LSC TRANSPORTATION CONSULTANTS, INC.
545 East Pikes Peak Avenue, Suite 210
Colorado Springs, CO 80903
(719) 633-2868
FAX (719) 633-5430
E-mail: lsc@lsctrans.com
Website: http://www.lsctrans.com

this number is PUD 18-001

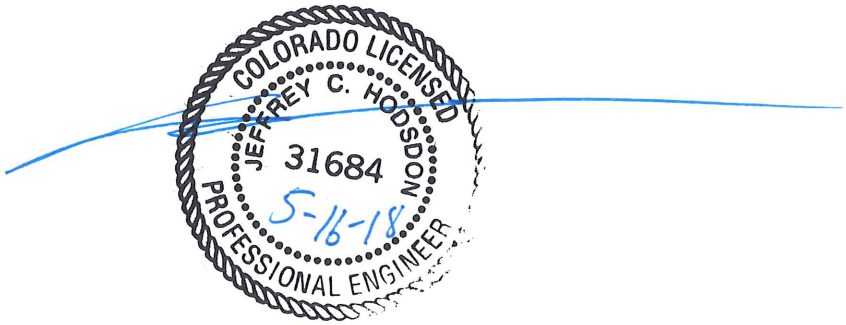
# Rollin' Ridge
# ~~Updated~~ Traffic Impact Study
# PCD File No. P181
(LSC #174470)
May 14, 2018

Remove "Updated"

Add the other two file numbers for the PUD and SP

**Traffic Engineer's Statement**

This traffic report and supporting information were prepared under my responsible charge and they comport with the standard of care. So far as is consistent with the standard of care, said report was prepared in general conformance with the criteria established by the County for traffic reports.




**Developer's Statement**

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

5-15-18
Date

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Given the high disproportion of traffic split at Prayer Tree Ct. and Cherry Crossing Ct. please provide an analysis for a round-about.

Elizabeth is hesitant to approve the deviation for the classification of road given the fact that large trucks will be using this and with a 28' foot pavement mat, not sure these trucks can maneuver. We are amenable to

May 14, 2018

TC & C, LLC
c/o Carl Turse
17572 Colonial
Monument, CO

' Ridge
so County, CO
ted Traffic Impact Study
LSC #174470

Dear Mr. Turse,

LSC Transportation Consultants, Inc. has prepared this updated traffic impact study for the proposed Rollin' Ridge development planned to be located southwest of the intersection of Hodgen Road/State Highway 83 in Colorado Springs, Colorado. One access to Hodgen Road, located approximately 900 feet west of State Highway (SH) 83 and across from Cherry Crossing Drive, is proposed for the site. No direct access to SH 83 is proposed. This report has been prepared for submittal to the Colorado Department of Transportation (CDOT) and El Paso County.

**REPORT CONTENTS**

The preparation of this report included the following:

- An inventory of existing road and traffic conditions near the intersections of Hodgen Road with SH 83 and Cherry Crossing Drive adjacent to the site, including functional classification, traffic control signs, posted speed limits, intersection and access spacing, roadway and intersection alignments, and any auxiliary turn lanes.
- Weekday morning and late afternoon peak-hour turning movement traffic counts at the following intersections:
  - SH 83/Hodgen Road
  - Hodgen Road/Cherry Crossing Drive
- CDOT annual average daily traffic volumes.
- Projections of 20-year background traffic volumes on SH 83 and adjacent to the proposed site access on Hodgen Road.
- Proposed site land use and access locations.

- Estimates of average weekday peak-hour trip generation for the proposed development, including the estimated directional distribution of site-generated vehicle-trips on SH 83 and adjacent to the intersection of Hodgen Road/site access/Cherry Crossing Drive near the site.
- Projected site-generated and resulting total traffic.
- Intersection level of service analysis.
- Auxiliary right-/left-turn lane needs analysis based on the projected volumes and criteria in the El Paso County *Engineering Criteria Manual* (ECM) and the *Colorado State Highway Access Code*.
- Findings and recommendations.
- A list of associated deviation requests being submitted concurrently with this TIS.

**LAND USE AND ACCESS**

Figure 1 shows the site location relative to the adjacent and nearby roadways. Rollin' Ridge is planned to contain 16 lots for **single-family homes** and a commercial site. The site plan is shown in Figure 2a and Figure 2b.

Rollin' Ridge's most recent commercial site plan identifies several buildings with a mix of land uses, as shown in Table 1.

**Table 1: Land Uses for Proposed Rollin' Ridge Commercial Development**

| Lot # | ITE Code | ITE Land Use Description | Value | Units |
|---|---|---|---|---|
| 17 | 946 | Gasoline/Service Station w/ Convenience Market | 5.000 | KSF* |
| 18 | 720 | Medical-Dental Office Building | 5.000 | KSF |
| | 820 | Shopping Center | 5.000 | KSF |
| 19 | 820 | Shopping Center | 5.000 | KSF |
| | 820 | Shopping Center | 5.000 | KSF |
| | 820 | Shopping Center | 5.000 | KSF |
| | 820 | Shopping Center | 5.000 | KSF |
| * KSF = 1,000 square feet<br>12 vehicle fueling positions (VFPs) are planned | | | | |

Access to Hodgen Road is proposed via a full-movement access located approximately 900 feet west of SH 83 (centerline spacing) and across from Cherry Crossing Drive.

The centerline access spacing along the main access drive (Cherry Crossing Drive extended south of Hodgen) is 360 feet between Hodgen and the northernmost internal access point and 290 feet south to the southern commercial access point.

## ROAD AND TRAFFIC CONDITIONS

### Area Roads and Streets

Figure 1 shows the roads in the vicinity of the site. The major roads are identified below followed by a brief description of each:

**State Highway (SH) 83** extends from Colorado Springs north to Parker and areas of southeast Denver. In the vicinity of the site, SH 83 is classified as a Regional Highway (R-A). At this location, SH 83 is a two-lane rural highway with two- to four-foot shoulders and a speed limit of 60 miles per hour (mph). The intersection with Hodgen Road is signalized. Per the El Paso County 2040 *Major Transportation Corridors Plan (MTCP)*, SH 83 is projected to be expanded from a two-lane highway to a four-lane highway by 2040. Additionally, the southbound approach is projected to have a dual left-turn lane and an exclusive right-turn lane by 2040. El Paso County's *2060 MTCP* also shows State Highway 83 as a future six-lane Principal Arterial. This is a CDOT roadway and the requirement for right of way dedication will be determined by CDOT.

**Hodgen Road** is a two-lane paved Rural Principal Arterial that extends west from State Highway 83 to Roller Coaster Road, where it continues west as Baptist Road. Hodgen also extends east from the intersection of Roller Coaster Road/Baptist Road to Eastonville Road (as a Minor Arterial). The speed limit on Hodgen Road is 40 mph adjacent to the site. El Paso County's *2060 MTCP* shows Hodgen Road as a four-lane Rural Principal Arterial (180 feet of right-of-way per the ECM).

**Cherry Crossing Drive** is a north/south, two-lane local road with a posted speed limit of 30 mph. Currently a T-intersection, the intersection of Cherry Crossing Drive/Hodgen Road would be converted to a full-movement, two-way stop sign-controlled intersection with this project.

The distance between Cherry Crossing Drive and Hwy 83 does not meet criteria. Please state that here and submit a deviation request for the spacing.

### Traffic Volumes

Turning movement traffic counts were conducted on Wednesday, June 21, 2017 from 6:30 to 8:30 a.m. and from 4:00 to 6:00 p.m. at the intersections of Hodgen Road with SH 83 and Cherry Crossing Drive, as shown in Figure 3. Raw count volume data is attached for reference. The figure also shows CDOT annual average daily traffic volumes.

### Sight Distance

Field-measured sight distance to the west from the proposed site access along Hodgen Road is 695 feet, which meets the minimum required 360 feet of stopping sight distance on a 45-mph (design speed/40-mph posted speed) two-lane roadway prescribed in Table 2-17 of the *ECM*.

The required intersection sight distance for passenger vehicles is 500 feet. This distance is met. The required intersection sight distance for trucks is 775 feet; however, given the driver's eye for trucks is significantly higher than for passenger cars, this distance requirement is also met.

The sight distance to the east extends to the east side of the intersection of Hodgen and SH 83 – about 950 feet.

**TRIP GENERATION**

Estimates of the vehicle-trips projected to be generated by the proposed development have been made using the nationally published trip generation rates from *Trip Generation, 10th Edition, 2017* by the Institute of Transportation Engineers (ITE).

**Pass-By and Diverted Trips**

The total number of trips generated by the site has also been aggregated by trip type to account for pass-by and diverted trips. A pass-by trip is one made by a motorist who would already be on an adjacent road regardless of the proposed development, but who stops in at the site while passing by. That pass-by motorist would then continue on his or her way to a final destination in the original direction. Table 7 (attached) shows the percent of the trips generated that were assumed to be pass-by trips. Pass-by percentage has been based on data from the *Trip Generation Handbook - An ITE Proposed Recommended Practice, 3rd Edition, 2014* by ITE and adjustments by LSC for site-specific conditions.

Analysis also accounts for diverted trips from adjacent State Highway 83. These trips are technically considered non-pass-by trips. These trips would be added to Hodgen Road and would result in altered turning movements at the nearby major intersection of SH 83/Hodgen Road. New trips would also be added to the proposed site access intersection.

The ITE-average percent pass-by and percent diverted trips were modified due to this site-specific situation. There are high northbound and southbound through volumes on State Highway 83 at its intersection with Hodgen Road approximately 900 feet to the east of the site. LSC increased the proportion of diverted trips generated by the gas station to 45 percent (to consider the volume of vehicles traveling on SH 83) while decreasing the share of pass-by trips (trips only from Hodgen Road) from 56 percent ( ITE average) to 40 percent. Similarly, the ITE average of 34 percent passby trips generated by shopping centers, while LSC reduced that proportion to 30 percent. No major modifications were made to the estimated primary trip percentage for either of the two aforementioned land uses.

The proposed site is projected to generate about 2,899 non-pass-by total vehicle-trips on the **average weekday** during a 24-hour period. This includes a significant percentage of diverted trips from the SH 83/Hodgen intersection.

**Driveway Trips**

Table 2, below, presents a summary of the estimated site trip generation. The detailed trip generation estimate for the development, including ITE rates for the proposed land use, is presented in Table 7 (attached).

During the morning peak hour, approximately 157 vehicles would enter and 116 vehicles would exit the site. During the evening peak hour, approximately 183 vehicles would enter and 183 vehicles would exit the site. The morning peak-hour trip generation may be conservative depending on this particular store's opening time.

**Table 2: Estimated Peak-Hour Vehicle-Trip Generation**

| Analysis Period | Weekday | | |
|---|---|---|---|
| | In | Out | Total |
| A.M. Peak Hour (Driveway Trips) | 157 | 116 | 271 |
| P.M. Peak Hour (Driveway Trips) | 183 | 183 | 366 |

**TRIP DISTRIBUTION AND ASSIGNMENT**

**Trip Directional Distribution**

An estimate of 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 directional distribution estimate for the site-generated trips. The figure shows the percentages of the site-generated vehicle-trips projected to be oriented to and from the site's major approaches.

Estimated percentages have been based on the following factors: the site's proposed land uses, the area roadway system, the anticipated service area, and the existing and projected peak-hour traffic volumes. Additionally, Figure 4 shows the separate estimated pass-by and diverted trip distributions.

**Site-Generated Traffic**

Site-generated traffic volumes at the proposed site access and the intersection of SH 83/Hodgen have been calculated by applying the directional distribution percentages estimated by LSC to the trip generation estimates (from Table 2). Figure 5 shows the projected site-generated traffic volumes for the weekday morning and evening peak hours.

## FUTURE TRAFFIC VOLUMES

### Existing Plus Site-Generated Traffic

Figure 6 shows the sum of the 2017 existing background traffic volumes (from Figure 3) and site-generated peak-hour traffic volumes (shown in Figure 5). These volumes represent the projected short-term total traffic following site buildout. Lane geometry and traffic control at the proposed Hodgen/site access and SH 83/Hodgen intersections are also shown in this figure.

### Long-Term Background (2040)

Figure 7 shows the estimated background traffic volumes for the year 2040. These are estimates by LSC based on historical count data, CDOT factors, and other traffic studies completed in the area. Traffic from the site is not included in the 2040 background traffic volumes.

### Long-Term Total Traffic (2040)

Figure 8 shows the sum of 2040 background traffic volumes (from Figure 7) plus the site-generated traffic volumes (from Figure 5). Figure 7 and Figure 8 also show the lane geometry and traffic control at the proposed site access intersection and the intersection of SH 83/Hodgen for the 2040 background and background plus site conditions, respectively.

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

**Table 3: Intersection Levels of Service Delay Ranges**

| Level of Service | Signalized Intersections | | Unsignalized Intersections |
|---|---|---|---|
| | Average Control Delay (seconds/vehicle) | V/C[(1)] | Average Control Delay (seconds/vehicle)[(2)] |
| A | ≤ 10.0 | < 0.60 | ≤ 10.0 |
| B | 10.1 – 20.0 | 0.60 – 0.69 | 10.1 – 15.0 |
| C | 20.1 – 35.0 | 0.70 – 0.79 | 15.1 – 25.0 |
| D | 35.1 – 55.0 | 0.80 – 0.89 | 25.1 – 35.0 |
| E | 55.1 – 80.0 | 0.90 – 0.99 | 35.1 – 50.0 |
| F | ≥ 80.1 | ≥ 1.00 | ≥ 50.1 |

(1) Source: *Transportation Research Circular 212*
(2) For unsignalized intersections, if V/C is > 1.00, then LOS is LOS F regardless of the projected average control delay per vehicle.

The proposed access intersection on Hodgen Road and the SH 83/Hodgen intersection have been analyzed to determine the projected control delay and corresponding levels of service and for the key intersection approaches (or for specific individual turning movements as applicable). As the proposed site access (Cherry Crossing Drive) intersection with Hodgen Road is/will be two-way stop-sign controlled (TWSC), traffic on the northbound and southbound approaches incur delay given the stop-sign control. The major street left-turn movements also incur delay.

**Morning Peak Hour**

A summary of current and projected 2040 background traffic conditions—both with and without considering site-generated traffic—is shown in Table 4. LOS and control delays during the weekday morning peak hour are shown in this table. Detailed Synchro reports are attached. SimTraffic simulation results were used in place of the *Highway Capacity Manual* (HCM) results at the TWSC site access intersection with Hodgen Road, as the SimTraffic micro-simulation better accounts for westbound traffic gaps created by nearby Hodgen/SH 83 signalized intersection.

**Table 4: Level of Service Comparison by Scenario (A.M. Peak)**

| Analysis Period | Cherry Crossing Drive/ Hodgen Road | | | | | State Highway 83/ Hodgen Road | | | | | | Lap Wai Ct/ Site Access | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Traffic Control | SB | NB L/T | NBR | WBL | Traffic Control | Overall | EBL | WBL | NBL | SBL | EB | WB |
| **LOS** | | | | | | | | | | | | | |
| 2017 Existing | TWSC* | A | - | - | - | Signal | B | A | B | A | A | - | - |
| 2017 Existing + Site | | A | A | A | A | | B | B | B | A | A | A | A |
| 2040 Background | | C | - | - | - | | C | C | C | B | B | - | - |
| 2040 Background + Site | | C | C | A | A | | C | C | C | B | B | A | A |
| **Control Delay (Seconds)** | | | | | | | | | | | | | |
| 2017 Existing | TWSC* | 4.2 | - | - | - | Signal | 10.3 | 9.5 | 15.4 | 9.3 | 9.8 | - | - |
| 2017 Existing + Site | | 7.4 | 8.9 | 3.2 | 3.9 | | 10.2 | 10.3 | 15.6 | 9.9 | 9.5 | 6.1 | 3.2 |
| 2040 Background | | 19.7 | - | - | - | | 23.0 | 23.2 | 31.5 | 16.9 | 16.1 | - | - |
| 2040 Background + Site | | 20.5 | 18.0 | 4.9 | 6.0 | | 21.7 | 20.6 | 25.8 | 16.6 | 15.5 | 7.6 | 3.0 |

Cherry Crossing Drive/Hodgen Road

All turning movements at this intersection are projected to operate at LOS C or better for all short-term and long-term morning peak-hour traffic conditions, with or without development.

