 | 40 |
| 17:40 | 0 | 23 | 0 | 0 | 23 | 0 | 0 | 0 | 0 | 0 | 0 | 20 | 0 | 0 | 20 | 0 | 0 | 0 | 0 | 0 | 0 | 43 |
| 17:45 | 0 | 13 | 0 | 0 | 13 | 0 | 0 | 0 | 0 | 0 | 0 | 19 | 0 | 0 | 19 | 0 | 0 | 0 | 0 | 0 | 0 | 32 |
| 17:50 | 0 | 22 | 0 | 0 | 22 | 0 | 0 | 0 | 0 | 0 | 0 | 23 | 0 | 0 | 23 | 0 | 0 | 0 | 0 | 0 | 0 | 45 |
| 17:55 | 0 | 25 | 0 | 0 | 25 | 0 | 0 | 0 | 0 | 0 | 0 | 29 | 0 | 0 | 29 | 0 | 0 | 0 | 0 | 0 | 0 | 54 |
| Total | 0 | 215 | 0 | 0 | 215 | 0 | 0 | 0 | 0 | 0 | 0 | 305 | 2 | 0 | 307 | 3 | 0 | 2 | 0 | 5 | 5 | 527 |
| Grand Total | 0 | 410 | 0 | 0 | 410 | 0 | 0 | 0 | 0 | 0 | 0 | 586 | 3 | 0 | 589 | 7 | 0 | 4 | 0 | 11 | 11 | 1010 |
| Apprch % | 0 | 100 | 0 | 0 | | 0 | 0 | 0 | 0 | | 0 | 99.5 | 0.5 | 0 | | 63.6 | 0 | 36.4 | 0 | | | |
| Total % | 0 | 40.6 | 0 | 0 | 40.6 | 0 | 0 | 0 | 0 | 0 | 0 | 58 | 0.3 | 0 | 58.3 | 0.7 | 0 | 0.4 | 0 | 1.1 | 1.1 | |

LSC Transportation Consultants, Inc.

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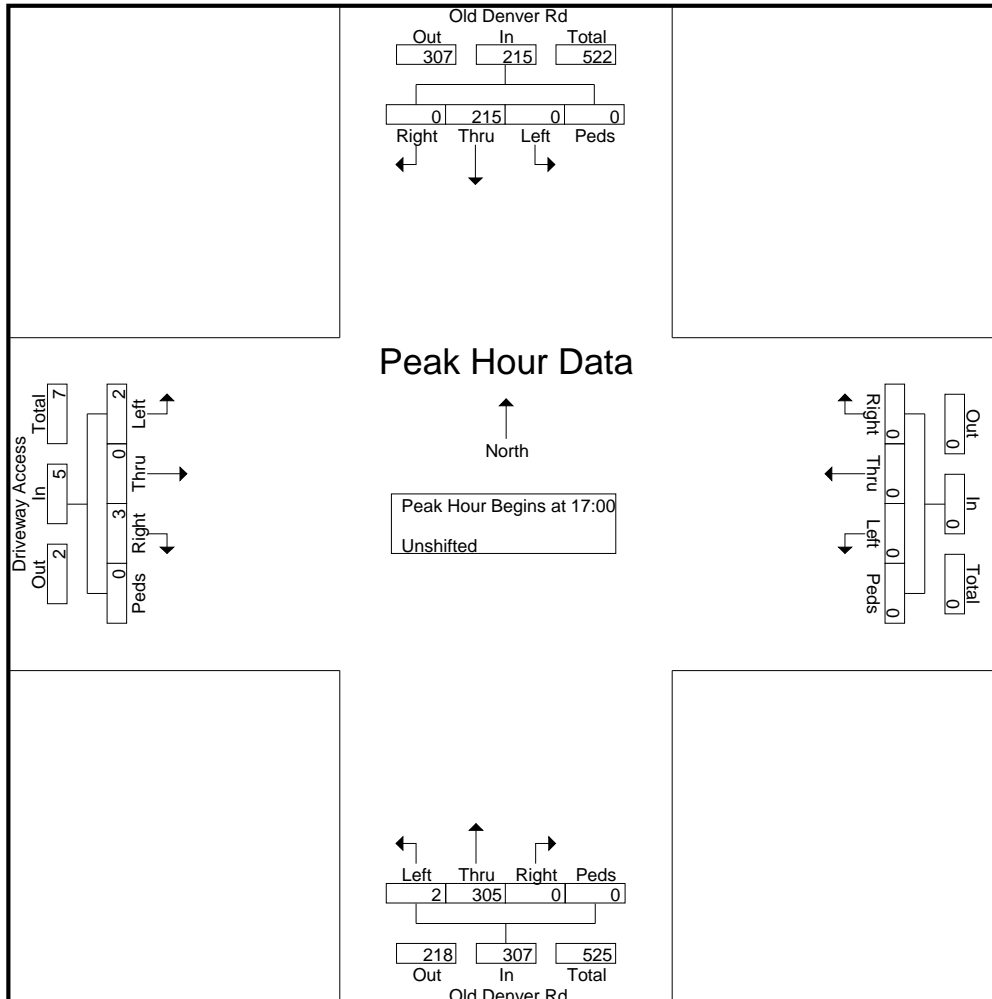
File Name : Old Denver Rd - Driveway Access PM

