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# Falcon Acres Traffic Impact Study (LSD \#S214720) 

May 18, 2023

## 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

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


## Falcon Acres

## Traffic Impact Study

Prepared for:

Mr. Richard K. Elliott
c/o Thousand Hills Land and Cattle Co., LLC
812 East Monument Street
Colorado Springs CO, 80903-2824

MAY 18, 2023

LSC Transportation Consultants
Prepared by: Jeffrey C. Hodsdon, P.E.
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May 18, 2023
Mr. Richard K. Elliott
c/o Thousand Hills Land and Cattle Co., LLC
812 East Monument Street
Colorado Springs CO, 80903-2824

RE: Falcon Acres<br>Traffic Impact Study<br>El Paso County, CO<br>PCD File No. SF223<br>LSC \#S214720

Dear Mr. Elliott,

LSC Transportation Consultants, Inc. has prepared this traffic impact for the proposed Falcon Acres single-family residential development in El Paso County, Colorado. The eight-dwelling-unit single-family residential site is located on the southwest corner of Curtis Road/Davis Road (EPC parcel ID 4404000014). One access point to Davis Road is proposed for the property.

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

## 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 Curtis Road/Davis Road;
- Short-term baseline traffic volume estimates, which take into account remaining effects of the COVID-19 pandemic;
- 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 intersection/access sight distance at the proposed access-point intersection on Davis 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 development;
- 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:
- Curtis Road/Davis Road
- Davis 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 Curtis Road and/or Davis Road, based on the criteria in the County's Engineering Criteria Manual;
- Estimated average daily traffic (ADT) on Davis Road and comparison of the "design ADT" for gravel roads in the ECM (from traffic-count data) to calculate the "link level of service (LOS);"
- Identification of the El Paso County Road Impact Fee Program fee amounts;
- Other recommended improvements/modifications to the study-area roads and 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 Falcon Acres single-family residential development relative to the adjacent and nearby roads. in El Paso County, Colorado. The eight-dwelling-unit single-family residential site is located on the southwest corner of Curtis Road/Davis Road (EPC parcel ID 4404000014). A copy of the site plan is shown in Figure 2.

## Proposed Site Access

One access point to Davis Road is proposed for the property, 1/4-mile west of the intersection of Curtis Road/Davis Road. This access point would be stop-sign controlled on the northbound approach and would be a full-movement intersection with Davis Road.

## 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:

Curtis Road extends north-to-south between Drennan Road and Stapleton Drive in El Paso County, Colorado. Curtis Road is shown as a two-lane Principal Arterial on the County's Major Transportation Corridors Plan (MTCP). The posted speed limit on Curtis Road adjacent to Davis Road is 45 miles per hour (mph). No auxiliary left- or right-turn lanes exist on any approach at the stop-sign-controlled intersection of Curtis Road/Davis Road. Curtis Road is classified as a fourlane Principal Arterial on the MTCP Corridor Preservation Plan (Map 14, attached).

Davis Road is a rural, two-lane gravel roadway extending east from Hoofbeat Road to east of Curtis Road. Davis Road is shown as a two-lane Collector on the 2040 El Paso County Major Transportation Corridors Plan (MTCP). The posted speed limit on Davis Road is 25 mph adjacent to the site.

Blaney Road is a rural, two-lane gravel roadway locally extending north from SH 94 to Davis Road. Blaney Road is classified as a two-lane Major Collector on the 2040 El Paso County Major Transportation Corridors Plan (MTCP) and a two-lane Collector on the 2060 El Paso County Corridor Preservation Plan.

## Existing Traffic Volumes

Figure 3 shows the existing traffic volumes on the study-area roads and at the intersection of Curtis/Davis. These volumes are based on traffic counts on Davis Road west of Curtis and peak-hour turning-movement counts at the intersection of Curtis/Davis. Daily traffic estimates on Curtis Road and Davis Road east of Curtis are estimates by LSC. Count data sheets are attached for reference.

## SIGHT DISTANCE

## El Paso County Requirements

Access points (planned public-roadway intersections) must meet Engineering Criteria Manual (ECM) standards for sight distance. The site-access point is anticipated to be a full-movement, stop-sign-controlled intersection with Davis Road. All 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 east or west.

## Entering Sight Distance

The entering sight distance for the proposed site-access driveway would exceed the required 335 feet approaching the access from both directions along Davis Road (per Table 2-21 of the County's Engineering Criteria Manual). Field measurements recorded 849 feet of sight distance looking to the east and greater than 1,000 feet looking to the west from the proposed site access location.

## TRIP GENERATION

Estimates of the existing and projected vehicle trips to be generated by the site have been made using nationally-published average trip-generation rates for land use code " 210 - Single-Family (Detached) Housing" in Trip Generation, 11 ${ }^{\text {th }}$ Edition, 2021 by the Institute of Transportation Engineers (ITE).

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

Table 1: Estimated External Site Vehicle-Trip Generation

| Analysis Period | Weekday |  |  |
| :---: | :---: | :---: | :---: |
|  | In | Out | Total |
| Morning Peak Hour | 1 | 4 | 5 |
| Evening Peak Hour | 5 | 3 | 8 |
| Daily/24-hour | 38 | 38 | 76 |

Based on the ITE estimate for the proposed residential development, the site is projected to generate about 76 vehicle trips on the average weekday. During the weekday morning peak hour, approximately 1 vehicle would enter and 4 vehicles would exit the site. Approximately 5 entering vehicles and 3 exiting vehicles are projected for the weekday afternoon peak hour.

## TRIP DISTRIBUTION 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 4 shows the percentages of the site-generated vehicle trips projected to be oriented to and from the site's major approaches. Estimates have been based on the following factors: the proposed land use, the area road system serving the site, the traffic-count data at the intersection of Curtis/Davis, previously-conducted traffic studies in the area, and the site's geographic location relative to the City of Colorado Springs metro area, El Paso County, and the Pikes Peak region.