State Highway 83/Hodgen Road

All turning movements at this intersection are projected operate at LOS C or better in the short and long term during the weekday morning peak hour.

Cherry Crossing Drive/Lap Wai Court/Proposed Site Access

Update to the new road name where applicable

All turning movements at the proposed site access off Cherry Crossing Drive are projected to operate at LOS A during all short-term and long-term morning peak-hour traffic conditions, with or without development.

**Evening Peak Hour**

A summary of current and projected 2040 background traffic conditions—both with and without considering site-generated traffic—is shown in Table 5. LOS and control delays during the weekday evening peak hour are shown in this table. Detailed Synchro reports are attached.

**Table 5: Level of Service Comparison by Scenario (P.M. Peak)**

| Analysis Period | Cherry Crossing Drive/ Hodgen Road | | | | | State Highway 83/ Hodgen Road | | | | | | Lap Wai Ct/ Site Access | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Traffic Control | SB | NB L/T | NBR | WBL | Traffic Control | Overall | EBL | WBL | NBL | SBL | EB | WB |
| **LOS** | | | | | | | | | | | | | |
| 2017 Existing | TWSC* | A | - | - | - | Signal | A | B | B | A | B | - | - |
| 2017 Existing + Site | | A | A | A | A | | A | B | B | A | B | A | A |
| 2040 Background | | B | - | - | - | | C | D | D | B | D | - | - |
| 2040 Background + Site | | C | D | A | A | | C | D | C | B | D | A | A |
| **Control Delay (Seconds)** | | | | | | | | | | | | | |
| 2017 Existing | TWSC* | 6.7 | - | - | - | Signal | 9.4 | 12.7 | 16.5 | 7.3 | 13.2 | - | - |
| 2017 Existing + Site | | 8.4 | 9.9 | 3.9 | 4.6 | | 9.0 | 12.8 | 15.4 | 8.3 | 10.5 | 8.4 | 3.4 |
| 2040 Background | | 14.5 | - | - | - | | 32.9 | 49.9 | 52.6 | 12.2 | 43.6 | - | - |
| 2040 Background + Site | | 24.8 | 32.1 | 6.0 | 8.7 | | 30.3 | 37.8 | 32.6 | 16.0 | 42.3 | 7.0 | 3.1 |
| * TWSC = Two-Way Stop Sign Control | | | | | | | | | | | | | |

Cherry Crossing Drive/Hodgen Road

All turning movements at the intersection of Hodgen Road/Cherry Crossing Drive currently operate and are projected to remain at LOS D or better for all short-term and long-term evening traffic conditions, with or without development.

State Highway 83/Hodgen Road

This intersection is projected to operate at LOS D or better in the short and long term during the weekday evening peak hour.

Cherry Crossing Drive/Lap Wai Court/Proposed Site Access

All turning movements at the proposed site access off Cherry Crossing Drive are projected to operate at LOS A during all short-term and long-term evening peak-hour traffic conditions, with or without development.

**QUEUING ANALYSIS**

Table 6 summarizes queueing analysis results assuming site buildout traffic is added to the projected long-term background traffic volumes at the intersection of Hodgen Road/Cherry Crossing Drive. Deviations from ECM-prescribed deceleration and taper distances are compared to the proposed lengths. Please refer to the attached striping plan exhibits for detailed proposed turn lane lengths. Also, please refer to the deviation request for the westbound left turn lane on Hodgen

Road at the proposed site access/Cherry Crossing Drive. The proposed left-turn lane will provide a reasonable length for the westbound left turn lane approaching Cherry Crossing Drive without shortening the existing eastbound left turn lane approaching SH 83.

For the westbound left turn lane on Hodgen Road at Cherry Crossing Drive, the ECM standard for a 45-mph design speed roadway is interpolated to be 200 feet of deceleration distance plus a 170-foot taper plus stacking needs. There appears to be a grade of just over three percent at the start of the left turn lane, then the grades become more level closer to the intersection. To be conservative, a grade-adjusted combined deceleration plus taper length is 444 feet - or 74 feet longer. The stacking length required from the analysis included in the TIS is 61 feet. Therefore, a full-width lane length of 335 feet (200'+74'+61') would be required (250' proposed as shown on the striping exhibit). The required taper is 170-feet and a 100-foot taper is proposed.

Assuming a separate northbound shared left/through lane and an exclusive northbound right-turn lane on northbound approach to Hodgen/Cherry Crossing Drive, the projected long-term queue is **not** projected to exceed the available stacking distance during either peak hour at the intersection of Hodgen Road/Cherry Crossing Drive. The proposed 90 feet of stacking distance with 75-foot taper for the southbound left-turn lane at the intersection of Cherry Crossing Drive/Lap Wai Court/commercial site access will accommodate all projected queues during both peak hours.

**Table 6: Queuing Analysis Results (2040 Background Plus Site-Generated Traffic)**

| Queue Data | Hodgen Road/ Cherry Crossing Drive | | | Lap Wai Court/ Cherry Crossing Drive |
|---|---|---|---|---|
| | NB LT/TH | NBR | WBL | SBL |
| **Taper Length** | | | | |
| ECM Standard (ft) | N/A | N/A** | 170' | N/A** |
| Proposed Taper Length (ft) | | 75' | 100' | 75' |
| Difference from ECM (ft) | | +75' | - 70' | +75' |
| **Full-Width Lane (Stacking + Deceleration) Length** | | | | |
| ECM Standard (ft) | 275* | N/A** | 335' | N/A** |
| Proposed Distance (ft) | | 105' | 250' | 90' |
| Difference from ECM (ft) | | +105' | - 85' | +90' |
| **Queuing (AM Peak Hour)*** ** | | | | |
| Maximum Queue (ft) | 44' | 55' | 57' | 30' |
| Upstream Block Time (%) | 0% | 0% | 0% | 0% |
| Storage Block Time (%) | 0% | 0% | 0% | 0% |
| **Queuing (PM Peak Hour)*** ** | | | | |
| Maximum Queue (ft) | 64' | 69' | 61' | 33' |
| Upstream Block Time (%) | 0% | 0% | 0% | 0% |
| Storage Block Time (%) | 0% | 0% | 0% | 0% |

* Represents the distance between the intersections.
** Not required for Local streets, however proposed for Modified Rural Local street classification to accommodate the projected traffic volumes. ***Maximum queues reported in SimTraffic analysis are shown. ECM Table 2-26 shows general values for bay taper lengths for 12' lanes by design speed.

Update table based off of Cherry Crossing Dr. being a minor arterial. We believe dual left turn lanes would be needed.

## CONCLUSIONS AND RECOMMENDATIONS

- The site is projected to generate about 2,899 new/non-pass-by vehicle-trips on the average weekday. A significant portion of these non-pass-by trips are projected to be diverted trips from the Highway 83/Hodgen Road intersection.

- Approximately 157 vehicles would enter the site during the weekday morning peak hour, while 116 vehicles are projected to exit. During the weekday evening peak hour of adjacent street traffic, 183 vehicles would enter the site while 183 vehicles would exit.

- All approaches at the site access intersection with Hodgen Road and at the intersection of SH 83/Hodgen will operate at LOS D or better during both the short and long term during the weekday morning peak hour and evening peak hour following the addition of this development. It is assumed that SH 83 will be expanded to a four-lane highway from

Hodgen Road south with dual southbound left-turn lanes in the long term (assumed for 2040).

- According to the El Paso County *Engineering Criteria Manual* (ECM), exclusive left-turn lanes shall be provided for any access on a Principal Arterial with a projected peak-hour ingress turning volume of 10 vehicles per hour (vph) or greater. Projected left-turn volumes at the site access point are expected to exceed the minimum left-turn volume thresholds outlined in the *ECM* upon site buildout. Thus, an exclusive westbound left-turn lane **is** prescribed by the ECM at the intersection of Hodgen Road/Cherry Crossing Drive/ site access. LSC recommends the painted center median be restriped to provide for this left-turn lane. This turn lane would be back-to-back with the eastbound left-turn lane at the Hodgen/SH 83 intersection. Please refer to the Queuing Analysis section and the attached lane exhibit for details.

- As shown in Figure 6 and Figure 8, the projected future westbound left-turn volumes, including existing, future background, and site traffic, are approximately 115 and 129 vehicles during the short- and long-term morning peak hour and evening peak hour, respectively.

- Per ECM criteria, exclusive right-turn lanes shall be provided for any access on a Principal Arterial with a projected peak-hour ingress turning volume of 25 vehicles per hour (vph) or greater. As shown in Figure 6 and Figure 8, the projected future eastbound right-turn volume is approximately 63 vehicles during the evening peak hour, which exceeds the minimum right-turn volume ECM thresholds upon site buildout. Thus, an exclusive right-turn deceleration lane **is** prescribed by the ECM at the intersection of Hodgen Road/site access.

- The *Colorado State Highway Access Code* requires a right-turn deceleration lane for any "access" (Hodgen Road is considered an "access" to SH 83) with a projected peak-hour right ingress turning volume greater than 25 vph. Per code, a southbound right-turn deceleration lane is required at the intersection of SH 83/Hodgen Road based on existing traffic volumes.

- The *Colorado State Highway Access Code* requires a right-turn acceleration lane for any "access" (Hodgen Road is considered an "access" to SH 83) with a projected peak-hour right ingress turning volume greater than 50 vph. Per code, a southbound right-turn acceleration lane is required at the intersection of SH 83/Hodgen Road based on existing traffic volumes.

- The current northbound left-turn deceleration lane at the SH 83/Hodgen intersection will need to be lengthened to the south to meet Access Code criteria based on existing plus buildout site-generated traffic.

- Proposed turn lane length designs, including deceleration (where applicable) storage and taper lengths, are projected to accommodate long-term queues at the intersections of Hodgen Road/Cherry Crossing Drive and the Lap Wai Court/site access. Deviations to ECM-prescribed turn lane design criteria are shown in Table 6. Please refer to the attached lane exhibits and deviation requests.

- Please refer to the attached lane exhibits for Hodgen Road and the main access drive (Cherry Crossing Drive).

- **Roadway Classification**: LSC recommends that Cherry Crossing Drive south of Hodgen Road be classified as a "modified" Rural Local roadway. The projected buildout ADT is 4,343 vehicles per day. Please refer to the attached lane exhibit. A deviation request for the modified standard roadway has been included with this submittal and would apply to the section of roadway from Hodgen Road south to the southernmost commercial site access.

  The ECM-standard roadway design elements, per Table 2-5 of the ECM, would be modified to accommodate the accommodate the higher-than-Local-standard traffic volumes as follows:

  - Right- and left-turn bays would be included, where needed in addition to the two 12-foot-wide through lanes, to accommodate the projected higher-than-Local-standard traffic volumes.
  - Outside shoulder widths of 8 feet, including 4 feet of paved shoulder and 4 feet of gravel shoulder – also to accommodate the higher-than-Local-standard traffic volumes.
  - No on-street parking and no individual lot access except south of the south commercial access.
  - Seventy-foot right-of way north of the first commercial access, tapering/variable right-of-way between the two commercial access points, and Local standard 60 feet of right-of-way with two 5-foot public improvements easements south of the south commercial access.
  - An intersection spacing of 290 feet between the two commercial access drives is requested where local street spacing is 330 feet – this is included in the deviation request.

  All other streets would be classified as Rural Local.

- **Roadway Right-of-Way:** The site plan shows right-of-way dedication for a 90-foot half-right-of-way for both Hodgen Road and State Highway 83.

Please state how much of this 90 foot you are dedicating.

- **Deviation Requests:** Two deviation requests accompany this submittal. The first is for the projected ADT and modified Rural Local cross-section for Cherry Crossing Drive south of Hodgen. The second is for the westbound left turn lane dimensions along Hodgen Road at the Cherry Crossing Drive intersection.

- This project will be required to participate in the El Paso County Road Impact Fee program. Consideration for Fee Program credit may be given to intersection improvements completed at the State Highway 83/Hodgen Road intersection (applicable MTCP project reference numbers U9 and SH 6).

* * * * *

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

Sincerely,

LSC TRANSPORTATION CONSULTANTS, INC.

By _____
Jeffrey C. Hodsdon, P.E., PTOE
Principal

JCH:JAB:bjwb

Enclosures: Table 7
Figure 1 – Figure 8
Lane Exhibits: Hodgen Road and Site Access Drive (Cherry Crossing Drive)
Traffic Count Reports
Synchro Reports
SimTraffic Reports

## Table 7: Detailed Trip Generation Estimate

| ITE | | Value | Units | Trip Generation Rates [1] | | | | | Driveway Trips Generated | | | | | % Diverted Trips | % Pass-by Trips | Non-Pass-by Trips Generated | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Avg Weekday Traffic | A.M. | | P.M. | | Avg Weekday Traffic | A.M. | | P.M. | | | | Avg Weekday Traffic | A.M. | | P.M. | |
| Code | Description | | | | In | Out | In | Out | | In | Out | In | Out | | | | In | Out | In | Out |
| 210 | Single-Family Detached Housing | 16 | DU[2] | 9.52 | 0.19 | 0.56 | 0.63 | 0.37 | 152 | 3 | 9 | 10 | 6 | 0% | 0% | 152 | 3 | 9 | 10 | 6 |
| 945 | Gasoline/Service Station w/ Convenience Market | 12 | VFP[3] | 162.78 | 5.08 | 5.08 | 6.76 | 6.76 | 1,953 | 61 | 61 | 81 | 81 | 45% | 40% | 1172 | 37 | 37 | 49 | 49 |
| 720 | Medical-Dental Office Building | 5.000 | KSF[4] | 36.13 | 1.89 | 0.50 | 1.00 | 2.57 | 181 | 9 | 3 | 5 | 13 | 0% | 0% | 181 | 9 | 3 | 5 | 13 |
| 820 | Shopping Center | 25.000 | KSF | 88.38 | 3.45 | 2.11 | 3.86 | 3.57 | 2,209 | 86 | 53 | 97 | 89 | 30% | 30% | 1547 | 60 | 37 | 68 | 62 |
| | | | | | | | | | **4,343** | **157** | **116** | **183** | **183** | | | **2,899** | **106** | **76** | **121** | **124** |

(1) Source: *Trip Generation, 9th Edition, 2012* by the Institute of Transportation Engineers (ITE)
(2) DU = dwelling units
(3) VFP = vehicle fueling positions
(4) KSF = 1,000 square feet