Site Code : S234320

Start Date : 9/13/2023

Page No : 2

| Start Time | Old Denver Rd Southbound | | | | | Westbound | | | | | Old Denver Rd Northbound | | | | | Driveway Access Eastbound | | | | | Int. Total |
|------------------------------------------------------|--------------------------|------|------|------|------------|-----------|------|------|------|------------|--------------------------|------|------|------|------------|---------------------------|------|------|------|------------|------------|
| | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | |
| Peak Hour Analysis From 16:00 to 17:55 - Peak 1 of 1 | | | | | | | | | | | | | | | | | | | | | |
| Peak Hour for Entire Intersection Begins at 17:00 | | | | | | | | | | | | | | | | | | | | | |
| 17:00 | 0 | 22 | 0 | 0 | 22 | 0 | 0 | 0 | 0 | 0 | 0 | 25 | 0 | 0 | 25 | 0 | 0 | 1 | 0 | 1 | 48 |
| 17:05 | 0 | 27 | 0 | 0 | 27 | 0 | 0 | 0 | 0 | 0 | 0 | 27 | 1 | 0 | 28 | 2 | 0 | 0 | 0 | 2 | 57 |
| 17:10 | 0 | 11 | 0 | 0 | 11 | 0 | 0 | 0 | 0 | 0 | 0 | 27 | 0 | 0 | 27 | 1 | 0 | 0 | 0 | 1 | 39 |
| 17:15 | 0 | 23 | 0 | 0 | 23 | 0 | 0 | 0 | 0 | 0 | 0 | 28 | 1 | 0 | 29 | 0 | 0 | 1 | 0 | 1 | 53 |
| 17:20 | 0 | 9 | 0 | 0 | 9 | 0 | 0 | 0 | 0 | 0 | 0 | 24 | 0 | 0 | 24 | 0 | 0 | 0 | 0 | 0 | 33 |
| 17:25 | 0 | 9 | 0 | 0 | 9 | 0 | 0 | 0 | 0 | 0 | 0 | 37 | 0 | 0 | 37 | 0 | 0 | 0 | 0 | 0 | 46 |
| 17:30 | 0 | 18 | 0 | 0 | 18 | 0 | 0 | 0 | 0 | 0 | 0 | 19 | 0 | 0 | 19 | 0 | 0 | 0 | 0 | 0 | 37 |
| 17:35 | 0 | 13 | 0 | 0 | 13 | 0 | 0 | 0 | 0 | 0 | 0 | 27 | 0 | 0 | 27 | 0 | 0 | 0 | 0 | 0 | 40 |
| 17:40 | 0 | 23 | 0 | 0 | 23 | 0 | 0 | 0 | 0 | 0 | 0 | 20 | 0 | 0 | 20 | 0 | 0 | 0 | 0 | 0 | 43 |
| 17:45 | 0 | 13 | 0 | 0 | 13 | 0 | 0 | 0 | 0 | 0 | 0 | 19 | 0 | 0 | 19 | 0 | 0 | 0 | 0 | 0 | 32 |
| 17:50 | 0 | 22 | 0 | 0 | 22 | 0 | 0 | 0 | 0 | 0 | 0 | 23 | 0 | 0 | 23 | 0 | 0 | 0 | 0 | 0 | 45 |
| 17:55 | 0 | 25 | 0 | 0 | 25 | 0 | 0 | 0 | 0 | 0 | 0 | 29 | 0 | 0 | 29 | 0 | 0 | 0 | 0 | 0 | 54 |
| Total Volume | 0 | 215 | 0 | 0 | 215 | 0 | 0 | 0 | 0 | 0 | 0 | 305 | 2 | 0 | 307 | 3 | 0 | 2 | 0 | 5 | 527 |
| % App. Total | 0 | 100 | 0 | 0 | | 0 | 0 | 0 | 0 | | 0 | 99.3 | 0.7 | 0 | | 60 | 0 | 40 | 0 | | |
| PHF | .000 | .664 | .000 | .000 | .664 | .000 | .000 | .000 | .000 | .000 | .000 | .687 | .167 | .000 | .691 | .125 | .000 | .167 | .000 | .208 | .770 |



Level of Service Reports



| Intersection | | | | | | |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh | 0.2 | | | | | |
| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
| Lane Configurations | T | | | T | | |
| Traffic Vol, veh/h | 1 | 4 | 6 | 196 | 262 | 1 |
| Future Vol, veh/h | 1 | 4 | 6 | 196 | 262 | 1 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | - | - | - | - | - |
| Veh in Median Storage, # | 0 | - | - | 0 | 0 | - |
| Grade, % | 0 | - | - | 0 | 0 | - |
| Peak Hour Factor | 78 | 78 | 58 | 58 | 87 | 87 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 1 | 5 | 10 | 338 | 301 | 1 |

| Major/Minor | Minor2 | Major1 | Major2 | | | |
|----------------------|--------|--------|--------|---|---|---|
| Conflicting Flow All | 660 | 302 | 302 | 0 | - | 0 |
| Stage 1 | 302 | - | - | - | - | - |
| Stage 2 | 358 | - | - | - | - | - |
| 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 | 428 | 738 | 1259 | - | - | - |
| Stage 1 | 750 | - | - | - | - | - |
| Stage 2 | 707 | - | - | - | - | - |
| Platoon blocked, % | | | | - | - | - |
| Mov Cap-1 Maneuver | 424 | 738 | 1259 | - | - | - |
| Mov Cap-2 Maneuver | 424 | - | - | - | - | - |
| Stage 1 | 743 | - | - | - | - | - |
| Stage 2 | 707 | - | - | - | - | - |

| Approach | EB | NB | SB |
|----------------------|------|-----|----|
| HCM Control Delay, s | 10.7 | 0.2 | 0 |
| HCM LOS | B | | |