## Site-Generated Traffic

## Short Term

Figure 5 shows the 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 4) to the trip-generation estimates (from Table 3).

## Existing-Plus-Site-Generated Traffic Volumes

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

## Estimated Future 2040 Background Traffic Volumes

Figure 7 shows the projected 20-year background traffic volumes for the year 2040. Estimated 2040 background through traffic volumes on Curtis Road and Davis 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. The background traffic estimates shown in Figure 7 reflect a five-percent-per-year growth rate for 20 years. Projected 20-year background traffic volumes do not include projected traffic to be generated by the proposed Falcon Acres development.

## Future 2040 Total Traffic Volumes

Figure 8 shows the projected 2040 total traffic volumes, which are the sum of 2040 background traffic volumes (from Figure 7) plus the site-generated traffic volumes (from Figure 5).

## 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:

- Curtis Road/Davis Road
- Davis 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 | Unsignalized Intersections |
| :---: | :---: | :---: |
|  | Average Control Delay <br> (Seconds per Vehicle) | Average Control Delay <br> (Seconds per Vehicle) |
| A | 10.0 sec or less | 10.0 sec or less |
| B | $10.1-20.0 \mathrm{sec}$ | $10.1-15.0 \mathrm{sec}$ |
| C | $20.1-35.0 \mathrm{sec}$ | $15.1-25.0 \mathrm{sec}$ |
| D | $35.1-55.0 \mathrm{sec}$ | $25.1-35.0 \mathrm{sec}$ |
| E | $55.1-80.0 \mathrm{sec}$ | $35.1-50.0 \mathrm{sec}$ |
| F | 80.1 sec or more | 50.1 sec or more |

(1) For unsignalized intersections, if $\mathrm{V} / \mathrm{C}$ 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 6: Short-Term Total Traffic, Lane Geometry, Traffic Control, and LOS
- Figure 7: 2041 Background Traffic, Lane Geometry, Traffic Control, and LOS
- Figure 8: 2041 Background + Site Traffic, Lane Geometry, Traffic Control, and LOS


## Curtis Road/Davis Road

All individual turning movements at the intersection of Curtis Road/Davis Road currently operate at and are projected to remain at LOS C or better during all short-term and long-term scenarios, with or without the addition of site-generated traffic.

## Davis Road/Proposed Site Access

All individual turning movements at the proposed site-access intersection with Davis 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.

- Curtis Road - Principal Arterial
- Davis Road - Collector


## Curtis Road/Davis Road Intersection

## Left-Turn Deceleration Lanes

Left-turn deceleration auxiliary turn lanes are required for a Principal Arterial access with a projected peak-hour left-ingress turning volume of 10 vph or greater. The northbound left-turn volume is not projected to exceed this 10-vph threshold during either peak hour following the completion of the Falcon Acres residential development. As such, no modifications would be required to the existing northbound approach on Curtis Road approaching Davis Road.

## Right-Turn Deceleration Lanes

Right-turn deceleration auxiliary turn lanes are required for a Principal Arterial access with a projected peak-hour right-ingress turning volume of 25 vph or greater. The southbound right-turn volume is not projected to exceed this 25 -vph threshold during either peak hour following the completion of the Falcon Acres residential development. As such, no modifications would be required to the existing southbound approach on Curtis Road approaching Davis Road.

## Right-Turn Acceleration Lanes

Per Section 2.3.7.D. 2 of the $E C M$, 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 eastbound right-turn volume is not projected to exceed this $50-\mathrm{vph}$ threshold during either peak hour following the completion of the Falcon Acres residential development. As such, an eastbound-to-southbound right-turn acceleration lane would not be required at the intersection of Curtis Road/Davis Road.

## Peaceful Rain Way (Site Access)/Davis Road Intersection (Proposed)

Right-turn deceleration lanes are typically required on Minor Arterials (or lower classifications, such as Davis Road (Collector)) for accesses with an ingress volume greater than 50 vph. The eastbound right-turn volume is not projected to exceed this 50-vph threshold during either peak hour following the completion of the Falcon Acres residential development. As such, an eastbound right-turn deceleration lane would not be required at the proposed Peaceful Rain Way/Davis Road site-access intersection.

## AVERAGE DAILY TRAFFIC IMPACTS RELATIVE TO ROADWAY DESIGN ADT BY CLASSIFICATION

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.

## Davis Road

## Existing and Short Term

Davis Road is classified by the ECM as a two-lane, gravel Collector. 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 (125 vehicles per day), while the existingplus site scenario projects an ADT of 197 vehicles per day on Davis Road between Curtis Road and the proposed site access (shown in Figure 6). With the addition of projected site-generated trips, the quarter-mile segment of Davis Road between Curtis Road and the projected site access is not estimated to exceed the 200 ADT threshold for paving in the short term.

West of the site access, the estimated short-term total average weekday traffic AWT is 130 vpd , which would not exceed the 200 ADT threshold for paving in the short term.

Note that a significant portion of the vehicles on Davis 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.

## Long Term

The long-term background projections consider projections developed with the MTCP. Map 2 of the 2040 MTCP shows "Low Growth" for residential households in the vicinity of the site. Locally, the volumes take into consideration the partially developed Davis Ranch subdivision on the east side of Curtis Road. Figure 7 shows LSC's estimates of 2040 background volumes on Curtis Road and Davis Road. Future turning-movement volumes at Davis/Curtis are relatively light and may vary significantly depending on additional area subdivisions and/or other development served by Davis Road. Any future changes in area roadway conditions may also have an effect on these projected volumes.

The section of Davis Road between Curtis Road and the proposed site access, at 250 vehicles per day (Average Weekday Traffic), is projected to exceed the 200 ADT threshold for paving in the long term, without the proposed Falcon Acres residential development. The projected total would be 323 AWT in the long term with the addition of site-generated traffic.