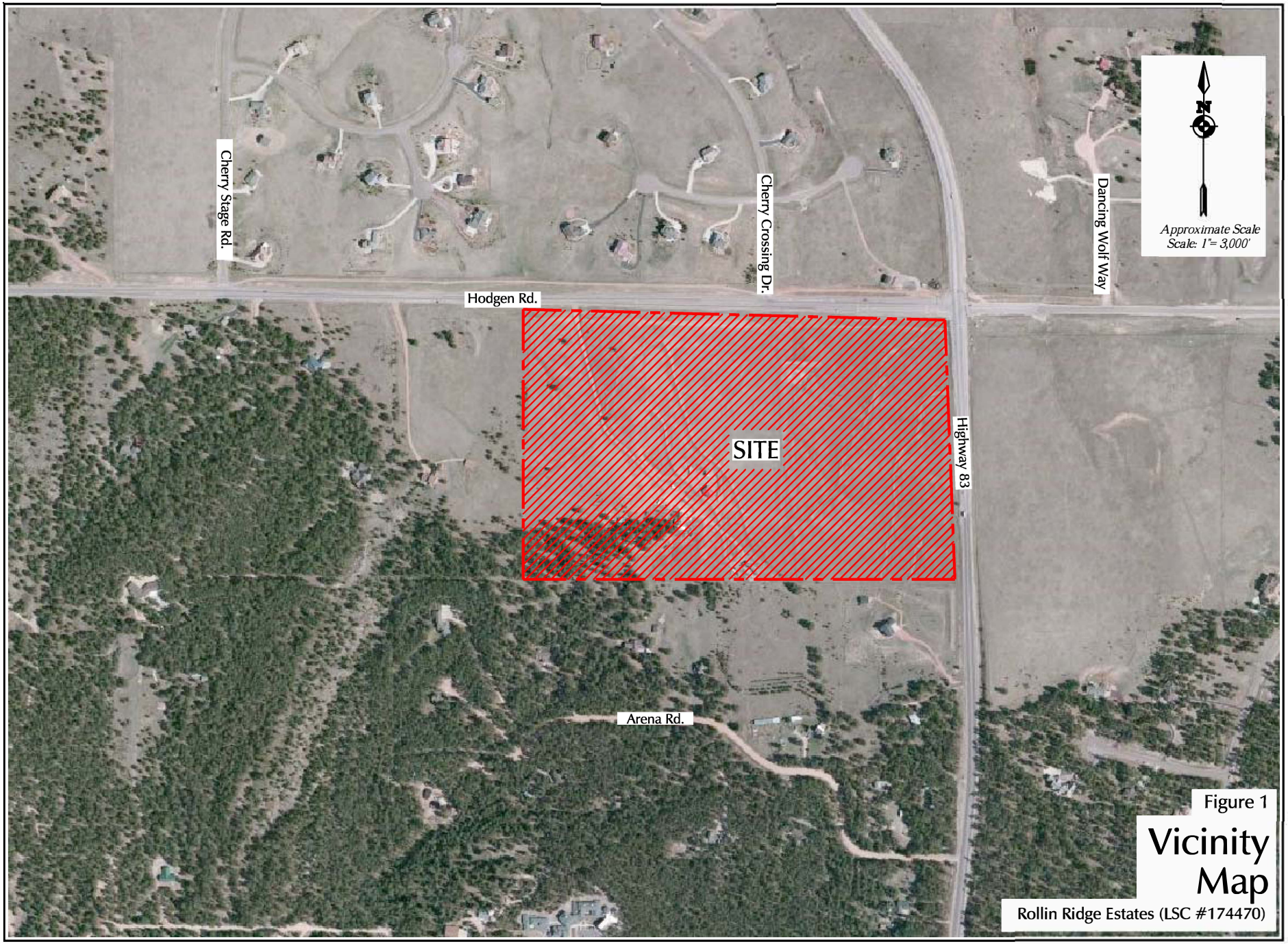
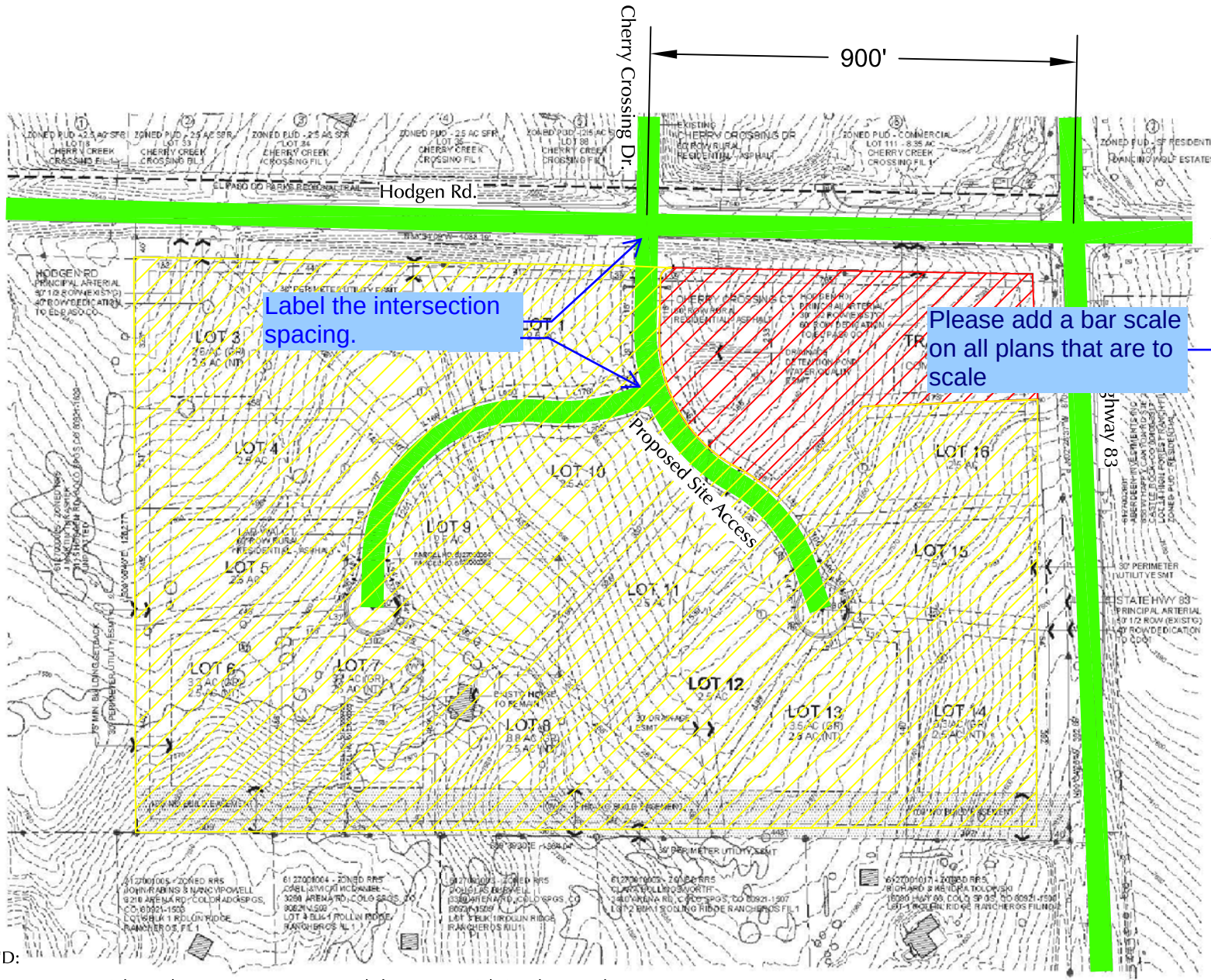



Figure 1

# Vicinity Map

Rollin Ridge Estates (LSC #174470)




LEGEND:

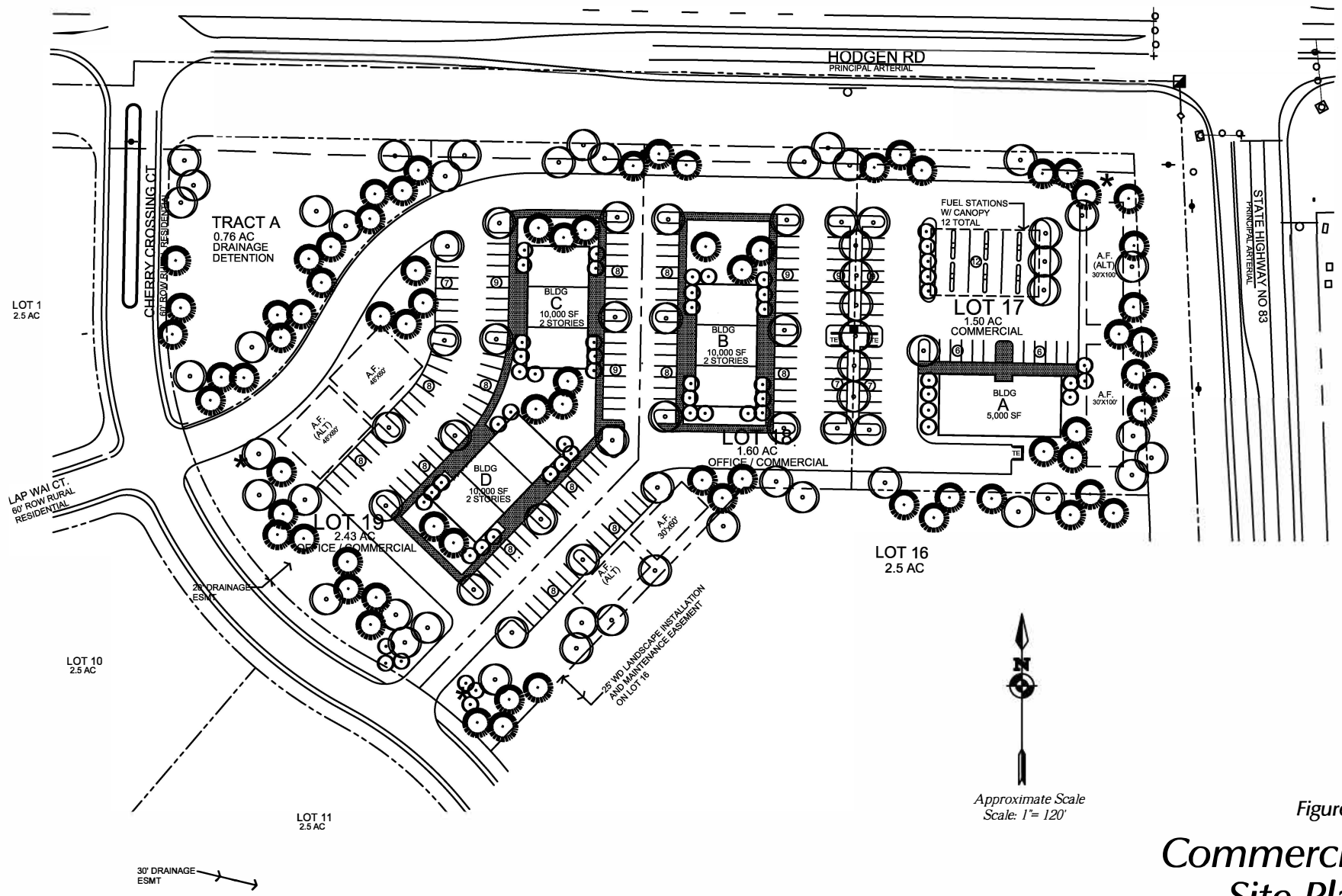
= Commercial Development Site (See Figure 2b for Commercial Site Plan Detail)

= Residential Development Site

Figure 2a

# Site Plan

Rollin Ridge Estates (LSC #174470)

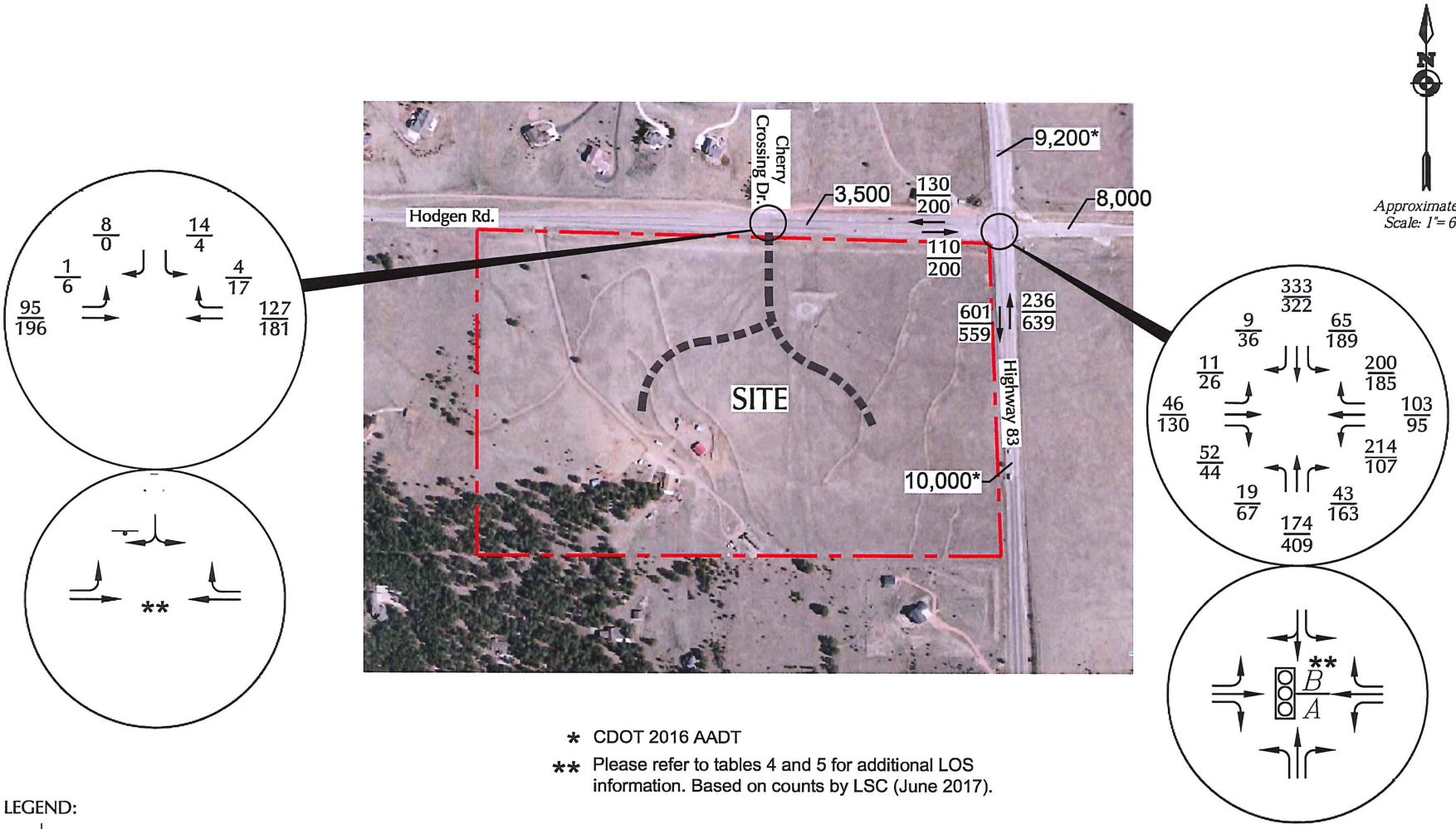



*Approximate Scale*
*Scale: 1"= 120'*

*Figure 2b*

# *Commercial Site Plan*

Rollin Ridge Estates (LSC #174470)




* CDOT 2016 AADT

** Please refer to tables 4 and 5 for additional LOS information. Based on counts by LSC (June 2017).

LEGEND:

= Stop Sign

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

$\frac{A}{B}$ = AM Individual Movement Peak-Hour Level of Service / PM Individual Movement Peak-Hour Level of Service

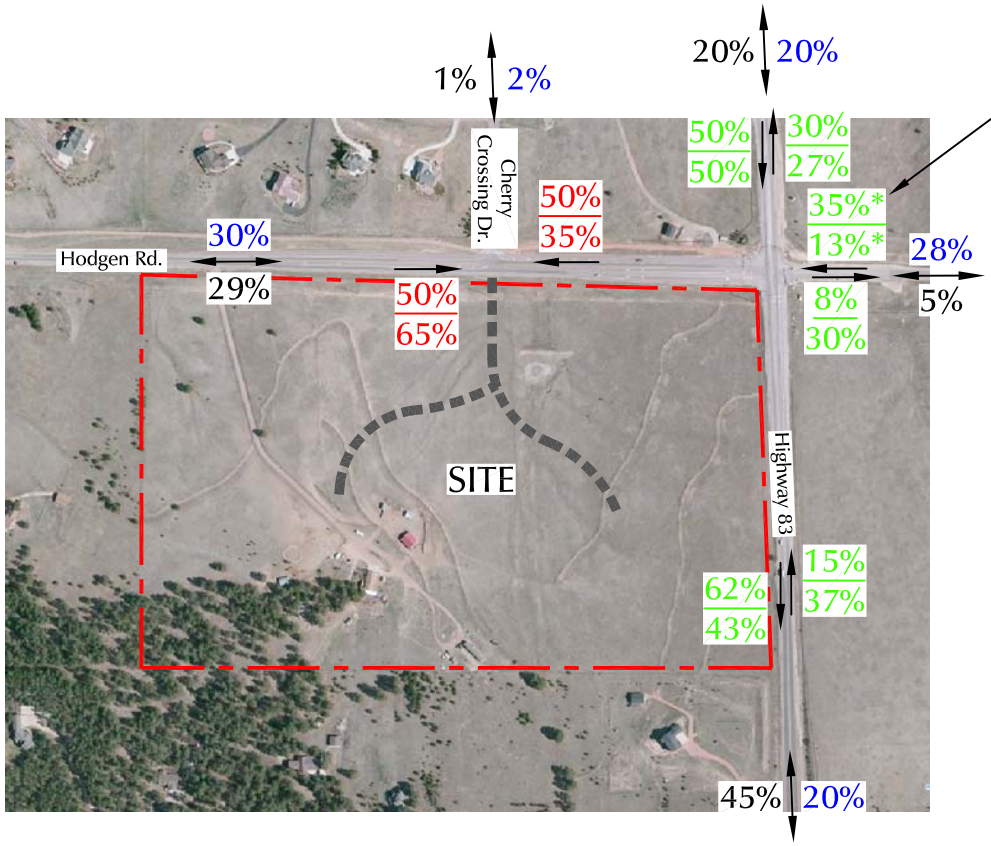
$\frac{C}{C}$ = AM Entire Intersection Peak-Hour Level of Service / PM Entire Intersection Peak-Hour Level of Service

X,XXX= Average Daily Traffic (vehicles per day) Estimates by LSC unless otherwise noted.