| Minor Lane/Major Mvmt | NBL | NBT | EBLn1 | SBT | SBR |
|-----------------------|-------|-----|-------|-----|-----|
| Capacity (veh/h) | 1259 | - | 643 | - | - |
| HCM Lane V/C Ratio | 0.008 | - | 0.01 | - | - |
| HCM Control Delay (s) | 7.9 | 0 | 10.7 | - | - |
| HCM Lane LOS | A | A | B | - | - |
| HCM 95th %tile Q(veh) | 0 | - | 0 | - | - |

| Intersection | | | | | | |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh | 0.1 | | | | | |
| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
| Lane Configurations | T | | | T | | |
| Traffic Vol, veh/h | 0 | 1 | 2 | 202 | 266 | 0 |
| Future Vol, veh/h | 0 | 1 | 2 | 202 | 266 | 0 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | - | - | - | - | - |
| Veh in Median Storage, # | 0 | - | - | 0 | 0 | - |
| Grade, % | 0 | - | - | 0 | 0 | - |
| Peak Hour Factor | 78 | 78 | 58 | 58 | 87 | 87 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 1 | 3 | 348 | 306 | 0 |

| Major/Minor | Minor2 | Major1 | Major2 | | | |
|----------------------|--------|--------|--------|---|---|---|
| Conflicting Flow All | 660 | 306 | 306 | 0 | - | 0 |
| Stage 1 | 306 | - | - | - | - | - |
| Stage 2 | 354 | - | - | - | - | - |
| 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 | 428 | 734 | 1255 | - | - | - |
| Stage 1 | 747 | - | - | - | - | - |
| Stage 2 | 710 | - | - | - | - | - |
| Platoon blocked, % | | | | - | - | - |
| Mov Cap-1 Maneuver | 427 | 734 | 1255 | - | - | - |
| Mov Cap-2 Maneuver | 427 | - | - | - | - | - |
| Stage 1 | 745 | - | - | - | - | - |
| Stage 2 | 710 | - | - | - | - | - |

| Approach | EB | NB | SB |
|----------------------|-----|-----|----|
| HCM Control Delay, s | 9.9 | 0.1 | 0 |
| HCM LOS | A | | |

| Minor Lane/Major Mvmt | NBL | NBT | EBLn1 | SBT | SBR |
|-----------------------|-------|-----|-------|-----|-----|
| Capacity (veh/h) | 1255 | - | 734 | - | - |
| HCM Lane V/C Ratio | 0.003 | - | 0.002 | - | - |
| HCM Control Delay (s) | 7.9 | 0 | 9.9 | - | - |
| HCM Lane LOS | A | A | A | - | - |
| HCM 95th %tile Q(veh) | 0 | - | 0 | - | - |

HCM 6th TWSC
1: Old Denver Road & North Access

Short-Term Total Traffic
PM Peak Hour

| Intersection | | | | | | |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh | 0.2 | | | | | |
| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
| Lane Configurations | T | | | T | | T |
| Traffic Vol, veh/h | 2 | 4 | 6 | 306 | 215 | 2 |
| Future Vol, veh/h | 2 | 4 | 6 | 306 | 215 | 2 |
| 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 | 87 | 87 | 90 | 90 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 3 | 5 | 7 | 352 | 239 | 2 |

| Major/Minor | Minor2 | Major1 | | Major2 | |
|----------------------|--------|--------|-------|--------|---|
| Conflicting Flow All | 606 | 240 | 241 | 0 | 0 |
| Stage 1 | 240 | - | - | - | - |
| Stage 2 | 366 | - | - | - | - |
| 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 | 460 | 799 | 1326 | - | - |
| Stage 1 | 800 | - | - | - | - |
| Stage 2 | 702 | - | - | - | - |
| Platoon blocked, % | | | | - | - |
| Mov Cap-1 Maneuver | 457 | 799 | 1326 | - | - |
| Mov Cap-2 Maneuver | 457 | - | - | - | - |
| Stage 1 | 794 | - | - | - | - |
| Stage 2 | 702 | - | - | - | - |

| Approach | EB | NB | SB |
|----------------------|------|-----|----|
| HCM Control Delay, s | 10.7 | 0.1 | 0 |
| HCM LOS | B | | |

| Minor Lane/Major Mvmt | NBL | NBT | EBLn1 | SBT | SBR |
|-----------------------|-------|-----|-------|-----|-----|
| Capacity (veh/h) | 1326 | - | 639 | - | - |
| HCM Lane V/C Ratio | 0.005 | - | 0.012 | - | - |
| HCM Control Delay (s) | 7.7 | 0 | 10.7 | - | - |
| HCM Lane LOS | A | A | B | - | - |
| HCM 95th %tile Q(veh) | 0 | - | 0 | - | - |

| Intersection | | | | | | |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh | 0 | | | | | |
| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
| Lane Configurations | T | | | T | | |
| Traffic Vol, veh/h | 1 | 1 | 1 | 311 | 219 | 0 |
| Future Vol, veh/h | 1 | 1 | 1 | 311 | 219 | 0 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | - | - | - | - | - |
| Veh in Median Storage, # | 0 | - | - | 0 | 0 | - |
| Grade, % | 0 | - | - | 0 | 0 | - |
| Peak Hour Factor | 78 | 78 | 87 | 87 | 90 | 90 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 1 | 1 | 1 | 357 | 243 | 0 |