The section of Davis Road west of the proposed site access between Blaney Road, at 250 vehicles per day (Average Weekday Traffic), is projected to exceed the 200 ADT threshold for paving in the long term, without the proposed Falcon Acres residential development. The projected total would be 255 AWT in the long term with the addition of site-generated traffic.

However, Map 7 of the MTCP projects that Davis Road east of Blaney Road, as a gravel road, would remain adequate through 2040. Granted, the MTCP was dated 2016 and this and other future subdivisions can alter the MTCP findings. Also, the MTCP is a large-scale document. Staff will review the local area conditions with this subdivision application.

## ROADWAY PAVING - DAVIS ROAD

LSC has calculated the percentage of impact on Davis Road due to this project's site-generated traffic.

Please refer to Table 4 (attached).

## MAJOR TRANSPORTATION CORRIDORS PLAN (MTCP)

## Roadway Classifications

The following study-area roadway improvements are shown on Map 13 and Table 5 of El Paso County's 2016 MTCP. The County will require these roadways to be constructed to County standards (ECM Table 2-5 presents a summary of roadways design standards):

- Curtis Road - 2-lane Rural Principal Arterial
- Davis Road - 2-lane Rural Collector
- Internal roadways within the proposed residential development - Rural Local (Gravel) Road


## Reimbursable Improvements

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

- U1 - Curtis Road from Judge Orr Road to SH $94(\$ 35,549,000)$
- Existing conditions - 2-lane Rural Unimproved County Road
- Future conditions - 2-lane Rural Principal Arterial
- P12 - Hoofbeat Road from Blaney Road to SH $94(\$ 2,756,000)$
- Existing conditions - 2-lane Rural Gravel Road
- Future conditions - 2-lane Rural Unimproved County Road

See the attached MTCP maps for reference.

## COUNTY ROAD IMPROVEMENT FEE PROGRAM

## Transportation Impact Fees

This project will be required to participate in the El Paso County Road Improvement Fee Program. Falcon Acres will join the ten-mil PID. The ten-mil PID building permit fee portion associated with this option is $\$ 1,221$ per single-family dwelling unit. The total building-permit fee would be $\$ 9,768$ for the 8 lots.

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

## MULTI-MODAL TRANSPORTATION AND TDM OPPORTUNITIES

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

- Proposed Secondary Regional Trail (Hoofbeat Road to Peyton Highway)

No sidewalks would be required, as all study-area roadways are Rural roadways.
There is a Park-N-Ride under construction to the northwest near the intersection of US Hwy 24/Meridian Road.

## DEVIATIONS

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

## SUMMARY OF FINDINGS

- The proposed development is projected to generate about 76 vehicle trips on the average weekday.
- During the weekday morning peak hour, 1 vehicle would enter the site while 4 vehicles would exit.
- During the weekday evening peak hour, 5 vehicles would enter the site while 3 vehicles would exit.
- All approaches at the study area intersections are projected to operate at LOS or better through the 20-year horizon. Please refer to the "Level of Service" section above for detailed LOS analysis results for more details.
- Based on the projected northbound left-turn movement (which includes baseline background traffic plus projected site traffic) at the Curtis/Davis intersection, a northbound left-turn lane would not be required by ECM criteria.
- Projected right-turn volumes at the Curtis/Davis intersection are below the ECM threshold requiring right-turn deceleration and acceleration lanes on Curtis Road.

Note: The turning-volume thresholds requiring auxiliary lanes on Principal Arterials are relatively low. Any significant additional development along Davis Road to the east and west or additional trip generation added to roads connecting to Davis Road may result in these thresholds being exceeded. Davis Road east and west of Curtis Road is classified as a Collector roadway on the MTCP. Typically, collector connections with arterial roads include auxiliary turn lanes. However, in this case, Davis Road has limited continuity to the east and west. The MTCP shows future need for improvement to Blaney Road south of Davis, and not Davis east of Blaney Road.

- Please refer to the "Auxiliary Turn-Lane Analysis" section more details.
- Based on the existing average weekday traffic volumes plus the estimated site-generated weekday volumes, the quarter-mile segment of Davis Road between Curtis Road and the site access would be under the County 200-vpd threshold for paving gravel roadways. Please refer to the "Average Daily Traffic Impacts Relative to Roadway Design ADT by Classification" section above for more details.
- Regarding the longer-term need for paving, Davis Road east and west of Curtis Road is classified as a Collector roadway on the MTCP. Typically, Collectors are already paved or are projected (by MTCP) to have volumes significantly above the 200-vpd paving threshold, and, as such, would clearly need future paving. However, Davis Road has limited continuity to the east and west. The MTCP shows future need for improvement to Blaney Road south of Davis, and not Davis east of Blaney Road. Map 7 of the MTCP projects that Davis Road east of Blaney Road, as a gravel road, would remain adequate through 2040. Granted the MTCP was dated 2016 (five years old) and this and other future subdivisions can alter the MTCP findings, particularly on low-volume roadways. The MTCP is a large-scale document. Also, note that a significant portion of the vehicles on Davis Road on weekday off-peak workday hours are commercial vehicles. The weekend volumes are lower, absent these commercial vehicles. Thus, average daily traffic (7-day average) is lower than the average weekday volume. Should staff determine that this section of Davis Road would need to be paved in the future, the applicant may be required to escrow a fair-share amount toward future roadway paving (see attached Table 4).