Figure 3

# Existing Traffic, Lane Geometry, Traffic Control and Level of Service

Rollin Ridge Estates (LSC #174470)




LEGEND:

XX% = Primary Percent Directional Distribution (Residential)

XX% = Primary Percent Directional Distribution (Commercial)

$\frac{XX\%}{XX\%}$ = AM Passby Percent Directional Distribution (Commercial) / PM Passby Percent Directional Distribution (Commercial)

$\frac{XX\%}{XX\%}$ = AM Diverted Percent Directional Distribution (Commercial) / PM Diverted Percent Directional Distribution (Commercial)

Figure 4

# Directional Distribution of Site-Generated Traffic

Rollin Ridge Estates (LSC #174470)


LEGEND:

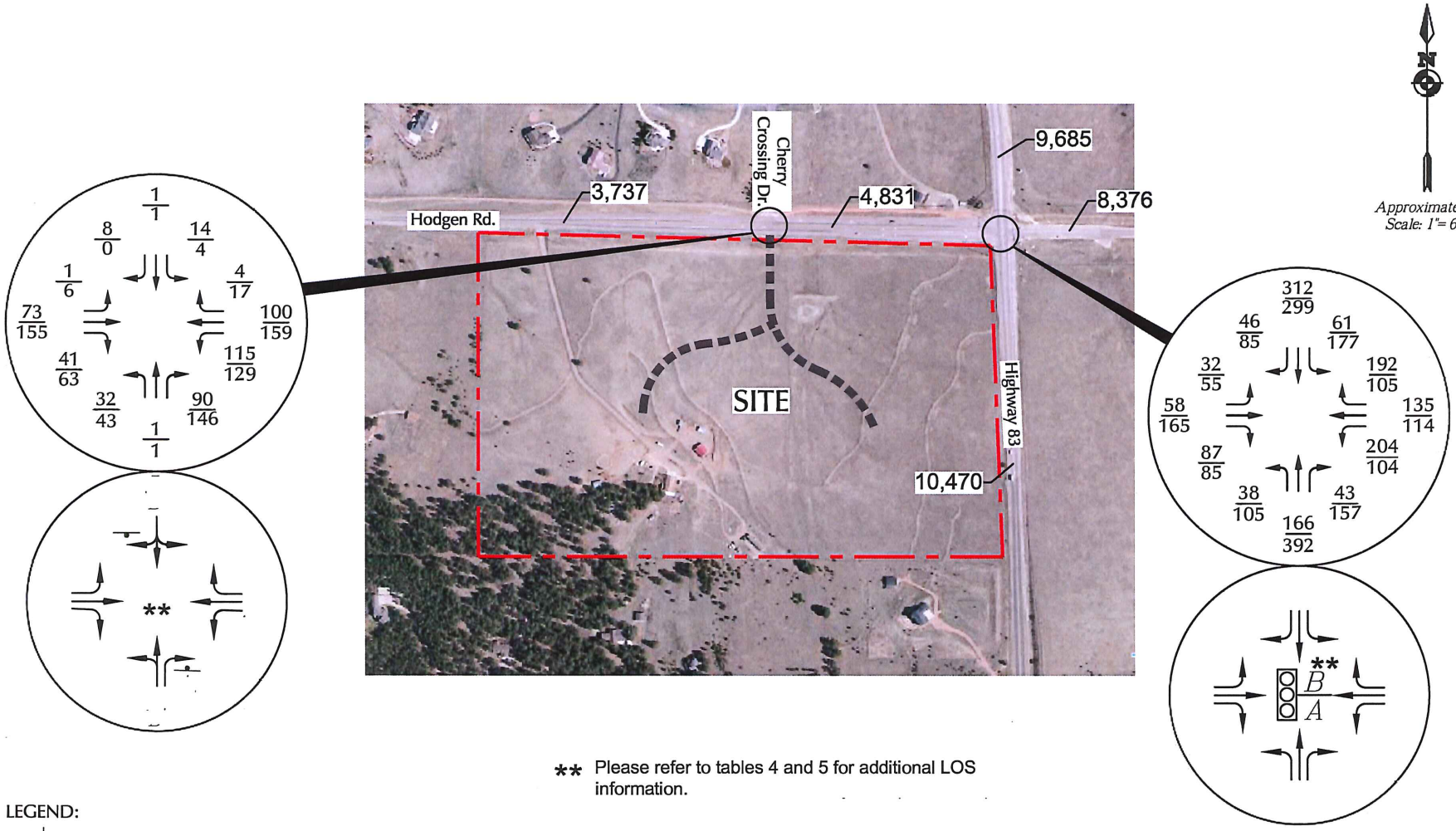
$\frac{XX}{XX}$ = $\frac{\text{AM Weekday Peak-Hour Traffic (vehicles per hour)}}{\text{PM Weekday Peak-Hour Traffic (vehicles per hour)}}$

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

Figure 5

# Assignment of Site-Generated Traffic

Rollin Ridge Estates (LSC #174470)




** Please refer to tables 4 and 5 for additional LOS information.

LEGEND:

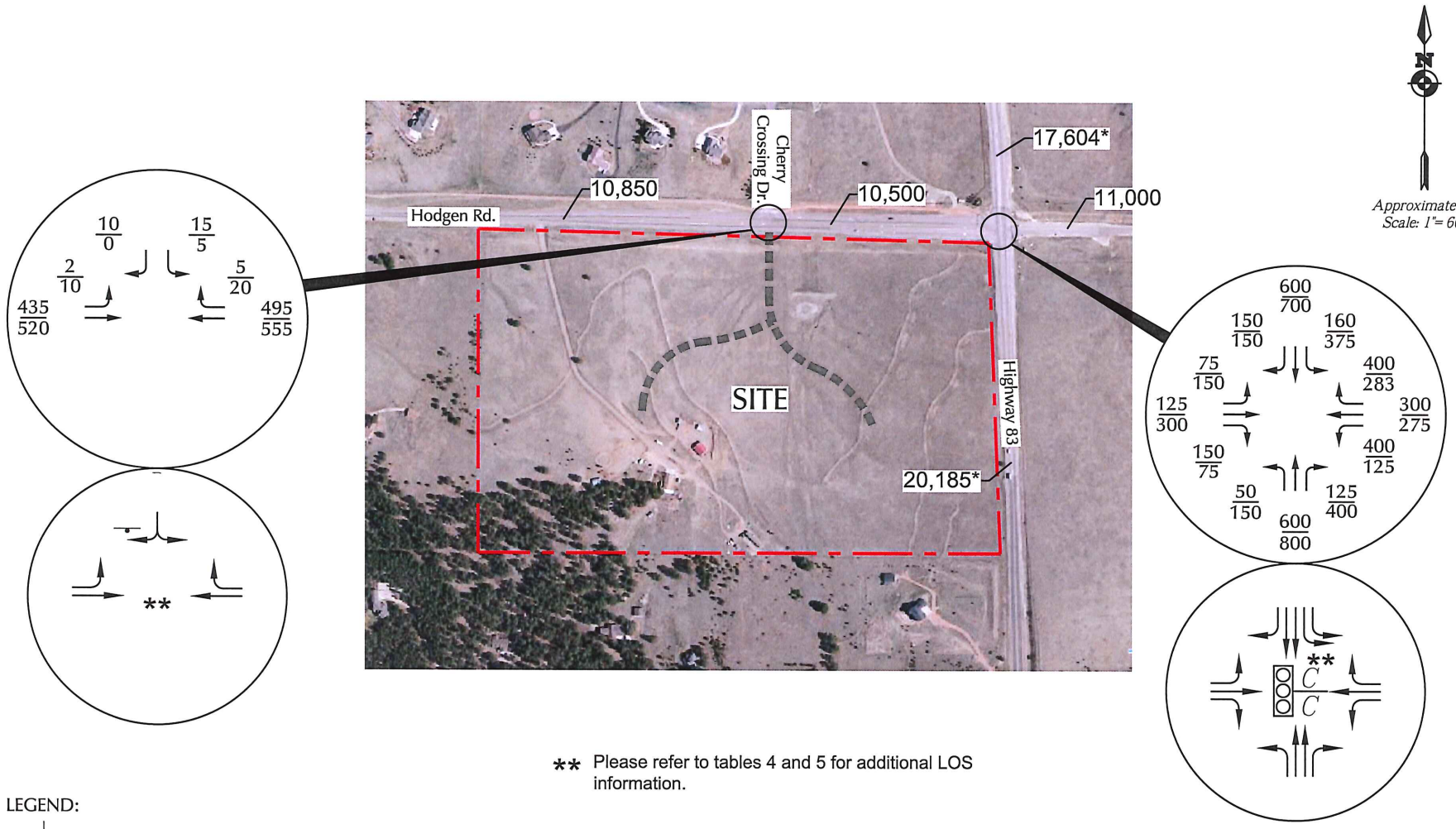
| | | |
|---|---|---|
| ⊦ | = | Stop Sign |
| XX/XX | = | AM Weekday Peak-Hour Traffic (vehicles per hour) / PM Weekday Peak-Hour Traffic (vehicles per hour) |
| A/B | = | AM Individual Movement Peak-Hour Level of Service / PM Individual Movement Peak-Hour Level of Service |
| C/C | = | AM Entire Intersection Peak-Hour Level of Service / PM Entire Intersection Peak-Hour Level of Service |

X,XXX= Average Daily Traffic (vehicles per day) Estimates by LSC unless otherwise noted.

Figure 6

# Existing plus Site-Generated Traffic, Lane Geometry, Traffic Control and Level of Service

Rollin Ridge Estates (LSC #174470)




** Please refer to tables 4 and 5 for additional LOS information.

LEGEND:

⊢ = Stop Sign

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

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

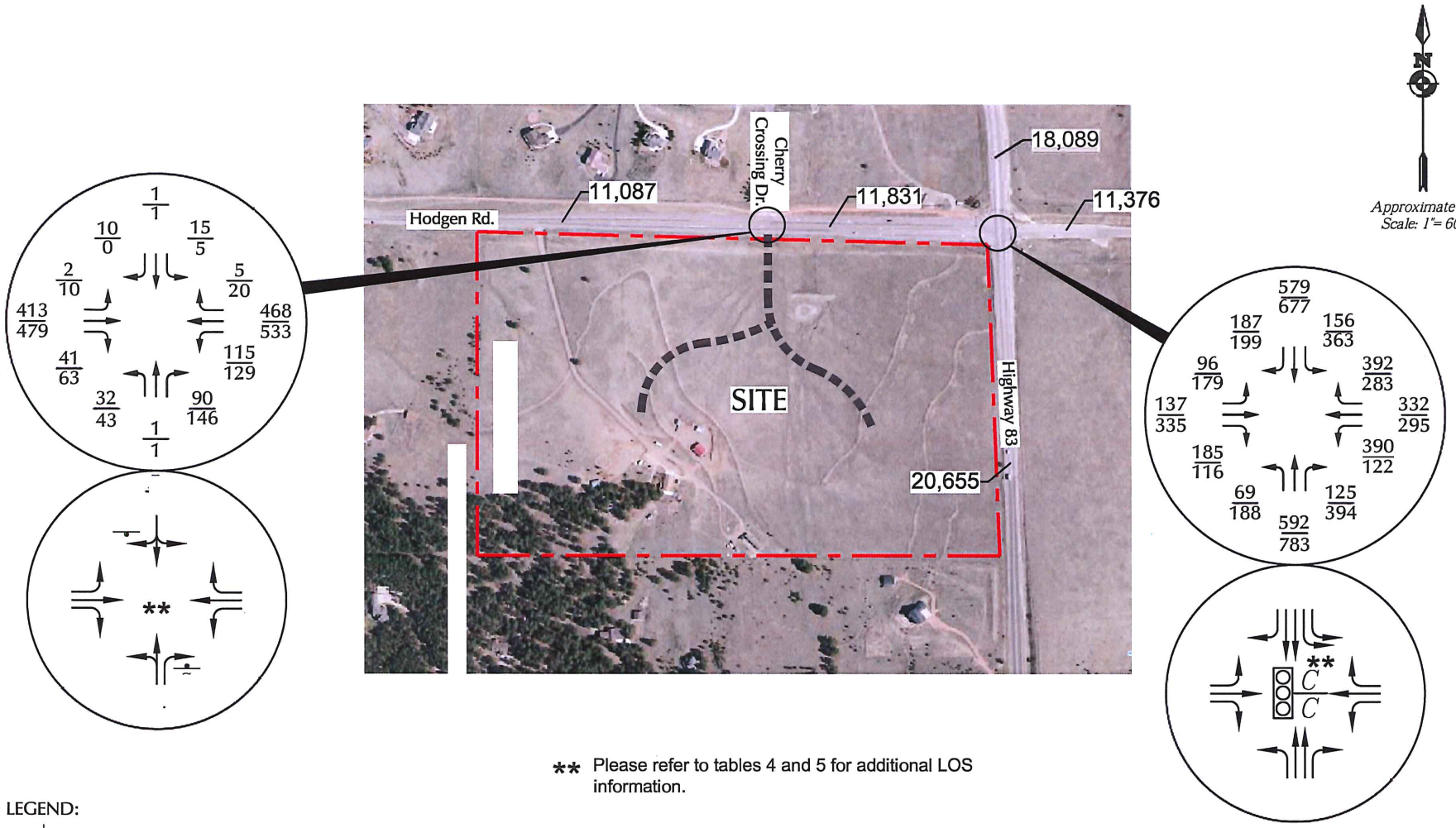
$\frac{C}{C}$ = $\frac{\text{AM Entire Intersection Peak-Hour Level of Service}}{\text{PM Entire Intersection Peak-Hour Level of Service}}$

X,XXX= Average Daily Traffic (vehicles per day) Estimates by LSC unless otherwise noted.