| Major/Minor | Minor2 | Major1 | Major2 | | | |
|----------------------|--------|--------|--------|---|---|---|
| Conflicting Flow All | 602 | 243 | 243 | 0 | - | 0 |
| Stage 1 | 243 | - | - | - | - | - |
| Stage 2 | 359 | - | - | - | - | - |
| 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 | 463 | 796 | 1323 | - | - | - |
| Stage 1 | 797 | - | - | - | - | - |
| Stage 2 | 707 | - | - | - | - | - |
| Platoon blocked, % | | | | - | - | - |
| Mov Cap-1 Maneuver | 463 | 796 | 1323 | - | - | - |
| Mov Cap-2 Maneuver | 463 | - | - | - | - | - |
| Stage 1 | 796 | - | - | - | - | - |
| Stage 2 | 707 | - | - | - | - | - |

| Approach | EB | NB | SB |
|----------------------|------|----|----|
| HCM Control Delay, s | 11.2 | 0 | 0 |
| HCM LOS | B | | |

| Minor Lane/Major Mvmt | NBL | NBT | EBLn1 | SBT | SBR |
|-----------------------|-------|-----|-------|-----|-----|
| Capacity (veh/h) | 1323 | - | 585 | - | - |
| HCM Lane V/C Ratio | 0.001 | - | 0.004 | - | - |
| HCM Control Delay (s) | 7.7 | 0 | 11.2 | - | - |
| HCM Lane LOS | A | A | B | - | - |
| HCM 95th %tile Q(veh) | 0 | - | 0 | - | - |

| Intersection | | | | | | |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh | 0.1 | | | | | |
| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
| Lane Configurations | Y | | Y | ↑ | ↑ | |
| Traffic Vol, veh/h | 1 | 4 | 6 | 647 | 465 | 1 |
| Future Vol, veh/h | 1 | 4 | 6 | 647 | 465 | 1 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | - | 100 | - | - | - |
| Veh in Median Storage, # | 0 | - | - | 0 | 0 | - |
| Grade, % | 0 | - | - | 0 | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 1 | 4 | 7 | 703 | 505 | 1 |

| Major/Minor | Minor2 | Major1 | Major2 | | | |
|----------------------|--------|--------|--------|---|---|---|
| Conflicting Flow All | 1223 | 506 | 506 | 0 | - | 0 |
| Stage 1 | 506 | - | - | - | - | - |
| Stage 2 | 717 | - | - | - | - | - |
| 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 | 198 | 566 | 1059 | - | - | - |
| Stage 1 | 606 | - | - | - | - | - |
| Stage 2 | 484 | - | - | - | - | - |
| Platoon blocked, % | | | | - | - | - |
| Mov Cap-1 Maneuver | 197 | 566 | 1059 | - | - | - |
| Mov Cap-2 Maneuver | 333 | - | - | - | - | - |
| Stage 1 | 602 | - | - | - | - | - |
| Stage 2 | 484 | - | - | - | - | - |

| Approach | EB | NB | SB |
|----------------------|------|-----|----|
| HCM Control Delay, s | 12.3 | 0.1 | 0 |
| HCM LOS | B | | |

| Minor Lane/Major Mvmt | NBL | NBT | EBLn1 | SBT | SBR |
|-----------------------|-------|-----|-------|-----|-----|
| Capacity (veh/h) | 1059 | - | 497 | - | - |
| HCM Lane V/C Ratio | 0.006 | - | 0.011 | - | - |
| HCM Control Delay (s) | 8.4 | - | 12.3 | - | - |
| HCM Lane LOS | A | - | B | - | - |
| HCM 95th %tile Q(veh) | 0 | - | 0 | - | - |

| Intersection | | | | | | |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh | 0 | | | | | |
| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
| Lane Configurations | ↔ | | ↔ | ↑ | ↑ | |
| Traffic Vol, veh/h | 0 | 1 | 2 | 653 | 469 | 0 |
| Future Vol, veh/h | 0 | 1 | 2 | 653 | 469 | 0 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | - | 100 | - | - | - |
| 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 | 1 | 2 | 710 | 510 | 0 |

| Major/Minor | Minor2 | Major1 | Major2 | | | |
|----------------------|--------|--------|--------|---|---|---|
| Conflicting Flow All | 1224 | 510 | 510 | 0 | - | 0 |
| Stage 1 | 510 | - | - | - | - | - |
| Stage 2 | 714 | - | - | - | - | - |
| 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 | 198 | 563 | 1055 | - | - | - |
| Stage 1 | 603 | - | - | - | - | - |
| Stage 2 | 485 | - | - | - | - | - |
| Platoon blocked, % | | | | - | - | - |
| Mov Cap-1 Maneuver | 198 | 563 | 1055 | - | - | - |
| Mov Cap-2 Maneuver | 334 | - | - | - | - | - |
| Stage 1 | 602 | - | - | - | - | - |
| Stage 2 | 485 | - | - | - | - | - |

| Approach | EB | NB | SB |
|----------------------|------|----|----|
| HCM Control Delay, s | 11.4 | 0 | 0 |
| HCM LOS | B | | |

| Minor Lane/Major Mvmt | NBL | NBT | EBLn1 | SBT | SBR |
|-----------------------|-------|-----|-------|-----|-----|
| Capacity (veh/h) | 1055 | - | 563 | - | - |
| HCM Lane V/C Ratio | 0.002 | - | 0.002 | - | - |
| HCM Control Delay (s) | 8.4 | - | 11.4 | - | - |
| HCM Lane LOS | A | - | B | - | - |
| HCM 95th %tile Q(veh) | 0 | - | 0 | - | - |

| Intersection | | | | | | |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh | 0.1 | | | | | |
| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
| Lane Configurations | ↔ | | ↔ | ↑ | ↑ | |
| Traffic Vol, veh/h | 2 | 4 | 6 | 647 | 660 | 2 |
| Future Vol, veh/h | 2 | 4 | 6 | 647 | 660 | 2 |
| 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 | - | 100 | - | - | - |
| 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 | 2 | 4 | 7 | 703 | 717 | 2 |