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

LSC TRANSPORTATION CONSULTANTS, INC.
By: Jeffrey C. Hodsdon, P.E.
Principal
JCH/JAB:jas
Enclosures: Table 3 and Table 4
Figure 1 - Figure 8
Traffic Counts
Synchro LOS Reports
MTCP Maps

Tables

Table 3: Detailed Trip-Generation Estimate

| ITE |  | Value | Units ${ }^{1}$ | Trip Generation Rates ${ }^{2}$ |  |  |  |  | Total Trips Generated |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Average <br> Weekday |  | A.M. |  | P.M. |  | Average Weekday | A.M. |  | P.M. |  |
| Code | Description |  |  | In | Out | In | Out |  | In | Out | In | Out |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 210 | Single-Family (Detached) Housing | 8 | DU | 9.43 | 0.18 | 0.53 | 0.59 | 0.35 | 75 | 1 | 4 | 5 | 3 |
| ${ }^{1} \mathrm{DU}=$ dwelling units |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ${ }^{2}$ Source: Trip Generation, 11th Edition, 2017, by the Institute of Transportation Engineers (ITE) |  |  |  |  |  |  |  |  |  |  |  |  |  |


| Table 4 <br> Estimated Fair Share of Improvement Cost Davis Road Paving/Upgrade |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Roadway Segment | Volumes (ADT) |  | Site <br> Percent of <br> 2042 Total |  | Improvement Scenario | Unit Cost per LF | Total Cost | Development Share | Paved Width | Cross Section | Unit Cost Includes: |
|  | Site | $\begin{gathered} 2042 \\ \text { BG + Site } \end{gathered}$ |  |  |  |  |  |  |  |  |  |
| Davis w/o site to Blaney Road | 4 | 254 | 1.6\% | 3880 | Scenario 1 | 81.76 | \$317,229 | \$4,996 | $28^{\prime}$ | Rural Local | Asphalt Only \$2.92 (6" depth) |
| Davis w/o site to Blaney Road | 4 | 254 | 1.6\% | 3880 | Scenario 2 | 173.34 | \$672,559 | \$10,591 | $32^{\prime}$ | Rural Major Collector | Standard Segment Unit Cost |
| Davis e/o site to Curtis Road | 71 | 321 | 22.1\% | 1320 | Scenario 1 | 81.76 | \$107,923 | \$23,871 | $28^{\prime}$ | Rural Local | Asphalt Only \$2.92 (6" depth) |
| Davis e/o site to Curtis Road | 71 | 321 | 22.1\% | 1320 | Scenario 2 | 173.34 | \$228,809 | \$50,609 | 32' | Rural Major Collector | Standard Segment Unit Cost |
| Both Segments Combined: |  |  |  |  |  |  |  |  |  |  |  |
| Davis Road Curtis to Blaney |  |  |  |  | Scenario 1 |  | \$425,152 | \$28,867 | $28^{\prime}$ | Rural Local | Asphalt Only \$2.92 (6" depth) |
| Davis Road Curtis to Blaney |  |  |  |  | Scenario 2 |  | \$901,368 | \$61,200 | 32' | Rural Major Collector | Standard Segment Unit Cost |
| by: LSC Transportation Consultants, Inc. |  |  |  |  |  |  |  |  |  |  | 4/27/2023 |

Figures






Figure 4
$\frac{\widehat{X X \%}}{X X \%}=\frac{\text { A.M. Peak Hour \% Distribution of Site-Generated Trips }}{\text { P.M. Pek }}$
Directional Distribution
$\overline{X X \%}$ P.M. Peak Hour \% Distribution of Site-Generated Trips





## Traffic Counts

## LSC Transportation Consultants, Inc.

## 545 E Pikes Peak Ave, Suite 210

Colorado Springs, CO 80905
719-633-2868
File Name: Curtis Rd - Davis Rd AM
Site Code : S214720
Start Date : 8/10/2021
Page No : 1

|  | Curtis Rd Southbound |  |  |  |  | Davis Rd <br> Westbound |  |  |  |  | Curtis Rd Northbound |  |  |  |  | Davis Rd Eastbound |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Start Time | L | T | R | U | App. Total | L | T | R | U | App. Total | L | T | R | U | App. Total | L | T | R | U | App. Total | Int. Total |
| 06:30 AM | 1 | 93 | 0 | 0 | 94 | 2 | 0 | 1 | 0 | 3 | 1 | 9 | 0 | 0 | 10 | 0 | 0 | 0 | 0 | 0 | 107 |
| 06:45 AM | 0 | 87 | 0 | 0 | 87 | 0 | 0 | 1 | 0 | 1 | 0 | 9 | 0 | 0 | 9 | 0 | 0 | 0 | 0 | 0 | 97 |
| Total | 1 | 180 | 0 | 0 | 181 | 2 | 0 | 2 | 0 | 4 | 1 | 18 | 0 | 0 | 19 | 0 | 0 | 0 | 0 | 0 | 204 |
| 07:00 AM | 1 | 91 | 1 | 0 | 93 | 3 | 0 | 1 | 0 | 4 | 0 | 14 | 0 | 0 | 14 | 1 | 0 | 1 | 0 | 2 | 113 |
| 07:15 AM | 1 | 99 | 1 | 0 | 101 | 3 | 0 | 1 | 0 | 4 | 0 | 6 | 0 | 0 | 6 | 1 | 0 | 1 | 0 | 2 | 113 |
| 07:30 AM | 1 | 94 | 0 | 0 | 95 | 3 | 0 | 2 | 0 | 5 | 0 | 9 | 0 | 0 | 9 | 2 | 0 | 0 | 0 | 2 | 111 |
| 07:45 AM | 0 | 69 | 1 | 0 | 70 | 0 | 0 | 1 | 0 | 1 | 0 | 3 | 0 | 0 | 3 | 1 | 0 | 0 | 0 | 1 | 75 |
| Total | 3 | 353 | 3 | 0 | 359 | 9 | 0 | 5 | 0 | 14 | 0 | 32 | 0 | 0 | 32 | 5 | 0 | 2 | 0 | 7 | 412 |
| 08:00 AM | 0 | 54 | 2 | 0 | 56 | 1 | 0 | 0 | 0 | 1 | 0 | 8 | 1 | 0 | 9 | 0 | 0 | 0 | 0 | 0 | 66 |
| 08:15 AM | 2 | 44 | 2 | 0 | 48 | 2 | 0 | 1 | 0 | 3 | 0 | 9 | 0 | 0 | 9 | 1 | 0 | 0 | 0 | 1 | 61 |
| Grand Total | 6 | 631 | 7 | 0 | 644 | 14 | 0 | 8 | 0 | 22 | 1 | 67 | 1 | 0 | 69 | 6 | 0 | 2 | 0 | 8 | 743 |
| Apprch \% | 0.9 | 98 | 1.1 | 0 |  | 63.6 | 0 | 36.4 | 0 |  | 1.4 | 97.1 | 1.4 | 0 |  | 75 | 0 | 25 | 0 |  |  |
| Total \% | 0.8 | 84.9 | 0.9 | 0 | 86.7 | 1.9 | 0 | 1.1 | 0 | 3 | 0.1 | 9 | 0.1 | 0 | 9.3 | 0.8 | 0 | 0.3 | 0 | 1.1 |  |