Figure 7

# Year 2040 Background Traffic, Lane Geometry, Traffic Control and Level of Service

Rollin Ridge Estates (LSC #174470)




** Please refer to tables 4 and 5 for additional LOS information.

LEGEND:

= Stop Sign

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

$\frac{A}{B}$ = AM Individual Movement Peak-Hour Level of Service / PM Individual Movement Peak-Hour Level of Service

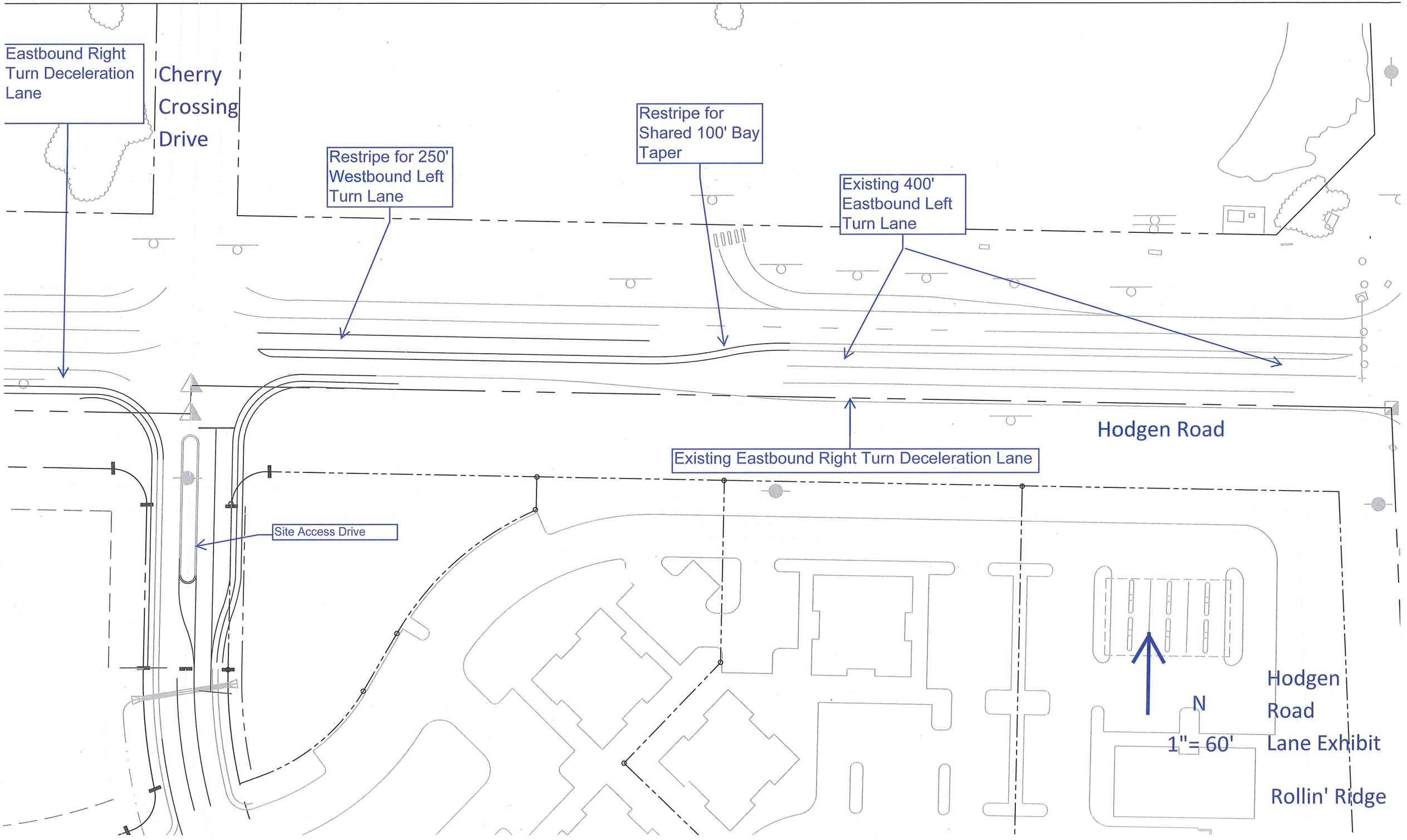
$\frac{C}{C}$ = AM Entire Intersection Peak-Hour Level of Service / PM Entire Intersection Peak-Hour Level of Service

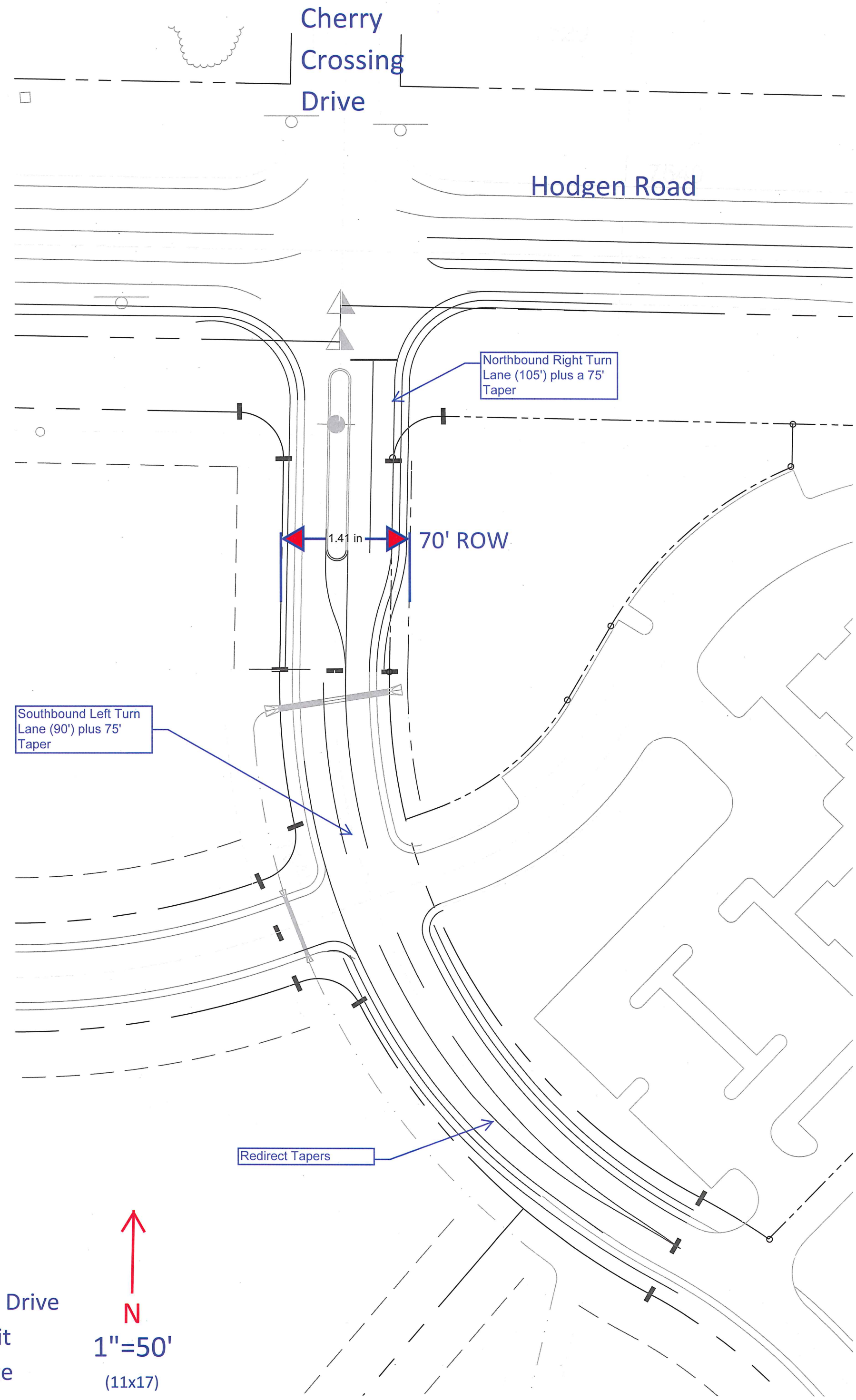
X,XXX= Average Daily Traffic (vehicles per day) Estimates by LSC unless otherwise noted.

Figure 8

# Year 2040 Total Traffic, Lane Geometry, Traffic Control and Level of Service

Rollin Ridge Estates (LSC #174470)


Eastbound Right Turn Deceleration Lane
Cherry Crossing Drive
Restripe for 250' Westbound Left Turn Lane
Restripe for Shared 100' Bay Taper
Existing 400' Eastbound Left Turn Lane
Hodgen Road
Existing Eastbound Right Turn Deceleration Lane
Site Access Drive
N
1"= 60'
Hodgen Road
Lane Exhibit
Rollin' Ridge




Site Access Drive
Lane Exhibit
Rollin' Ridge

1"=50'
(11x17)

Counts by LSC

LSC Transportation Consultants, Inc.

File Name : Cherry Crossing Dr - Hodgen Rd AM
Site Code : 00174470
Start Date : 06/21/2017
Page No : 1

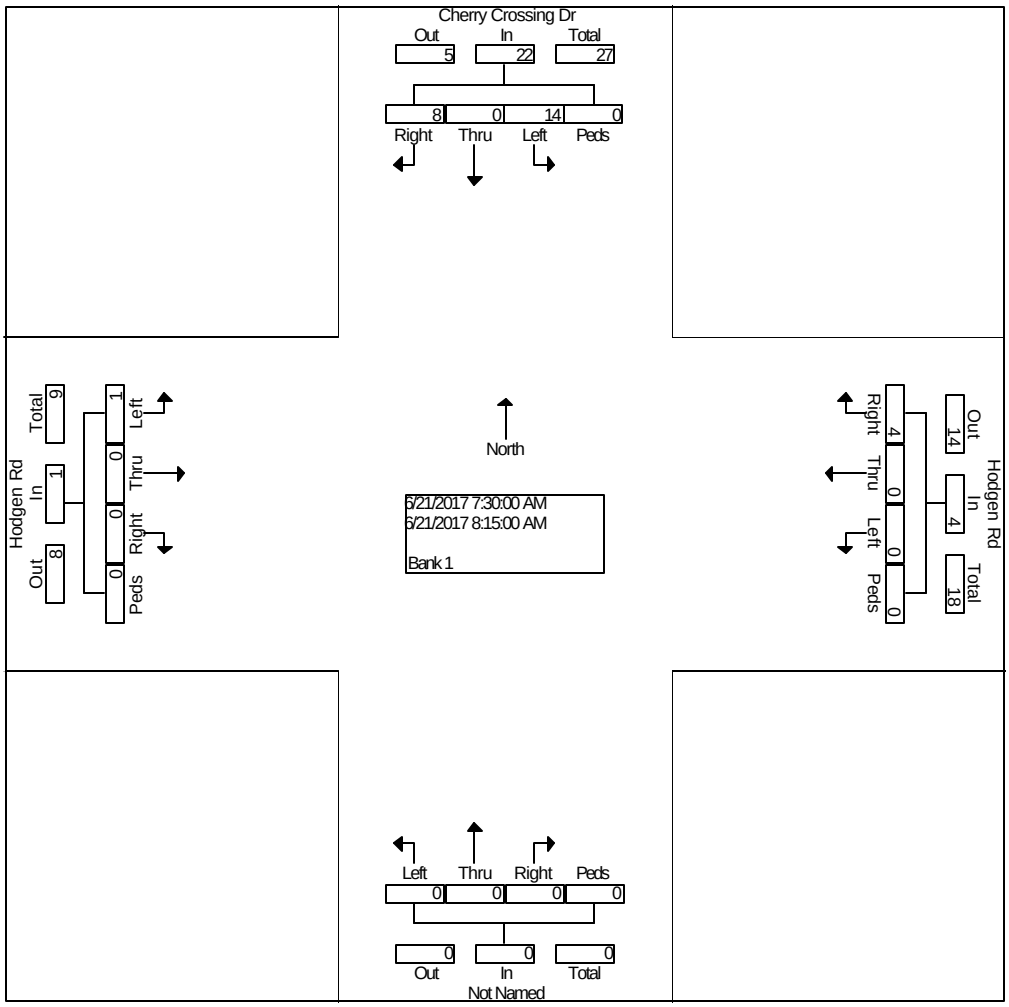
Groups Printed- Bank 1

| | Cherry Crossing Dr From North | | | | Hodgen Rd From East | | | | From South | | | | Hodgen Rd From West | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Start Time | Right | Thru | Left | Peds | Right | Thru | Left | Peds | Right | Thru | Left | Peds | Right | Thru | Left | Peds | Int. Total |
| Factor | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | |
| 06:30 AM | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| 06:45 AM | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| Total | 2 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 |
| 07:00 AM | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 07:15 AM | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| 07:30 AM | 1 | 0 | 6 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 8 |
| 07:45 AM | 2 | 0 | 3 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6 |
| Total | 3 | 0 | 12 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 17 |
| 08:00 AM | 2 | 0 | 4 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 |
| 08:15 AM | 3 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 6 |
| Grand Total | 10 | 0 | 19 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 34 |
| Apprch % | 34.5 | 0.0 | 65.5 | 0.0 | 100.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 100.0 | 0.0 | |
| Total % | 29.4 | 0.0 | 55.9 | 0.0 | 11.8 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 2.9 | 0.0 | |

Counts by LSC

File Name : Cherry Crossing Dr - Hodgen Rd AM
Site Code : 00174470
Start Date : 06/21/2017
Page No : 2

| | Cherry Crossing Dr From North | | | | | Hodgen Rd From East | | | | | From South | | | | | Hodgen Rd From West | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Start Time | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | Int. Total |
| Peak Hour From 06:30 AM to 08:15 AM - Peak 1 of 1 | | | | | | | | | | | | | | | | | | | | | |
| Intersection | 07:30 AM | | | | | | | | | | | | | | | | | | | | |
| Volume | 8 | 0 | 14 | 0 | 22 | 4 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 27 |
| Percent | 36.4 | 0.0 | 63.6 | 0.0 | | 100.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 100.0 | 0.0 | | |
| 07:30 Volume | 1 | 0 | 6 | 0 | 7 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 8 |
| Peak Factor | | | | | | | | | | | | | | | | | | | | | 0.844 |
| High Int. | 07:30 AM | | | | | 07:30 AM | | | | | 6:15:00 AM | | | | | 08:15 AM | | | | | |
| Volume | 1 | 0 | 6 | 0 | 7 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | |
| Peak Factor | | | | | 0.786 | | | | | 1.000 | | | | | | | | | | 0.250 | |



Counts by LSC

LSC Transportation Consultants, Inc.