| Major/Minor | Minor2 | Major1 | Major2 | | | |
|----------------------|--------|--------|--------|---|---|---|
| Conflicting Flow All | 1435 | 718 | 719 | 0 | - | 0 |
| Stage 1 | 718 | - | - | - | - | - |
| Stage 2 | 717 | - | - | - | - | - |
| 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 | 147 | 429 | 882 | - | - | - |
| Stage 1 | 483 | - | - | - | - | - |
| Stage 2 | 484 | - | - | - | - | - |
| Platoon blocked, % | | | | - | - | - |
| Mov Cap-1 Maneuver | 146 | 429 | 882 | - | - | - |
| Mov Cap-2 Maneuver | 286 | - | - | - | - | - |
| Stage 1 | 479 | - | - | - | - | - |
| Stage 2 | 484 | - | - | - | - | - |

| Approach | EB | NB | SB |
|----------------------|----|-----|----|
| HCM Control Delay, s | 15 | 0.1 | 0 |
| HCM LOS | C | | |

| Minor Lane/Major Mvmt | NBL | NBT | EBLn1 | SBT | SBR |
|-----------------------|-------|-----|-------|-----|-----|
| Capacity (veh/h) | 882 | - | 368 | - | - |
| HCM Lane V/C Ratio | 0.007 | - | 0.018 | - | - |
| HCM Control Delay (s) | 9.1 | - | 15 | - | - |
| HCM Lane LOS | A | - | C | - | - |
| HCM 95th %tile Q(veh) | 0 | - | 0.1 | - | - |

| Intersection | | | | | | |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh | 0 | | | | | |
| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
| Lane Configurations | ↔ | | ↔ | ↑ | ↑ | |
| Traffic Vol, veh/h | 1 | 1 | 1 | 652 | 664 | 0 |
| Future Vol, veh/h | 1 | 1 | 1 | 652 | 664 | 0 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | - | 100 | - | - | - |
| Veh in Median Storage, # | 0 | - | - | 0 | 0 | - |
| Grade, % | 0 | - | - | 0 | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 1 | 1 | 1 | 709 | 722 | 0 |

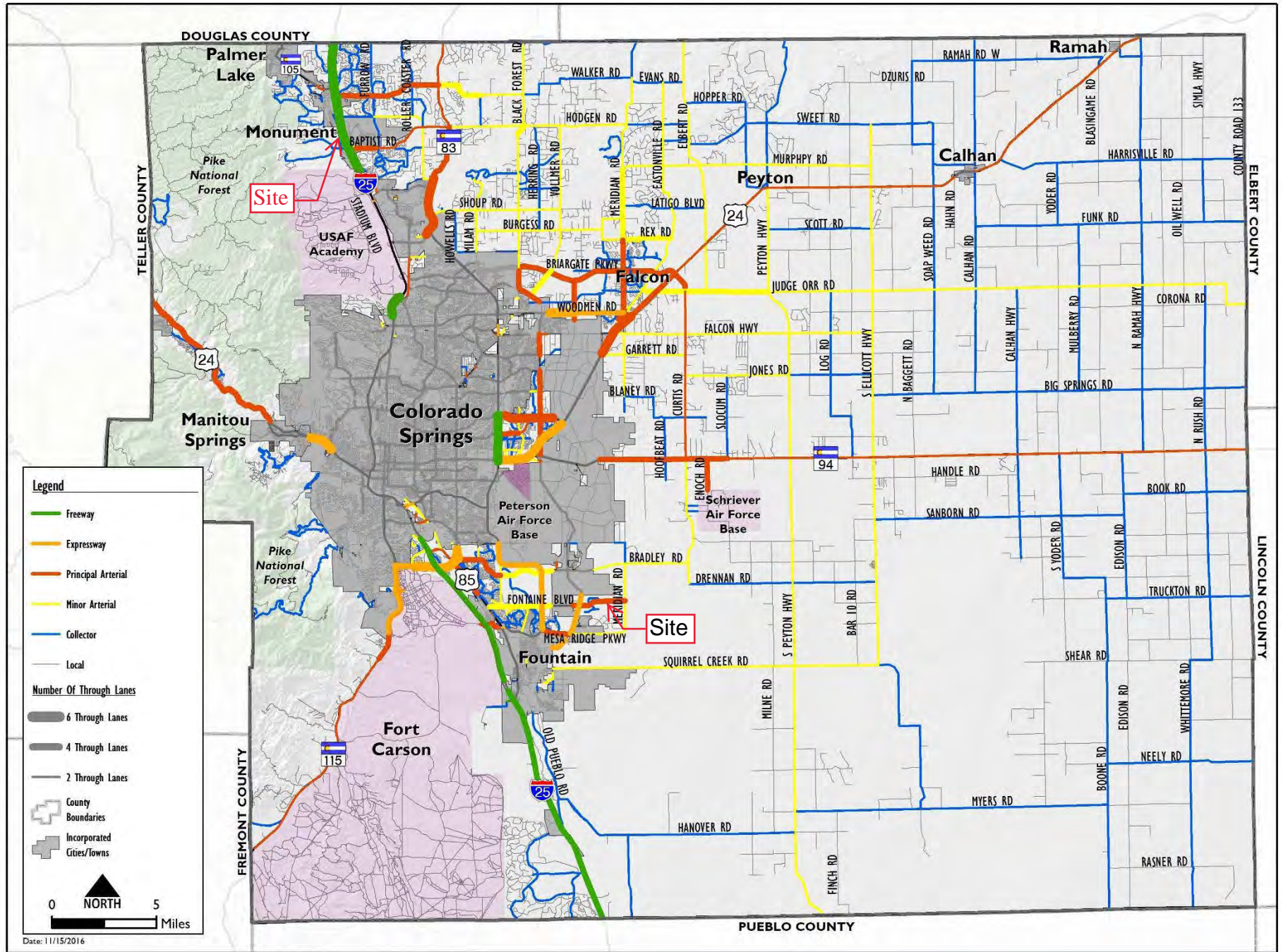
| Major/Minor | Minor2 | Major1 | Major2 | | | |
|----------------------|--------|--------|--------|---|---|---|
| Conflicting Flow All | 1433 | 722 | 722 | 0 | - | 0 |
| Stage 1 | 722 | - | - | - | - | - |
| Stage 2 | 711 | - | - | - | - | - |
| Critical Hdwy | 6.42 | 6.22 | 4.12 | - | - | - |
| Critical Hdwy Stg 1 | 5.42 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.42 | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 3.318 | 2.218 | - | - | - |
| Pot Cap-1 Maneuver | 148 | 427 | 880 | - | - | - |
| Stage 1 | 481 | - | - | - | - | - |
| Stage 2 | 487 | - | - | - | - | - |
| Platoon blocked, % | | | | - | - | - |
| Mov Cap-1 Maneuver | 148 | 427 | 880 | - | - | - |
| Mov Cap-2 Maneuver | 288 | - | - | - | - | - |
| Stage 1 | 481 | - | - | - | - | - |
| Stage 2 | 487 | - | - | - | - | - |