## LSC Transportation Consultants, Inc.

## 545 E Pikes Peak Ave, Suite 210

Colorado Springs, CO 80905
719-633-2868
File Name : Curtis Rd-Davis Rd AM
Site Code : S214720
Start Date : 8/10/2021
Page No : 2

|  | Curtis Rd Southbound |  |  |  |  | Davis Rd Westbound |  |  |  |  | Curtis Rd <br> Northbound |  |  |  |  | Davis Rd Eastbound |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Start Time | L | T | R | U | App. Total | L | T | R | U | App. Total | L | T | R | U | App. Total | L | T | R | U | App. Total | Int. Total |
| Peak Hour Analysis From 6:30:00 AM to 8:15:00 AM - Peak 1 of 1 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Peak Hour for Entire Intersection Begins at 6:45:00 AM |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 6:45:00 AM | 0 | 87 | 0 | 0 | 87 | 0 | 0 | 1 | 0 | 1 | 0 | 9 | 0 | 0 | 9 | 0 | 0 | 0 | 0 | 0 | 97 |
| 7:00:00 AM | 1 | 91 | 1 | 0 | 93 | 3 | 0 | 1 | 0 | 4 | 0 | 14 | 0 | 0 | 14 | 1 | 0 | 1 | 0 | 2 | 113 |
| 7:15:00 AM | 1 | 99 | 1 | 0 | 101 | 3 | 0 | 1 | 0 | 4 | 0 | 6 | 0 | 0 | 6 | 1 | 0 | 1 | 0 | 2 | 113 |
| 7:30:00 AM | 1 | 94 | 0 | 0 | 95 | 3 | 0 | 2 | 0 | 5 | 0 | 9 | 0 | 0 | 9 | 2 | 0 | 0 | 0 | 2 | 111 |
| Total Volume | 3 | 371 | 2 | 0 | 376 | 9 | 0 | 5 | 0 | 14 | 0 | 38 | 0 | 0 | 38 | 4 | 0 | 2 | 0 | 6 | 434 |
| \% App. Total | 0.8 | 98.7 | 0.5 | 0 |  | 64.3 | 0 | 35.7 | 0 |  | 0 | 100 | 0 | 0 |  | 66.7 | 0 | 33.3 | 0 |  |  |
| PHF | . 750 | . 937 | . 500 | . 000 | . 931 | . 750 | . 000 | . 625 | . 000 | . 700 | . 000 | . 679 | . 000 | . 000 | . 679 | . 500 | . 000 | . 500 | . 000 | . 750 | . 960 |

## LSC Transportation Consultants, Inc.

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## LSC Transportation Consultants, Inc.

## 545 E Pikes Peak Ave, Suite 210

Colorado Springs, CO 80905
719-633-2868
File Name : Curtis Rd-Davis Rd AM
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|  | Curtis Rd Southbound |  |  |  |  | Davis Rd Westbound |  |  |  |  | Curtis Rd Northbound |  |  |  |  | Davis Rd Eastbound |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Start Time | L | T | R | U | App. Total | L | T | R | U | App. Total | L | T | R | U | App. Total | L | T | R | U | App. Total |  | Int. Total |

Peak Hour Analysis From 6:30:00 AM to 8:15:00 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at

|  | 6:45:00 AM |  |  |  |  | 6:45:00 AM |  |  |  |  | 6:30:00 AM |  |  |  |  | 7:00:00 AM |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| +0 mins. | 0 | 87 | 0 | 0 | 87 | 0 | 0 | 1 | 0 | 1 | 1 | 9 | 0 | 0 | 10 | 1 | 0 | 1 | 0 | 2 |
| +5 mins. | 1 | 91 | 1 | 0 | 93 | 3 | 0 | 1 | 0 | 4 | 0 | 9 | 0 | 0 | 9 | 1 | 0 | 1 | 0 | 2 |
| +10 mins. | 1 | 99 | 1 | 0 | 101 | 3 | 0 | 1 | 0 | 4 | 0 | 14 | 0 | 0 | 14 | 2 | 0 | 0 | 0 | 2 |
| +15 mins. | 1 | 94 | 0 | 0 | 95 | 3 | 0 | 2 | 0 | 5 | 0 | 6 | 0 | 0 | 6 | 1 | 0 | 0 | 0 | 1 |
| Total Volume | 3 | 371 | 2 | 0 | 376 | 9 | 0 | 5 | 0 | 14 | 1 | 38 | 0 | 0 | 39 | 5 | 0 | 2 | 0 | 7 |
| \% App. Total | 0.8 | 98.7 | 0.5 | 0 |  | 64.3 | 0 | 35.7 | 0 |  | 2.6 | 97.4 | 0 | 0 |  | 71.4 | 0 | 28.6 | 0 |  |
| PHF | . 750 | . 937 | . 500 | . 000 | . 931 | . 750 | . 000 | . 625 | . 000 | . 700 | . 250 | . 679 | . 000 | . 000 | . 696 | . 625 | . 000 | . 500 | . 000 | . 875 |

## LSC Transportation Consultants, Inc.

545 E Pikes Peak Ave, Suite 210
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## LSC Transportation Consultants, Inc.