File Name : Cherry Crossing Dr - Hodgen Rd PM
Site Code : 00174470
Start Date : 06/21/2017
Page No : 1

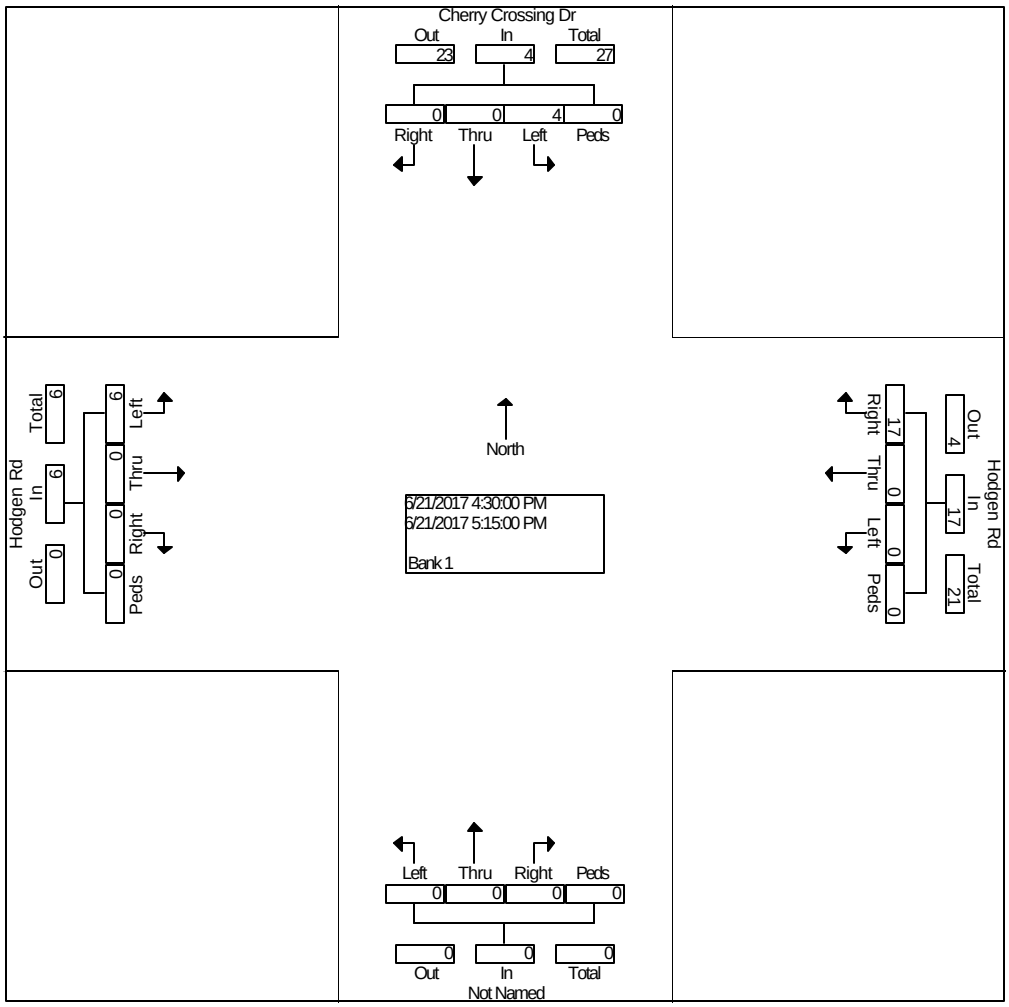
Groups Printed- Bank 1

| | Cherry Crossing Dr From North | | | | Hodgen Rd From East | | | | From South | | | | Hodgen Rd From West | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Start Time | Right | Thru | Left | Peds | Right | Thru | Left | Peds | Right | Thru | Left | Peds | Right | Thru | Left | Peds | Int. Total |
| Factor | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | |
| 04:00 PM | 0 | 0 | 1 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 |
| 04:15 PM | 0 | 0 | 2 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 6 |
| 04:30 PM | 0 | 0 | 2 | 0 | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 9 |
| 04:45 PM | 0 | 0 | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 |
| Total | 0 | 0 | 5 | 0 | 17 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 24 |
| 05:00 PM | 0 | 0 | 1 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 5 |
| 05:15 PM | 0 | 0 | 1 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 8 |
| 05:30 PM | 1 | 0 | 2 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6 |
| 05:45 PM | 0 | 0 | 1 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 7 |
| Total | 1 | 0 | 5 | 0 | 14 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6 | 0 | 26 |
| Grand Total | 1 | 0 | 10 | 0 | 31 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 8 | 0 | 50 |
| Apprch % | 9.1 | 0.0 | 90.9 | 0.0 | 100.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 100.0 | 0.0 | |
| Total % | 2.0 | 0.0 | 20.0 | 0.0 | 62.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 16.0 | 0.0 | |

Counts by LSC

File Name : Cherry Crossing Dr - Hodgen Rd PM
Site Code : 00174470
Start Date : 06/21/2017
Page No : 2

| | Cherry Crossing Dr From North | | | | | Hodgen Rd From East | | | | | From South | | | | | Hodgen Rd From West | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Start Time | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | Int. Total |
| Peak Hour From 04:00 PM to 05:45 PM - Peak 1 of 1 | | | | | | | | | | | | | | | | | | | | | |
| Intersection | 04:30 PM | | | | | | | | | | | | | | | | | | | | |
| Volume | 0 | 0 | 4 | 0 | 4 | 17 | 0 | 0 | 0 | 17 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6 | 0 | 6 | 27 |
| Percent | 0.0 | 0.0 | 100.0 | 0.0 | | 100.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 100.0 | 0.0 | | |
| 04:30 Volume | 0 | 0 | 2 | 0 | 2 | 6 | 0 | 0 | 0 | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 9 |
| Peak Factor | | | | | | | | | | | | | | | | | | | | | 0.750 |
| High Int. | 04:30 PM | | | | | 04:30 PM | | | | | 3:45:00 PM | | | | | 05:15 PM | | | | | |
| Volume | 0 | 0 | 2 | 0 | 2 | 6 | 0 | 0 | 0 | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 3 | |
| Peak Factor | | | | | 0.500 | | | | | 0.708 | | | | | | | | | | 0.500 | |



Counts by LSC

LSC Transportation Consultants, Inc.

File Name : Hwy 83 - Hodgen AM
Site Code : 00174470
Start Date : 06/21/2017
Page No : 1

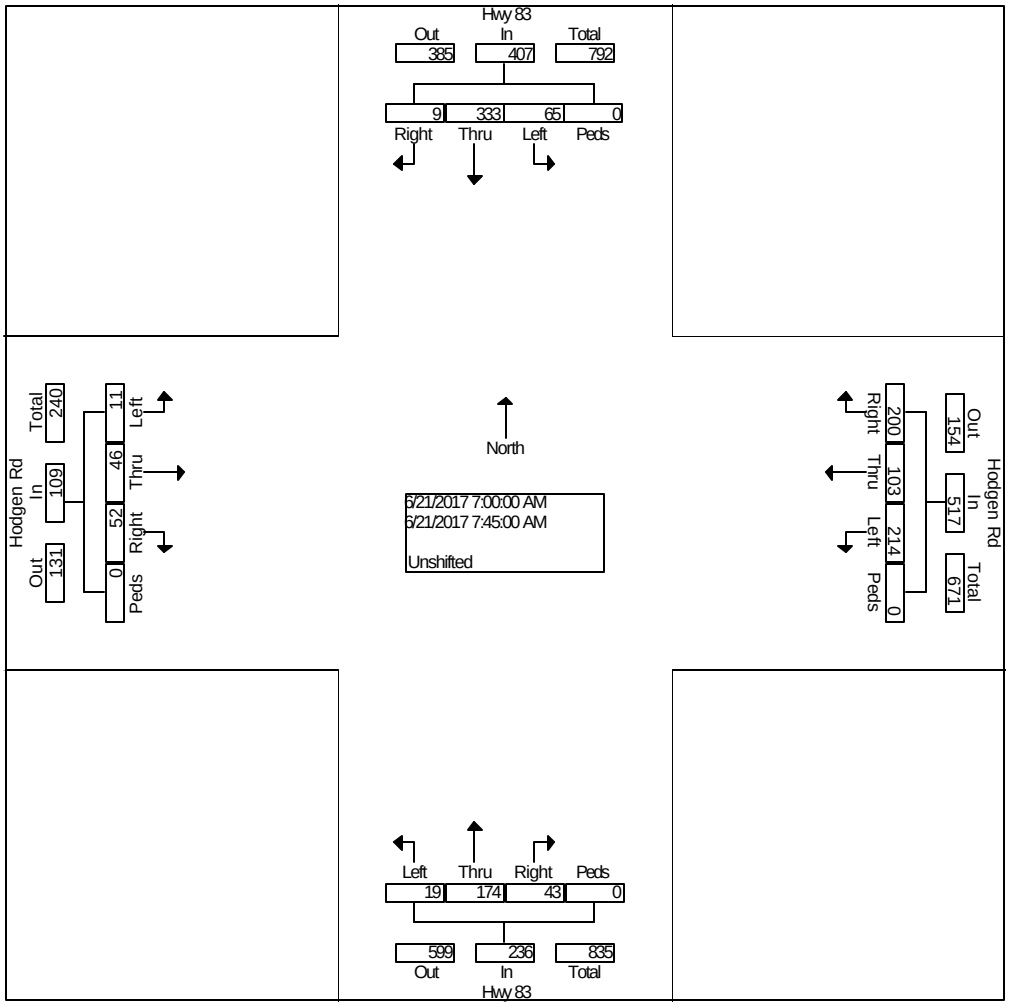
Groups Printed- Unshifted

| | Hwy 83 From North | | | | Hodgen Rd From East | | | | Hwy 83 From South | | | | Hodgen Rd From West | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Start Time | Right | Thru | Left | Peds | Right | Thru | Left | Peds | Right | Thru | Left | Peds | Right | Thru | Left | Peds | Int. Total |
| Factor | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | |
| 06:30 AM | 1 | 44 | 11 | 0 | 36 | 16 | 24 | 0 | 5 | 22 | 2 | 0 | 3 | 3 | 1 | 0 | 168 |
| 06:45 AM | 3 | 60 | 17 | 0 | 39 | 24 | 41 | 0 | 8 | 50 | 4 | 0 | 6 | 10 | 3 | 0 | 265 |
| Total | 4 | 104 | 28 | 0 | 75 | 40 | 65 | 0 | 13 | 72 | 6 | 0 | 9 | 13 | 4 | 0 | 433 |
| 07:00 AM | 1 | 86 | 11 | 0 | 44 | 22 | 50 | 0 | 10 | 41 | 5 | 0 | 13 | 7 | 1 | 0 | 291 |
| 07:15 AM | 3 | 72 | 18 | 0 | 50 | 19 | 54 | 0 | 8 | 48 | 4 | 0 | 12 | 13 | 0 | 0 | 301 |
| 07:30 AM | 1 | 105 | 16 | 0 | 57 | 30 | 60 | 0 | 10 | 46 | 4 | 0 | 13 | 18 | 5 | 0 | 365 |
| 07:45 AM | 4 | 70 | 20 | 0 | 49 | 32 | 50 | 0 | 15 | 39 | 6 | 0 | 14 | 8 | 5 | 0 | 312 |
| Total | 9 | 333 | 65 | 0 | 200 | 103 | 214 | 0 | 43 | 174 | 19 | 0 | 52 | 46 | 11 | 0 | 1269 |
| 08:00 AM | 4 | 62 | 14 | 0 | 34 | 23 | 44 | 0 | 14 | 52 | 6 | 0 | 7 | 6 | 4 | 0 | 270 |
| 08:15 AM | 2 | 76 | 10 | 0 | 39 | 25 | 42 | 0 | 9 | 62 | 18 | 0 | 11 | 12 | 4 | 0 | 310 |
| Grand Total | 19 | 575 | 117 | 0 | 348 | 191 | 365 | 0 | 79 | 360 | 49 | 0 | 79 | 77 | 23 | 0 | 2282 |
| Apprch % | 2.7 | 80.9 | 16.5 | 0.0 | 38.5 | 21.1 | 40.4 | 0.0 | 16.2 | 73.8 | 10.0 | 0.0 | 44.1 | 43.0 | 12.8 | 0.0 | |
| Total % | 0.8 | 25.2 | 5.1 | 0.0 | 15.2 | 8.4 | 16.0 | 0.0 | 3.5 | 15.8 | 2.1 | 0.0 | 3.5 | 3.4 | 1.0 | 0.0 | |

Counts by LSC

File Name : Hwy 83 - Hodgen AM
Site Code : 00174470
Start Date : 06/21/2017
Page No : 2

| | Hwy 83 From North | | | | | Hodgen Rd From East | | | | | Hwy 83 From South | | | | | Hodgen Rd From West | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Start Time | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | Int. Total |
| Peak Hour From 06:30 AM to 08:15 AM - Peak 1 of 1 | | | | | | | | | | | | | | | | | | | | | |
| Intersection | 07:00 AM | | | | | | | | | | | | | | | | | | | | |
| Volume | 9 | 333 | 65 | 0 | 407 | 200 | 103 | 214 | 0 | 517 | 43 | 174 | 19 | 0 | 236 | 52 | 46 | 11 | 0 | 109 | 1269 |
| Percent | 2.2 | 81.8 | 16.0 | 0.0 | | 38.7 | 19.9 | 41.4 | 0.0 | | 18.2 | 73.7 | 8.1 | 0.0 | | 47.7 | 42.2 | 10.1 | 0.0 | | |
| 07:30 Volume | 1 | 105 | 16 | 0 | 122 | 57 | 30 | 60 | 0 | 147 | 10 | 46 | 4 | 0 | 60 | 13 | 18 | 5 | 0 | 36 | 365 |
| Peak Factor | | | | | | | | | | | | | | | | | | | | | 0.869 |
| High Int. | 07:30 AM | | | | | 07:30 AM | | | | | 07:15 AM | | | | | 07:30 AM | | | | | |
| Volume | 1 | 105 | 16 | 0 | 122 | 57 | 30 | 60 | 0 | 147 | 8 | 48 | 4 | 0 | 60 | 13 | 18 | 5 | 0 | 36 | |
| Peak Factor | | | | | 0.834 | | | | | 0.879 | | | | | 0.983 | | | | | 0.757 | |



Counts by LSC

LSC Transportation Consultants, Inc.

File Name : Hwy 83 - Hodgen PM
Site Code : 00174470
Start Date : 06/21/2017
Page No : 1