| Approach | EB | NB | SB |
|----------------------|------|----|----|
| HCM Control Delay, s | 15.5 | 0 | 0 |
| HCM LOS | C | | |

| Minor Lane/Major Mvmt | NBL | NBT | EBLn1 | SBT | SBR |
|-----------------------|-------|-----|-------|-----|-----|
| Capacity (veh/h) | 880 | - | 344 | - | - |
| HCM Lane V/C Ratio | 0.001 | - | 0.006 | - | - |
| HCM Control Delay (s) | 9.1 | - | 15.5 | - | - |
| HCM Lane LOS | A | - | C | - | - |
| HCM 95th %tile Q(veh) | 0 | - | 0 | - | - |

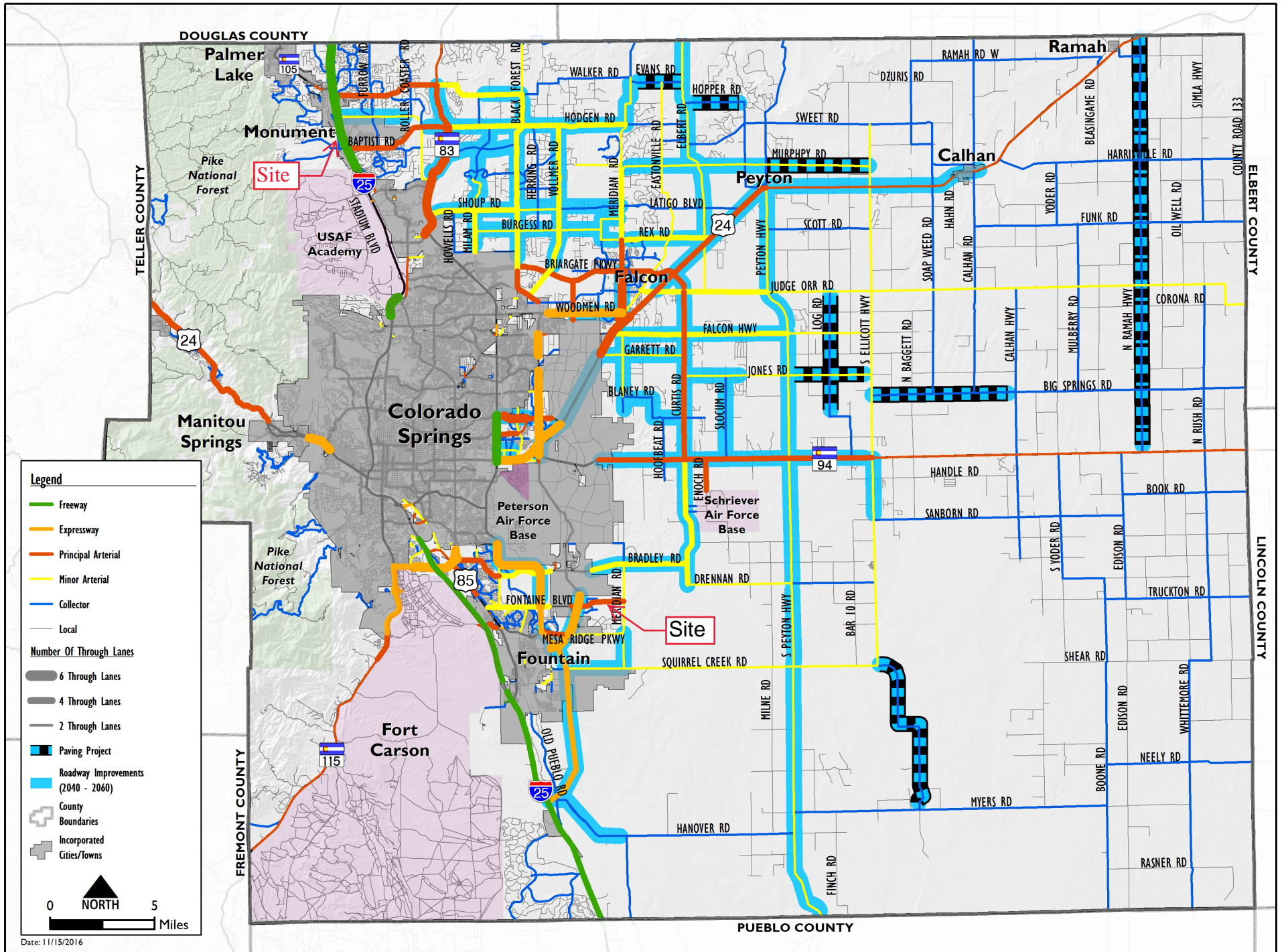
MTCP Maps





Map 14: 2040 Roadway Plan (Classification and Lanes)