## 545 E Pikes Peak Ave, Suite 210

Colorado Springs, CO 80905
719-633-2868
File Name : Curtis Rd-Davis Rd PM
Site Code : S214720
Start Date : 8/10/2021
Page No : 1

|  | Curtis Rd Southbound |  |  |  |  | Davis Rd Westbound |  |  |  |  | Curtis Rd <br> Northbound |  |  |  |  | Davis Rd <br> Eastbound |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Start <br> Time | L | T | R | $\mathbf{U}$ | App. Total | L | T | R | U | App. Total | L | T | R | U | App. Total | L | T | $\mathbf{R}$ | U | App. Total | Int. Total |
| 04:00 PM | 2 | 9 | 0 | 0 | 11 | 1 | 0 | 2 | 0 | 3 | 0 | 77 | 1 | 0 | 78 | 2 | 0 | 1 | 0 | 3 | 95 |
| 04:15 PM | 1 | 11 | 3 | 0 | 15 | 1 | 0 | 1 | 0 | 2 | 2 | 104 | 1 | 0 | 107 | 0 | 0 | 0 | 0 | 0 | 124 |
| 04:30 PM | 2 | 12 | 2 | 0 | 16 | 0 | 0 | 1 | 0 | 1 | 0 | 78 | 0 | 0 | 78 | 2 | 0 | 0 | 0 | 2 | 97 |
| 04:45 PM | 1 | 10 | 0 | 0 | 11 | 0 | 0 | 0 | 0 | 0 | 1 | 89 | 2 | 0 | 92 | 1 | 0 | 1 | 0 | 2 | 105 |
| Total | 6 | 42 | 5 | 0 | 53 | 2 | 0 | 4 | 0 | 6 | 3 | 348 | 4 | 0 | 355 | 5 | 0 | 2 | 0 | 7 | 421 |
| 05:00 PM | 0 | 10 | 1 | 0 | 11 | 2 | 0 | 0 | 0 | 2 | 0 | 59 | 1 | 0 | 60 | 0 | 0 | 1 | 0 | 1 | 74 |
| 05:15 PM | 0 | 10 | 1 | 0 | 11 | 0 | 0 | 0 | 0 | 0 | 1 | 60 | 3 | 0 | 64 | 0 | 0 | 0 | 0 | 0 | 75 |
| 05:30 PM | 0 | 8 | 0 | 0 | 8 | 0 | 0 | 0 | 0 | 0 | 0 | 43 | 0 | 0 | 43 | 1 | 0 | 0 | 0 | 1 | 52 |
| 05:45 PM | 0 | 11 | 0 | 0 | 11 | 0 | 0 | 1 | 0 | 1 | 1 | 34 | 0 | 0 | 35 | 2 | 0 | 0 | 0 | 2 | 49 |
| Total | 0 | 39 | 2 | 0 | 41 | 2 | 0 | 1 | 0 | 3 | 2 | 196 | 4 | 0 | 202 | 3 | 0 | 1 | 0 | 4 | 250 |
| Grand Total | 6 | 81 | 7 | 0 | 94 | 4 | 0 | 5 | 0 | 9 | 5 | 544 | 8 | 0 | 557 | 8 | 0 | 3 | 0 | 11 | 671 |
| Apprch \% | 6.4 | 86.2 | 7.4 | 0 |  | 44.4 | 0 | 55.6 | 0 |  | 0.9 | 97.7 | 1.4 | 0 |  | 72.7 | 0 | 27.3 | 0 |  |  |
| Total \% | 0.9 | 12.1 | 1 | 0 | 14 | 0.6 | 0 | 0.7 | 0 | 1.3 | 0.7 | 81.1 | 1.2 | 0 | 83 | 1.2 | 0 | 0.4 | 0 | 1.6 |  |

## LSC Transportation Consultants, Inc.

## 545 E Pikes Peak Ave, Suite 210

Colorado Springs, CO 80905
719-633-2868
File Name : Curtis Rd-Davis Rd PM
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Page No : 2

|  | Curtis Rd Southbound |  |  |  |  | Davis Rd Westbound |  |  |  |  | Curtis Rd <br> Northbound |  |  |  |  | Davis Rd Eastbound |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Start Time | L | T | R | U | App. Total | L | T | R | U | App. Total | L | T | R | U | App. Total | L | T | R | U | App. Total | Int. Total |
| Peak Hour Analysis From 4:00:00 PM to 5:45:00 PM - Peak 1 of 1 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Peak Hour for Entire Intersection Begins at 4:00:00 PM |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 4:00:00 PM | 2 | 9 | 0 | 0 | 11 | 1 | 0 | 2 | 0 | 3 | 0 | 77 | 1 | 0 | 78 | 2 | 0 | 1 | 0 | 3 | 95 |
| 4:15:00 PM | 1 | 11 | 3 | 0 | 15 | 1 | 0 | 1 | 0 | 2 | 2 | 104 | 1 | 0 | 107 | 0 | 0 | 0 | 0 | 0 | 124 |
| 4:30:00 PM | 2 | 12 | 2 | 0 | 16 | 0 | 0 | 1 | 0 | 1 | 0 | 78 | 0 | 0 | 78 | 2 | 0 | 0 | 0 | 2 | 97 |
| 4:45:00 PM | 1 | 10 | 0 | 0 | 11 | 0 | 0 | 0 | 0 | 0 | 1 | 89 | 2 | 0 | 92 | 1 | 0 | 1 | 0 | 2 | 105 |
| Total Volume | 6 | 42 | 5 | 0 | 53 | 2 | 0 | 4 | 0 | 6 | 3 | 348 | 4 | 0 | 355 | 5 | 0 | 2 | 0 | 7 | 421 |
| \% App. Total | 11.3 | 79.2 | 9.4 | 0 |  | 33.3 | 0 | 66.7 | 0 |  | 0.8 | 98 | 1.1 | 0 |  | 71.4 | 0 | 28.6 | 0 |  |  |
| PHF | . 750 | . 875 | . 417 | . 000 | . 828 | . 500 | . 000 | . 500 | . 000 | . 500 | . 375 | . 837 | . 500 | . 000 | . 829 | . 625 | . 000 | . 500 | . 000 | . 583 | . 849 |

## LSC Transportation Consultants, Inc.

545 E Pikes Peak Ave, Suite 210
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## LSC Transportation Consultants, Inc.