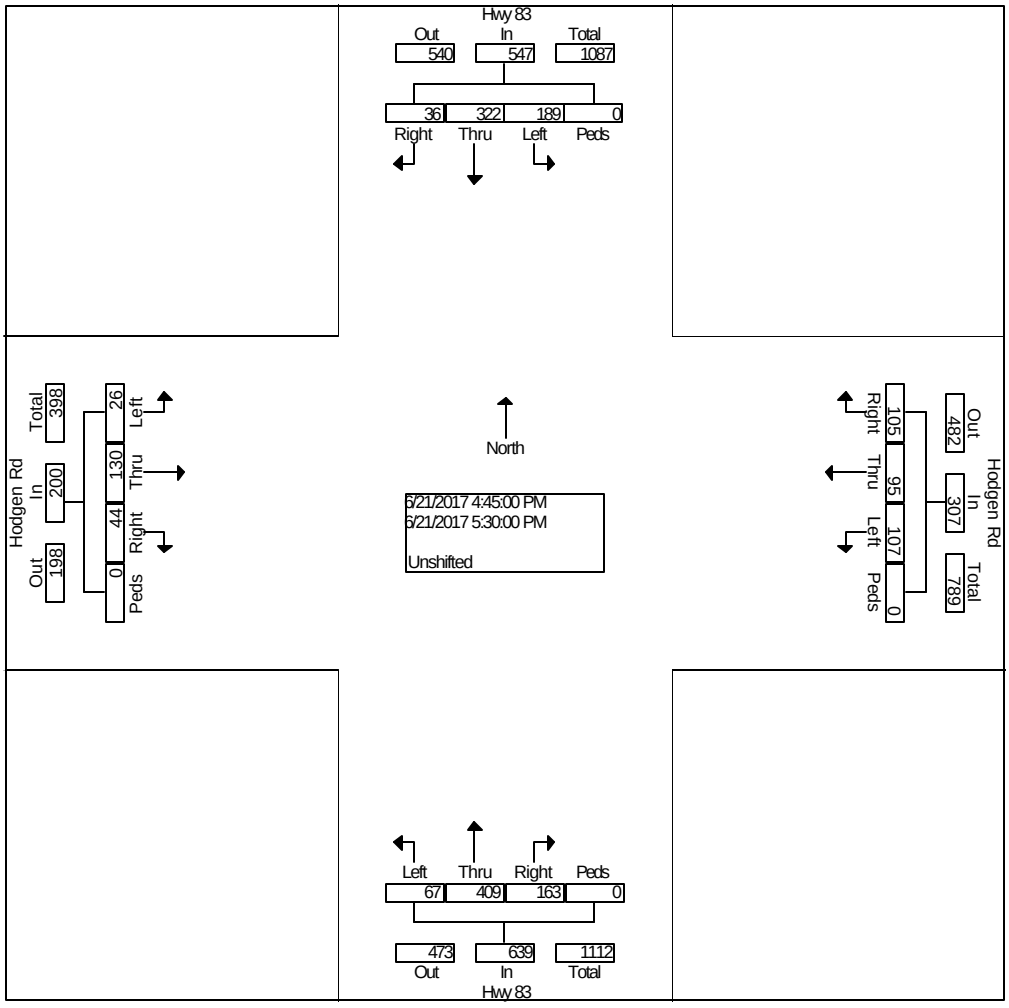
Groups Printed- Unshifted

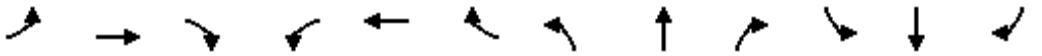
| | Hwy 83 From North | | | | Hodgen Rd From East | | | | Hwy 83 From South | | | | Hodgen Rd From West | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Start Time | Right | Thru | Left | Peds | Right | Thru | Left | Peds | Right | Thru | Left | Peds | Right | Thru | Left | Peds | Int. Total |
| Factor | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | |
| 04:00 PM | 2 | 77 | 43 | 0 | 20 | 16 | 15 | 0 | 43 | 89 | 21 | 0 | 8 | 24 | 5 | 0 | 363 |
| 04:15 PM | 7 | 68 | 53 | 0 | 30 | 22 | 25 | 0 | 32 | 72 | 14 | 0 | 13 | 32 | 3 | 0 | 371 |
| 04:30 PM | 11 | 97 | 46 | 0 | 27 | 14 | 20 | 0 | 51 | 100 | 10 | 0 | 9 | 27 | 8 | 0 | 420 |
| 04:45 PM | 8 | 90 | 52 | 0 | 32 | 23 | 28 | 0 | 33 | 95 | 19 | 0 | 9 | 32 | 5 | 0 | 426 |
| Total | 28 | 332 | 194 | 0 | 109 | 75 | 88 | 0 | 159 | 356 | 64 | 0 | 39 | 115 | 21 | 0 | 1580 |
| 05:00 PM | 6 | 70 | 44 | 0 | 22 | 29 | 25 | 0 | 45 | 99 | 15 | 0 | 8 | 39 | 9 | 0 | 411 |
| 05:15 PM | 10 | 77 | 42 | 0 | 28 | 20 | 25 | 0 | 44 | 102 | 16 | 0 | 18 | 26 | 3 | 0 | 411 |
| 05:30 PM | 12 | 85 | 51 | 0 | 23 | 23 | 29 | 0 | 41 | 113 | 17 | 0 | 9 | 33 | 9 | 0 | 445 |
| 05:45 PM | 7 | 84 | 38 | 0 | 25 | 16 | 19 | 0 | 45 | 106 | 13 | 0 | 13 | 37 | 8 | 0 | 411 |
| Total | 35 | 316 | 175 | 0 | 98 | 88 | 98 | 0 | 175 | 420 | 61 | 0 | 48 | 135 | 29 | 0 | 1678 |
| Grand Total | 63 | 648 | 369 | 0 | 207 | 163 | 186 | 0 | 334 | 776 | 125 | 0 | 87 | 250 | 50 | 0 | 3258 |
| Apprch % | 5.8 | 60.0 | 34.2 | 0.0 | 37.2 | 29.3 | 33.5 | 0.0 | 27.0 | 62.8 | 10.1 | 0.0 | 22.5 | 64.6 | 12.9 | 0.0 | |
| Total % | 1.9 | 19.9 | 11.3 | 0.0 | 6.4 | 5.0 | 5.7 | 0.0 | 10.3 | 23.8 | 3.8 | 0.0 | 2.7 | 7.7 | 1.5 | 0.0 | |

Counts by LSC

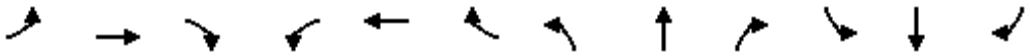
File Name : Hwy 83 - Hodgen PM
Site Code : 00174470
Start Date : 06/21/2017
Page No : 2

| | Hwy 83 From North | | | | | Hodgen Rd From East | | | | | Hwy 83 From South | | | | | Hodgen Rd From West | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Start Time | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | Right | Thru | Left | Peds | App. Total | Int. Total |
| Peak Hour From 04:00 PM to 05:45 PM - Peak 1 of 1 | | | | | | | | | | | | | | | | | | | | | |
| Intersection | 04:45 PM | | | | | | | | | | | | | | | | | | | | |
| Volume | 36 | 322 | 189 | 0 | 547 | 105 | 95 | 107 | 0 | 307 | 163 | 409 | 67 | 0 | 639 | 44 | 130 | 26 | 0 | 200 | 1693 |
| Percent | 6.6 | 58.9 | 34.6 | 0.0 | | 34.2 | 30.9 | 34.9 | 0.0 | | 25.5 | 64.0 | 10.5 | 0.0 | | 22.0 | 65.0 | 13.0 | 0.0 | | |
| 05:30 Volume | 12 | 85 | 51 | 0 | 148 | 23 | 23 | 29 | 0 | 75 | 41 | 113 | 17 | 0 | 171 | 9 | 33 | 9 | 0 | 51 | 445 |
| Peak Factor | | | | | | | | | | | | | | | | | | | | | 0.951 |
| High Int. | 04:45 PM | | | | | 04:45 PM | | | | | 05:30 PM | | | | | 05:00 PM | | | | | |
| Volume | 8 | 90 | 52 | 0 | 150 | 32 | 23 | 28 | 0 | 83 | 41 | 113 | 17 | 0 | 171 | 8 | 39 | 9 | 0 | 56 | |
| Peak Factor | | | | | 0.912 | | | | | 0.925 | | | | | 0.934 | | | | | 0.893 | |





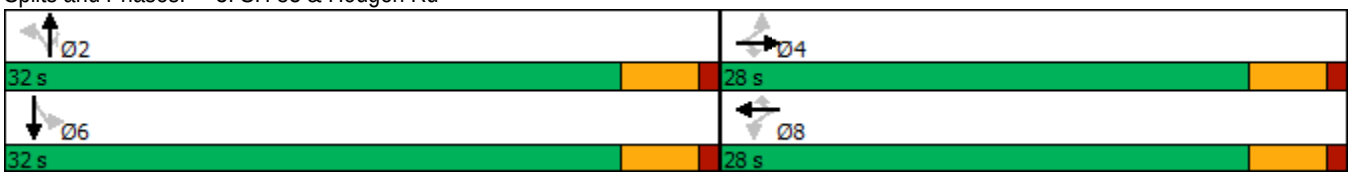
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 11 | 46 | 52 | 214 | 103 | 200 | 19 | 174 | 43 | 65 | 333 | 9 |
| Future Volume (vph) | 11 | 46 | 52 | 214 | 103 | 200 | 19 | 174 | 43 | 65 | 333 | 9 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (ft) | 450 | | 450 | 400 | | 400 | 200 | | 900 | 650 | | 0 |
| Storage Lanes | 1 | | 1 | 1 | | 1 | 1 | | 1 | 1 | | 0 |
| Taper Length (ft) | 100 | | | 100 | | | 100 | | | 100 | | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | | | 0.850 | | | 0.850 | | | 0.850 | | 0.996 | |
| Flt Protected | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (prot) | 1770 | 1863 | 1583 | 1770 | 1863 | 1583 | 1770 | 1863 | 1583 | 1770 | 1855 | 0 |
| Flt Permitted | 0.681 | | | 0.717 | | | 0.425 | | | 0.631 | | |
| Satd. Flow (perm) | 1269 | 1863 | 1583 | 1336 | 1863 | 1583 | 792 | 1863 | 1583 | 1175 | 1855 | 0 |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Satd. Flow (RTOR) | | | 70 | | | 230 | | | 50 | | 3 | |
| Link Speed (mph) | | 40 | | | 40 | | | 60 | | | 60 | |
| Link Distance (ft) | | 843 | | | 1794 | | | 2113 | | | 2252 | |
| Travel Time (s) | | 14.4 | | | 30.6 | | | 24.0 | | | 25.6 | |
| Peak Hour Factor | 0.74 | 0.74 | 0.74 | 0.87 | 0.87 | 0.87 | 0.86 | 0.86 | 0.86 | 0.79 | 0.79 | 0.79 |
| Adj. Flow (vph) | 15 | 62 | 70 | 246 | 118 | 230 | 22 | 202 | 50 | 82 | 422 | 11 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 15 | 62 | 70 | 246 | 118 | 230 | 22 | 202 | 50 | 82 | 433 | 0 |
| Enter Blocked Intersection | No | No | No | No | No | No | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Right | Left | Left | Right | Left | Left | Right | Left | Left | Right |
| Median Width(ft) | | 12 | | | 12 | | | 12 | | | 12 | |
| Link Offset(ft) | | 0 | | | 0 | | | 0 | | | 0 | |
| Crosswalk Width(ft) | | 16 | | | 16 | | | 16 | | | 16 | |
| Two way Left Turn Lane | | | | | | | | | | | | |
| Headway Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Turning Speed (mph) | 15 | | 9 | 15 | | 9 | 15 | | 9 | 15 | | 9 |
| Number of Detectors | 1 | 2 | 1 | 1 | 2 | 1 | 1 | 2 | 1 | 1 | 2 | |
| Detector Template | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | |
| Leading Detector (ft) | 20 | 100 | 20 | 20 | 100 | 20 | 20 | 100 | 20 | 20 | 100 | |
| Trailing Detector (ft) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Detector 1 Position(ft) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Detector 1 Size(ft) | 20 | 6 | 20 | 20 | 6 | 20 | 20 | 6 | 20 | 20 | 6 | |
| Detector 1 Type | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | |
| Detector 1 Channel | | | | | | | | | | | | |
| Detector 1 Extend (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Detector 1 Queue (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Detector 1 Delay (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Detector 2 Position(ft) | | 94 | | | 94 | | | 94 | | | 94 | |
| Detector 2 Size(ft) | | 6 | | | 6 | | | 6 | | | 6 | |
| Detector 2 Type | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | |
| Detector 2 Channel | | | | | | | | | | | | |
| Detector 2 Extend (s) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Turn Type | Perm | NA | Perm | Perm | NA | Perm | Perm | NA | Perm | Perm | NA | |
| Protected Phases | | 4 | | | 8 | | | 2 | | | 6 | |
| Permitted Phases | 4 | | 4 | 8 | | 8 | 2 | | 2 | 6 | | |

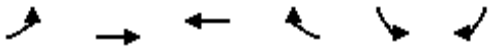


| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Detector Phase | 4 | 4 | 4 | 8 | 8 | 8 | 2 | 2 | 2 | 6 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | |
| Minimum Split (s) | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | |
| Total Split (s) | 28.0 | 28.0 | 28.0 | 28.0 | 28.0 | 28.0 | 32.0 | 32.0 | 32.0 | 32.0 | 32.0 | |
| Total Split (%) | 46.7% | 46.7% | 46.7% | 46.7% | 46.7% | 46.7% | 53.3% | 53.3% | 53.3% | 53.3% | 53.3% | |
| Maximum Green (s) | 23.5 | 23.5 | 23.5 | 23.5 | 23.5 | 23.5 | 27.5 | 27.5 | 27.5 | 27.5 | 27.5 | |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | |
| Lead/Lag | | | | | | | | | | | | |
| Lead-Lag Optimize? | | | | | | | | | | | | |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | |
| Recall Mode | None | None | None | None | None | None | Min | Min | Min | Min | Min | |
| Walk Time (s) | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | |
| Flash Dont Walk (s) | 11.0 | 11.0 | 11.0 | 11.0 | 11.0 | 11.0 | 11.0 | 11.0 | 11.0 | 11.0 | 11.0 | |
| Pedestrian Calls (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Act Effct Green (s) | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 13.5 | 15.8 | 15.8 | 15.8 | 15.8 | 15.8 | |
| Actuated g/C Ratio | 0.35 | 0.35 | 0.35 | 0.35 | 0.35 | 0.35 | 0.41 | 0.41 | 0.41 | 0.41 | 0.41 | |
| v/c Ratio | 0.03 | 0.10 | 0.12 | 0.53 | 0.18 | 0.33 | 0.07 | 0.27 | 0.07 | 0.17 | 0.58 | |
| Control Delay | 9.5 | 9.6 | 3.8 | 15.4 | 10.1 | 3.4 | 9.3 | 9.8 | 3.7 | 9.8 | 13.4 | |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Total Delay | 9.5 | 9.6 | 3.8 | 15.4 | 10.1 | 3.4 | 9.3 | 9.8 | 3.7 | 9.8 | 13.4 | |
| LOS | A | A | A | B | B | A | A | A | A | A | B | |
| Approach Delay | | 6.8 | | | 9.7 | | | 8.7 | | | 12.8 | |
| Approach LOS | | A | | | A | | | A | | | B | |
| Queue Length 50th (ft) | 2 | 7 | 0 | 35 | 15 | 0 | 2 | 25 | 0 | 10 | 61 | |
| Queue Length 95th (ft) | 10 | 25 | 12 | 107 | 50 | 30 | 14 | 75 | 14 | 34 | 146 | |
| Internal Link Dist (ft) | | 763 | | | 1714 | | | 2033 | | | 2172 | |
| Turn Bay Length (ft) | 450 | | 450 | 400 | | 400 | 200 | | 900 | 650 | | |
| Base Capacity (vph) | 822 | 1208 | 1051 | 866 | 1208 | 1107 | 600 | 1413 | 1213 | 891 | 1408 | |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Reduced v/c Ratio | 0.02 | 0.05 | 0.07 | 0.28 | 0.10 | 0.21 | 0.04 | 0.14 | 0.04 | 0.09 | 0.31 | |

| Intersection Summary | | | |
|---|---|---|---|
| Area Type: | Other | | |
| Cycle Length: 60 | | | |
| Actuated Cycle Length: 38.9 | | | |
| Natural Cycle: 45 | | | |
| Control Type: Actuated-Uncoordinated | | | |
| Maximum v/c Ratio: 0.58 | | | |
| Intersection Signal Delay: 10.3 | | Intersection LOS: B | |
| Intersection Capacity Utilization 52.0% | | ICU Level of Service A | |
| Analysis Period (min) 15 | | | |

Splits and Phases: 3: SH 83 & Hodgen Rd





| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 1 | 95 | 127 | 4 | 14 | 8 |
| Future Volume (vph) | 1 | 95 | 127 | 4 | 14 | 8 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (ft) | 0 | | | 0 | 0 | 0 |
| Storage Lanes | 0 | | | 1 | 1 | 0 |
| Taper Length (ft) | 100 | | | | 100 | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | | | | 0.850 | 0.951 | |
| Flt Protected | | | | | 0.969 | |
| Satd. Flow (prot) | 0 | 1863 | 1863 | 1583 | 1717 | 0 |
| Flt Permitted | | | | | 0.969 | |
| Satd. Flow (perm) | 0 | 1863 | 1863 | 1583 | 1717 | 0 |
| Link Speed (mph) | | 40 | 40 | | 30 | |
| Link Distance (ft) | | 1413 | 843 | | 1348 | |
| Travel Time (s) | | 24.1 | 14.4 | | 30.6 | |
| Peak Hour Factor | 0.74 | 0.74 | 0.87 | 0.87 | 0.61 | 0.61 |
| Adj. Flow (vph) | 1 | 128 | 146 | 5 | 23 | 13 |
| Shared Lane Traffic (%) | | | | | | |
| Lane Group Flow (vph) | 0 | 129 | 146 | 5 | 36 | 0 |
| Enter Blocked Intersection | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Left | Right | Left | Right |
| Median Width(ft) | | 12 | 12 | | 12 | |
| Link Offset(ft) | | 0 | 0 | | 0 | |
| Crosswalk Width(ft) | | 16 | 16 | | 16 | |
| Two way Left Turn Lane | | | | | | |
| Headway Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Turning Speed (mph) | 15 | | | 9 | 15 | 9 |
| Sign Control | | Free | Free | | Stop | |

| Intersection Summary | |
|---|---|
| Area Type: | Other |
| Control Type: Unsignalized | |