Map 17: 2060 Corridor Preservation



Appendix A



Appendix A

Trip Generation Rate Estimate

Land Use: RV & Boat Storage

(LSC Revised 6-15-2023)

LSC estimates of trip-generation rates for the proposed RV & Boat Storage land use for this project have been based on averages of rates from other studies summarized in the following table:

| ITE Land Use Code | Land Use | Units ¹ | Average Weekday | Trip Generation Rates | | | |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|--------------------|-----------------|------------------------|-------------|--------------|-------------|
| | | | | Weekday A.M. | | Weekday P.M. | |
| | | | | In | Out | In | Out |
| <u>RV Storage Trip Generation Report - Valley Park, St. Louis, MO for the RV Storage facility to be located at 802 Forest Avenue by The Traffic Group</u> | | | | | | | |
| - | RV Storage - Data Point 1 | 100 Storage Units | 10.78 | | | | |
| - | RV Storage - Data Point 2 | 100 Storage Units | 10.8 | | | | |
| - | RV Storage - Data Point 3 | 100 Storage Units | 17.23 | (duplicate data point) | | | |
| <u>Trip Generation Analysis for the Proposed Self-Storage and RV Storage Facility at 3701 Pacific Place, Long Beach, California, by LSA Associates</u> | | | | | | | |
| - | RV Storage - Data Point 1 | 100 Storage Units | 17.23 | 0.50 | 0.47 | 0.93 | 1.12 |
| <u>Route 52 RV Traffic Impact Study in Weld County, CO (2017) -- by Sustainable Traffic Solutions, Inc.</u> | | | | | | | |
| - | RV Storage - Data Point 1 | 100 Storage Units | | | | 0.36 | 0.48 |
| Average Rates | | | 12.94 | 0.50 | 0.47 | 0.65 | 0.80 |
| Revised JCH 6-15-2023 | | | | | | | |

LSC estimates of trip-generation rates shown in the table above and used to estimate the trip generation for the proposed RV & Boat Storage land use for this project have been based on averages of rates from the following studies:

Route 52 RV Traffic Impact Study 8/28/2017 by Sustainable Traffic Solutions, Inc.

Outdoor RV Storage Trip Generation

Trip Generation Summary

| Location | Area (100 Spaces) | Peak Hour Volume | | | | | |
|--------------------------------|-------------------|------------------|----------|----------|------------------|-----------|-----------|
| | | Weekday Evening | | | Sunday Afternoon | | |
| | | Total | In | Out | Total | In | Out |
| Recreational Storage Solutions | 6.52 | 9 | 3 | 6 | 19 | 9 | 10 |
| Brighton Outdoor Storage | 9.67 | 5 | 3 | 2 | 36 | 25 | 16 |
| Total | 16.59 | 14 | 6 | 8 | 55 | 29 | 26 |
| Average | 8.30 | 7 | 3 | 4 | 28 | 15 | 13 |
| Percentage | --- | 100% | 43% | 57% | 100% | 52% | 47% |
| Rates (trips/100 spaces) | --- | 0.84 | 0.36 | 0.48 | 3.32 | 1.75 | 1.57 |

Data Summary

| Recreational Storage Solutions | | | | Brighton Outdoor Storage | | | |
|--------------------------------|-----------|-----------|------------|--------------------------|-----------|-----------|------------|
| Weekday | | | | Weekday | | | |
| Interval | In | Out | Total | Interval | In | Out | Total |
| 1 | 1 | 2 | | 1 | 0 | 0 | |
| 2 | 0 | 2 | | 2 | 2 | 0 | |
| 3 | 2 | 2 | | 3 | 0 | 1 | |
| 4 | 0 | 0 | 3 | 4 | 0 | 1 | 4 |
| 5 | 1 | 1 | 8 | 5 | 1 | 0 | 5 |
| 6 | 1 | 0 | 7 | 6 | 0 | 1 | 4 |
| 7 | 0 | 1 | 4 | 7 | 1 | 0 | 4 |
| 8 | 1 | 1 | 5 | 8 | 0 | 1 | 4 |
| Total | 6 | 9 | --- | Total | 4 | 4 | --- |
| Sunday | | | | Sunday | | | |
| Interval | In | Out | Total | Interval | In | Out | Total |
| 1 | 2 | 3 | | 1 | 5 | 0 | |
| 2 | 2 | 2 | | 2 | 5 | 3 | |
| 3 | 2 | 2 | | 3 | 6 | 6 | |
| 4 | 3 | 3 | 19 | 4 | 4 | 7 | 36 |
| 5 | 1 | 3 | 18 | 5 | 3 | 2 | 36 |
| 6 | 1 | 2 | 17 | 6 | 4 | 3 | 35 |
| 7 | 1 | 4 | 18 | 7 | 2 | 2 | 37 |
| 8 | 4 | 0 | 16 | 8 | 3 | 3 | 22 |
| Total | 16 | 19 | --- | Total | 32 | 26 | --- |