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Colorado Springs, CO 80905
719-633-2868
File Name : Curtis Rd-Davis Rd PM
Site Code : S214720
Start Date : 8/10/2021
Page No : 4

|  | Curtis Rd Southbound |  |  |  |  | Davis Rd Westbound |  |  |  |  | Curtis Rd Northbound |  |  |  |  | Davis Rd Eastbound |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Start Time | L | T | R | U | App. Total | L | T | R | U | App. Total | L | T | R | U | App. Total | L | T | R | U | App. Total |  | Int. Total |

Peak Hour Analysis From 4:00:00 PM to 5:45:00 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at

|  | 4:00:00 PM |  |  |  |  | 4:00:00 PM |  |  |  |  | 4:00:00 PM |  |  |  |  | 4:00:00 PM |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| +0 mins. | 2 | 9 | 0 | 0 | 11 | 1 | 0 | 2 | 0 | 3 | 0 | 77 | 1 | 0 | 78 | 2 | 0 | 1 | 0 | 3 |
| +5 mins. | 1 | 11 | 3 | 0 | 15 | 1 | 0 | 1 | 0 | 2 | 2 | 104 | 1 | 0 | 107 | 0 | 0 | 0 | 0 | 0 |
| +10 mins. | 2 | 12 | 2 | 0 | 16 | 0 | 0 | 1 | 0 | 1 | 0 | 78 | 0 | 0 | 78 | 2 | 0 | 0 | 0 | 2 |
| +15 mins. | 1 | 10 | 0 | 0 | 11 | 0 | 0 | 0 | 0 | 0 | 1 | 89 | 2 | 0 | 92 | 1 | 0 | 1 | 0 | 2 |
| Total Volume | 6 | 42 | 5 | 0 | 53 | 2 | 0 | 4 | 0 | 6 | 3 | 348 | 4 | 0 | 355 | 5 | 0 | 2 | 0 | 7 |
| \% App. Total | 11.3 | 79.2 | 9.4 | 0 |  | 33.3 | 0 | 66.7 | 0 |  | 0.8 | 98 | 1.1 | 0 |  | 71.4 | 0 | 28.6 | 0 |  |
| PHF | . 750 | . 875 | . 417 | . 000 | . 828 | . 500 | . 000 | . 500 | . 000 | . 500 | . 375 | . 837 | . 500 | . 000 | . 829 | . 625 | . 000 | . 500 | . 000 | . 583 |

## LSC Transportation Consultants, Inc.

545 E Pikes Peak Ave, Suite 210
Colorado Springs, CO 80905
719-633-2868
File Name : Curtis Rd - Davis Rd PM
Site Code : S214720
Start Date : 8/10/2021
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| Intersection |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Int Delay, s/veh 0.7 |  |  |  |  |  |  |  |  |  |  |  |  |
| Movement E | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  | * |  |  | \& |  |  | ¢ |  |  | \$ |  |
| Traffic Vol, veh/h | 4 | 0 | 2 | 9 | 0 | 5 | 0 | 38 | 0 | 3 | 371 | 2 |
| Future Vol, veh/h | 4 | 0 | 2 | 9 | 0 | 5 | 0 | 38 | 0 | 3 | 371 | 2 |
| Conflicting Peds, \#/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control Stap | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | - | - | - | - | - | - | - |
| Veh in Median Storage, \# | \# | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, \% | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 78 | 78 | 78 | 78 | 78 | 78 | 83 | 83 | 83 | 92 | 92 | 92 |
| Heavy Vehicles, \% | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 5 | 0 | 3 | 12 | 0 | 6 | 0 | 46 | 0 | 3 | 403 | 2 |







| Intersection |  |  |  |  |  |  |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: |


| Major/Minor | Major1 | Major2 | Minor1 |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Conflicting Flow All | 0 | 08 | 0 | 17 | 8 |
| Stage 1 |  | - - | - | 8 |  |
| Stage 2 |  | - - | - | 9 |  |
| Critical Hdwy |  | 4.12 | - | 6.42 | 6.22 |
| Critical Hdwy Stg 1 |  | - - | - | 5.42 |  |
| Critical Hdwy Stg 2 |  | - - | - | 5.42 |  |
| Follow-up Hdwy |  | - 2.218 |  | 3.518 | 3.318 |
| Pot Cap-1 Maneuver |  | 1612 | - | 1001 | 1074 |
| Stage 1 |  | - - | - | 1015 |  |
| Stage 2 |  | - - | - | 1014 |  |
| Platoon blocked, \% | - | - | - |  |  |
| Mov Cap-1 Maneuver | - | 1612 | - | 999 | 1074 |
| Mov Cap-2 Maneuver | - | - - | - | 999 |  |
| Stage 1 |  | - - |  | 1015 |  |
| Stage 2 | - | - - | - | 1012 |  |


|  | EB | WB | NB |
| :--- | :---: | :---: | :---: |
| Approach | 3.6 | 8.4 |  |
| HCM Control Delay, s | 0 | 3.6 | A |