Trip-Generation Analysis for the Proposed Self-Storage and RV Storage Facility at 3701 Pacific Place, Long Beach, California, 2/27/2020 by LSA Associates

Table B: Project Trip Generation (Gate Trip Rates)

| Land Use | Size | Unit | ADT | AM Peak Hour | | | PM Peak Hour | | |
|--------------------------------|-------|-------------------|------------|--------------|----------|-----------|--------------|-----------|-----------|
| | | | | In | Out | Total | In | Out | Total |
| Trip Rates¹ | | | | | | | | | |
| Self-Storage | | 100 storage units | 12.90 | 0.53 | 0.40 | 0.93 | 0.93 | 0.79 | 1.72 |
| RV Storage | | 100 RV spaces | 17.23 | 0.50 | 0.47 | 0.97 | 0.93 | 1.12 | 2.05 |
| Project Trip Generation | | | | | | | | | |
| Self-Storage | 11.00 | 100 storage units | 142 | 6 | 4 | 10 | 10 | 9 | 19 |
| RV Storage | 5.80 | 100 RV spaces | 100 | 3 | 3 | 6 | 5 | 7 | 12 |
| Total | | | 242 | 9 | 7 | 16 | 15 | 16 | 31 |

¹ Trip rates developed from gate data for the Moreno Valley Self Storage and Desert Hot Springs Self Storage and RV Storage facilities (November 2019 to January 2020).

ADT = average daily traffic

RV = recreational vehicle

RV Storage Trip Generation Report - Valley Park, St. Louis, MO, for the RV storage facility to be located at 802 Forest Avenue 1/6/2022 by The Traffic Group

| Source/Land Use | | Daily |
|----------------------------------------------------|---------------------|-----------|
| ITE -151 (Trip Generation Manual, 11th Ed.) | | |
| Trip Rates | Rate per 100 spaces | 17.96 |
| RV Storage | 265 RV Spaces | 48 |
| Fort Collins - 60% Reduction | | |
| Trip Rates | Rate per 100 spaces | 10.78 |
| RV Storage | 265 RV Spaces | 29 |
| McBride Traffic Study | | |
| Trip Rates | Rate per 100 spaces | 10.80 |
| RV Storage | 265 RV Spaces | 29 |
| Long Beach, CA | | |
| Trip Rates | Rate per 100 spaces | 17.23 |
| RV Storage | 265 RV Spaces | 46 |
| Average Trips for 265 RV Spaces | | 38 |

Appendix B



Appendix B

Trip Generation Rate Estimate

Land Use: General Outdoor Storage Yard

(by LSC 11-15-2023)

LSC estimates of trip-generation rates for a “General Outdoor Storage Yard” land use for this project have been based on data collected at similar sites in Colorado Springs and Arapahoe County, CO.

A “General Outdoor Storage Yard” land use is a commercial business which provides leasable outdoor spaces for businesses, including construction and industrial businesses, contractors, and others needing space store and vehicles, equipment, large machinery, materials, etc. The tenants are commonly, but not limited to, maintenance contractors, design-build contractors, and other contractors needing properly zoned storage space. The intent is to provide separate leasable spaces for several tenants, rather than for a single tenant.

Generally, this use does not include permanent buildings such as offices, warehouses or maintenance shops, although one of the sites counted did have a building on the site. As permanent buildings are not typically included, the independent/predictor variable used is “Acres.”

The businesses may offer 24-hour access with a gate and access keypad.

This use is similar to mini warehouse/self-storage but is primarily outdoor storage space for businesses and contractors, generally without permanent buildings. The use is also similar to outdoor RV/Boat storage and some of the sites surveyed allow for lease of space for RVs and boats and appear to provide vehicle parking spaces. However, this use allows for storage of materials and equipment other than or in addition to vehicles/trailers and has fenced off yard areas for storage in addition to vehicle/trailer parking spaces and is primarily intended for lease by contractors.

The data and average trip-generation rates are summarized in the following table:

| ITE Code | Land Use | Survey Location | Value | Units ¹ | Driveway Trips Counted ¹ | | | | Calculated Trip Generation Rates | | | | | |
|----------------|-------------------------|-----------------------------------|-------|--------------------|-------------------------------------|----------------|-----|----------------|----------------------------------|--------------|----------------|-------------|----------------|-------------|
| | | | | | Weekday | A.M. Peak Hour | | P.M. Peak Hour | | Weekday | A.M. Peak Hour | | P.M. Peak Hour | |
| | | | | | | In | Out | In | Out | | In | Out | In | Out |
| N/A | General Outdoor Storage | Site No. 1 - Colorado Springs, CO | 8.7 | Acres | 350 | 27 | 21 | 11 | 11 | 40.28 | 3.11 | 2.42 | 1.27 | 1.27 |
| N/A | General Outdoor Storage | Site No. 2 - Arapahoe County, CO | 9.8 | Acres | 517 | 13 | 10 | 45 | 28 | 52.76 | 1.33 | 1.02 | 4.59 | 2.86 |
| N/A | General Outdoor Storage | Site No. 3 - Arapahoe County, CO | 5.5 | Acres | 110 | 9 | 3 | 4 | 6 | 20.00 | 1.64 | 0.55 | 0.73 | 1.09 |
| Average | | | | | | | | | | 37.68 | 2.02 | 1.33 | 2.19 | 1.74 |

¹ Source: local entering and exiting count data at contractor storage yards in Colorado Springs, CO and Arapahoe County, CO in October and November 2023

LSC estimates of trip-generation rates shown in the table above have been used to estimate the trip generation for the General Outdoor Storage land use for this project.