| 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 | 7 | 0 | 3 | 2 | 0 | 4 | 6 | 348 | 4 | 6 | 42 | 8 |
| Future Vol, veh/h | 7 | 0 | 3 | 2 | 0 | 4 | 6 | 348 | 4 | 6 | 42 | 8 |
| Conflicting Peds, \#/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control S | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | - | - | - | - | - | - | - |
| Veh in Median Storage, \# | \# | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, \% | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 78 | 78 | 78 | 78 | 78 | 78 | 92 | 92 | 92 | 83 | 83 | 83 |
| Heavy Vehicles, \% | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mumt Flow | 9 | 0 | 4 | 3 | 0 | 5 | 7 | 378 | 4 | 7 | 51 | 10 |



| Intersection |  |  |  |  |  |  |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: |
| Int Delay, s/veh | 2.7 |  |  |  |  |  |
| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
| Lane Configurations | b |  |  | -1 | Y |  |
| Traffic Vol, veh/h | 7 | 0 | 5 | 8 | 0 | 3 |
| Future Vol, veh/h | 7 | 0 | 5 | 8 | 0 | 3 |
| Conflicting Peds, \#/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Stop | Stop |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | - | - | - | - | 0 | - |
| Veh in Median Storage, \# | 0 | - | - | 0 | 0 | - |
| Grade, \% | 0 | - | - | 0 | 0 | - |
| Peak Hour Factor | 78 | 78 | 78 | 78 | 78 | 78 |
| Heavy Vehicles, \% | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 9 | 0 | 6 | 10 | 0 | 4 |



| Intersection |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Int Delay, s/veh | 1.2 |  |  |  |  |  |  |  |  |  |  |  |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  | * |  |  | \& |  |  | * |  |  | 4 |  |
| Traffic Vol, veh/h | 15 | 0 | 5 | 13 | 0 | 15 | 1 | 350 | 5 | 6 | 725 | 5 |
| Future Vol, veh/h | 15 | 0 | 5 | 13 | 0 | 15 | 1 | 350 | 5 | 6 | 725 | 5 |
| Conflicting Peds, \#/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | - | - | - | - | - | - | - |
| Veh in Median Storage, \# | \# | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, \% | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 78 | 78 | 78 | 78 | 78 | 78 | 92 | 92 | 92 | 93 | 93 | 93 |
| Heavy Vehicles, \% | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 19 | 0 | 6 | 17 | 0 | 19 | 1 | 380 | 5 | 6 | 780 | 5 |







| Intersection |  |  |  |  |  |  |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: |
| Int Delay, s/veh | 1.9 |  |  |  |  |  |
| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
| Lane Configurations | $\uparrow$ |  |  | -1 | Y |  |
| Traffic Vol, veh/h | 20 | 0 | 2 | 7 | 0 | 6 |
| Future Vol, veh/h | 20 | 0 | 2 | 7 | 0 | 6 |
| Conflicting Peds, \#/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Stop | Stop |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | - | - | - | - | 0 | - |
| Veh in Median Storage, \# | 0 | - | - | 0 | 0 | - |
| Grade, \% | 0 | - | - | 0 | 0 | - |
| Peak Hour Factor | 78 | 78 | 78 | 78 | 78 | 78 |
| Heavy Vehicles, \% | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 26 | 0 | 3 | 9 | 0 | 8 |






| Intersection |  |  |  |  |  |  |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: |
| Int Delay, s/veh | 2.1 |  |  |  |  |  |
| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
| Lane Configurations | F |  |  | -1 | Y |  |
| Traffic Vol, veh/h | 14 | 0 | 5 | 16 | 3 | 3 |
| Future Vol, veh/h | 14 | 0 | 5 | 16 | 3 | 3 |
| Conflicting Peds, \#/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Stop | Stop |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | - | - | - | - | 0 | - |
| Veh in Median Storage, \# | 0 | - | - | 0 | 0 | - |
| Grade, \% | 0 | - | - | 0 | 0 | - |
| Peak Hour Factor | 78 | 78 | 78 | 78 | 78 | 78 |
| Heavy Vehicles, \% | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 18 | 0 | 6 | 21 | 4 | 4 |


| Major/Minor M | Major1 |  | Major2 |  | Minor1 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Conflicting Flow All | 0 | 0 | 18 | 0 | 51 | 18 |
| Stage 1 | - |  | - | - | 18 | - |
| Stage 2 | - | - | - | - | 33 | - |
| Critical Hdwy | - | - | 4.12 | - | 6.42 | 6.22 |
| Critical Hdwy Stg 1 | - | - | - | - | 5.42 | - |
| Critical Hdwy Stg 2 | - | - | - | - | 5.42 | - |
| Follow-up Hdwy | - | - | 2.218 |  | 3.518 | 3.318 |
| Pot Cap-1 Maneuver | - |  | 1599 | - | 958 | 1061 |
| Stage 1 | - | - | - | - | 1005 | - |
| Stage 2 | - | - | - | - | 989 | - |
| Platoon blocked, \% | - | - |  | - |  |  |
| Mov Cap-1 Maneuver | - | - | 1599 | - | 954 | 1061 |
| Mov Cap-2 Maneuver | - | - | - | - | 954 | - |
| Stage 1 | - | - | - | - | 1005 | - |
| Stage 2 | - | - | - | - | 985 | - |
|  |  |  |  |  |  |  |
| Approach | EB |  | WB |  | NB |  |
| HCM Control Delay, s | 0 |  | 1.7 |  | 8.6 |  |
| HCM LOS |  |  |  |  | A |  |
|  |  |  |  |  |  |  |
| Minor Lane/Major Mvmt |  | NBLn1 | EBT | EBR | WBL WBT |  |
| Capacity (veh/h) |  | 1005 | - | - | 1599 | - |
| HCM Lane V/C Ratio |  | 0.008 | - |  | 0.004 | - |
| HCM Control Delay (s) |  | 8.6 | - | - | 7.3 | 0 |
| HCM Lane LOS |  | A | - | - | A | A |
| HCM 95th \%tile Q(veh) |  | 0 | - | - | 0 | - |

## MTCP Maps



Map 14: 2040 Roadway Plan (Classification and Lanes)