## 6: Hodgen Rd & Cherry Crossing Dr Performance by movement Interval #1 7:00

| Movement | EBT | WBT | WBR | SBL | SBR | All |
|---|---|---|---|---|---|---|
| Denied Del/Veh (s) | 0.1 | 0.0 | 0.0 | 0.1 | 0.1 | 0.0 |
| Total Del/Veh (s) | 0.0 | 2.8 | 0.6 | 5.7 | 1.8 | 2.1 |

## 6: Hodgen Rd & Cherry Crossing Dr Performance by movement Interval #2 7:15

| Movement | EBL | EBT | WBT | WBR | SBL | SBR | All |
|---|---|---|---|---|---|---|---|
| Denied Del/Veh (s) | 0.1 | 0.1 | 0.0 | 0.0 | 0.1 | 0.1 | 0.1 |
| Total Del/Veh (s) | 0.8 | 0.2 | 1.9 | 3.2 | 4.1 | 2.1 | 1.4 |

## 6: Hodgen Rd & Cherry Crossing Dr Performance by movement Interval #3 7:30

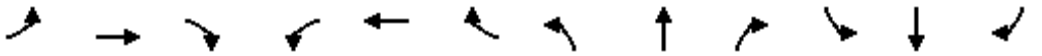
| Movement | EBT | WBT | WBR | SBL | SBR | All |
|---|---|---|---|---|---|---|
| Denied Del/Veh (s) | 0.1 | 0.0 | 0.0 | 0.1 | 0.2 | 0.1 |
| Total Del/Veh (s) | 0.4 | 2.1 | 3.2 | 4.9 | 2.0 | 1.7 |

## 6: Hodgen Rd & Cherry Crossing Dr Performance by movement Interval #4 7:45

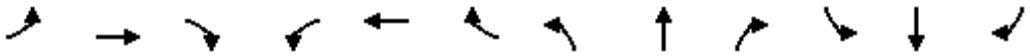
| Movement | EBT | WBT | WBR | SBL | SBR | All |
|---|---|---|---|---|---|---|
| Denied Del/Veh (s) | 0.2 | 0.0 | 0.0 | 0.1 | 0.1 | 0.1 |
| Total Del/Veh (s) | 0.3 | 2.2 | 0.6 | 4.3 | 2.4 | 1.6 |

## 6: Hodgen Rd & Cherry Crossing Dr Performance by movement Entire Run

| Movement | EBL | EBT | WBT | WBR | SBL | SBR | All |
|---|---|---|---|---|---|---|---|
| Denied Del/Veh (s) | 0.1 | 0.1 | 0.0 | 0.0 | 0.1 | 0.2 | 0.1 |
| Total Del/Veh (s) | 0.8 | 0.3 | 2.3 | 1.7 | 4.8 | 2.3 | 1.7 |



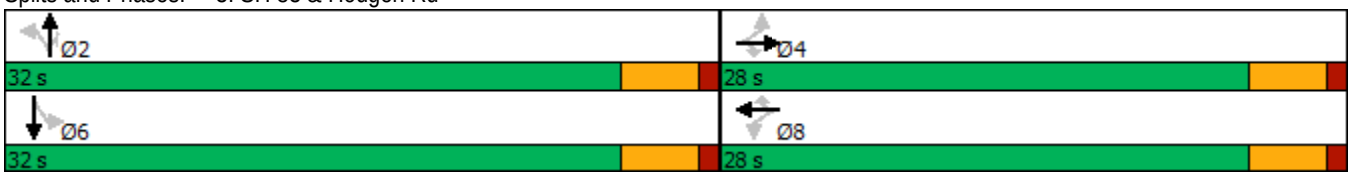
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 26 | 130 | 44 | 107 | 95 | 185 | 67 | 409 | 163 | 189 | 322 | 36 |
| Future Volume (vph) | 26 | 130 | 44 | 107 | 95 | 185 | 67 | 409 | 163 | 189 | 322 | 36 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (ft) | 450 | | 450 | 400 | | 400 | 200 | | 900 | 650 | | 0 |
| Storage Lanes | 1 | | 1 | 1 | | 1 | 1 | | 1 | 1 | | 0 |
| Taper Length (ft) | 100 | | | 100 | | | 100 | | | 100 | | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | | | 0.850 | | | 0.850 | | | 0.850 | | 0.985 | |
| Flt Protected | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (prot) | 1770 | 1863 | 1583 | 1770 | 1863 | 1583 | 1770 | 1863 | 1583 | 1770 | 1835 | 0 |
| Flt Permitted | 0.685 | | | 0.649 | | | 0.496 | | | 0.447 | | |
| Satd. Flow (perm) | 1276 | 1863 | 1583 | 1209 | 1863 | 1583 | 924 | 1863 | 1583 | 833 | 1835 | 0 |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Satd. Flow (RTOR) | | | 58 | | | 218 | | | 181 | | 12 | |
| Link Speed (mph) | | 40 | | | 40 | | | 60 | | | 60 | |
| Link Distance (ft) | | 843 | | | 1794 | | | 2113 | | | 2252 | |
| Travel Time (s) | | 14.4 | | | 30.6 | | | 24.0 | | | 25.6 | |
| Peak Hour Factor | 0.76 | 0.76 | 0.76 | 0.85 | 0.85 | 0.85 | 0.90 | 0.90 | 0.90 | 0.89 | 0.89 | 0.89 |
| Adj. Flow (vph) | 34 | 171 | 58 | 126 | 112 | 218 | 74 | 454 | 181 | 212 | 362 | 40 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 34 | 171 | 58 | 126 | 112 | 218 | 74 | 454 | 181 | 212 | 402 | 0 |
| Enter Blocked Intersection | No | No | No | No | No | No | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Right | Left | Left | Right | Left | Left | Right | Left | Left | Right |
| Median Width(ft) | | 12 | | | 12 | | | 12 | | | 12 | |
| Link Offset(ft) | | 0 | | | 0 | | | 0 | | | 0 | |
| Crosswalk Width(ft) | | 16 | | | 16 | | | 16 | | | 16 | |
| Two way Left Turn Lane | | | | | | | | | | | | |
| Headway Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Turning Speed (mph) | 15 | | 9 | 15 | | 9 | 15 | | 9 | 15 | | 9 |
| Number of Detectors | 1 | 2 | 1 | 1 | 2 | 1 | 1 | 2 | 1 | 1 | 2 | |
| Detector Template | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | |
| Leading Detector (ft) | 20 | 100 | 20 | 20 | 100 | 20 | 20 | 100 | 20 | 20 | 100 | |
| Trailing Detector (ft) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Detector 1 Position(ft) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Detector 1 Size(ft) | 20 | 6 | 20 | 20 | 6 | 20 | 20 | 6 | 20 | 20 | 6 | |
| Detector 1 Type | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | |
| Detector 1 Channel | | | | | | | | | | | | |
| Detector 1 Extend (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Detector 1 Queue (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Detector 1 Delay (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Detector 2 Position(ft) | | 94 | | | 94 | | | 94 | | | 94 | |
| Detector 2 Size(ft) | | 6 | | | 6 | | | 6 | | | 6 | |
| Detector 2 Type | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | |
| Detector 2 Channel | | | | | | | | | | | | |
| Detector 2 Extend (s) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Turn Type | Perm | NA | Perm | Perm | NA | Perm | Perm | NA | Perm | Perm | NA | |
| Protected Phases | | 4 | | | 8 | | | 2 | | | 6 | |
| Permitted Phases | 4 | | 4 | 8 | | 8 | 2 | | 2 | 6 | | |

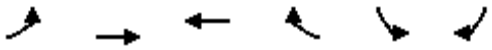


| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Detector Phase | 4 | 4 | 4 | 8 | 8 | 8 | 2 | 2 | 2 | 6 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | |
| Minimum Split (s) | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | |
| Total Split (s) | 28.0 | 28.0 | 28.0 | 28.0 | 28.0 | 28.0 | 32.0 | 32.0 | 32.0 | 32.0 | 32.0 | |
| Total Split (%) | 46.7% | 46.7% | 46.7% | 46.7% | 46.7% | 46.7% | 53.3% | 53.3% | 53.3% | 53.3% | 53.3% | |
| Maximum Green (s) | 23.5 | 23.5 | 23.5 | 23.5 | 23.5 | 23.5 | 27.5 | 27.5 | 27.5 | 27.5 | 27.5 | |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | |
| Lead/Lag | | | | | | | | | | | | |
| Lead-Lag Optimize? | | | | | | | | | | | | |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | |
| Recall Mode | None | None | None | None | None | None | Min | Min | Min | Min | Min | |
| Walk Time (s) | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | |
| Flash Dont Walk (s) | 11.0 | 11.0 | 11.0 | 11.0 | 11.0 | 11.0 | 11.0 | 11.0 | 11.0 | 11.0 | 11.0 | |
| Pedestrian Calls (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Act Effct Green (s) | 10.3 | 10.3 | 10.3 | 10.3 | 10.3 | 10.3 | 18.7 | 18.7 | 18.7 | 18.7 | 18.7 | |
| Actuated g/C Ratio | 0.27 | 0.27 | 0.27 | 0.27 | 0.27 | 0.27 | 0.49 | 0.49 | 0.49 | 0.49 | 0.49 | |
| v/c Ratio | 0.10 | 0.34 | 0.12 | 0.39 | 0.23 | 0.37 | 0.17 | 0.50 | 0.21 | 0.52 | 0.45 | |
| Control Delay | 12.7 | 14.3 | 5.3 | 16.5 | 13.1 | 4.7 | 7.3 | 9.5 | 2.1 | 13.2 | 8.6 | |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Total Delay | 12.7 | 14.3 | 5.3 | 16.5 | 13.1 | 4.7 | 7.3 | 9.5 | 2.1 | 13.2 | 8.6 | |
| LOS | B | B | A | B | B | A | A | A | A | B | A | |
| Approach Delay | | 12.1 | | | 10.0 | | | 7.4 | | | 10.2 | |
| Approach LOS | | B | | | B | | | A | | | B | |
| Queue Length 50th (ft) | 5 | 26 | 0 | 19 | 16 | 0 | 7 | 52 | 0 | 25 | 43 | |
| Queue Length 95th (ft) | 20 | 65 | 14 | 62 | 52 | 32 | 29 | 145 | 22 | 89 | 120 | |
| Internal Link Dist (ft) | | 763 | | | 1714 | | | 2033 | | | 2172 | |
| Turn Bay Length (ft) | 450 | | 450 | 400 | | 400 | 200 | | 900 | 650 | | |
| Base Capacity (vph) | 823 | 1202 | 1042 | 780 | 1202 | 1098 | 697 | 1406 | 1239 | 629 | 1388 | |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Reduced v/c Ratio | 0.04 | 0.14 | 0.06 | 0.16 | 0.09 | 0.20 | 0.11 | 0.32 | 0.15 | 0.34 | 0.29 | |

| Intersection Summary | | | |
|---|---|---|---|
| Area Type: | Other | | |
| Cycle Length: 60 | | | |
| Actuated Cycle Length: 38.5 | | | |
| Natural Cycle: 55 | | | |
| Control Type: Actuated-Uncoordinated | | | |
| Maximum v/c Ratio: 0.52 | | | |
| Intersection Signal Delay: 9.4 | | Intersection LOS: A | |
| Intersection Capacity Utilization 59.8% | | ICU Level of Service B | |
| Analysis Period (min) 15 | | | |

Splits and Phases: 3: SH 83 & Hodgen Rd





| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 6 | 196 | 181 | 17 | 4 | 0 |
| Future Volume (vph) | 6 | 196 | 181 | 17 | 4 | 0 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (ft) | 0 | | | 0 | 0 | 0 |
| Storage Lanes | 0 | | | 1 | 1 | 0 |
| Taper Length (ft) | 100 | | | | 100 | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | | | | 0.850 | | |
| Flt Protected | | 0.998 | | | 0.950 | |
| Satd. Flow (prot) | 0 | 1859 | 1863 | 1583 | 1770 | 0 |
| Flt Permitted | | 0.998 | | | 0.950 | |
| Satd. Flow (perm) | 0 | 1859 | 1863 | 1583 | 1770 | 0 |
| Link Speed (mph) | | 40 | 40 | | 30 | |
| Link Distance (ft) | | 1413 | 843 | | 1348 | |
| Travel Time (s) | | 24.1 | 14.4 | | 30.6 | |
| Peak Hour Factor | 0.76 | 0.76 | 0.85 | 0.85 | 0.50 | 0.50 |
| Adj. Flow (vph) | 8 | 258 | 213 | 20 | 8 | 0 |
| Shared Lane Traffic (%) | | | | | | |
| Lane Group Flow (vph) | 0 | 266 | 213 | 20 | 8 | 0 |
| Enter Blocked Intersection | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Left | Right | Left | Right |
| Median Width(ft) | | 12 | 12 | | 12 | |
| Link Offset(ft) | | 0 | 0 | | 0 | |
| Crosswalk Width(ft) | | 16 | 16 | | 16 | |
| Two way Left Turn Lane | | | | | | |
| Headway Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Turning Speed (mph) | 15 | | | 9 | 15 | 9 |
| Sign Control | | Free | Free | | Stop | |

| Intersection Summary | |
|---|---|
| Area Type: | Other |
| Control Type: Unsignalized | |

## 6: Hodgen Rd & Cherry Crossing Dr Performance by movement Interval #1 7:00

| Movement | EBL | EBT | WBT | WBR | SBL | All |
|---|---|---|---|---|---|---|
| Denied Del/Veh (s) | 0.4 | 0.2 | 0.0 | 0.0 | | 0.1 |
| Total Del/Veh (s) | 1.6 | 0.3 | 1.9 | 1.3 | | 1.2 |

## 6: Hodgen Rd & Cherry Crossing Dr Performance by movement Interval #2 7:15

| Movement | EBL | EBT | WBT | WBR | SBL | All |
|---|---|---|---|---|---|---|
| Denied Del/Veh (s) | 0.5 | 0.2 | 0.0 | 0.0 | | 0.1 |
| Total Del/Veh (s) | 2.2 | 0.4 | 1.9 | 1.3 | | 1.2 |

## 6: Hodgen Rd & Cherry Crossing Dr Performance by movement Interval #3 7:30

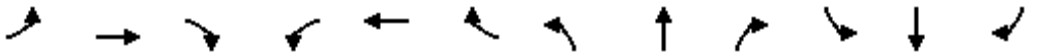
| Movement | EBL | EBT | WBT | WBR | SBL | All |
|---|---|---|---|---|---|---|
| Denied Del/Veh (s) | 0.1 | 0.2 | 0.0 | 0.0 | 0.1 | 0.1 |
| Total Del/Veh (s) | 0.9 | 0.4 | 1.9 | 1.0 | 6.7 | 1.3 |

## 6: Hodgen Rd & Cherry Crossing Dr Performance by movement Interval #4 7:45

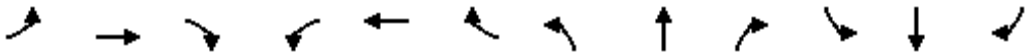
| Movement | EBL | EBT | WBT | WBR | SBL | All |
|---|---|---|---|---|---|---|
| Denied Del/Veh (s) | 0.1 | 0.2 | 0.0 | 0.0 | 0.1 | 0.1 |
| Total Del/Veh (s) | 0.7 | 0.2 | 1.7 | 1.2 | 2.7 | 1.0 |

## 6: Hodgen Rd & Cherry Crossing Dr Performance by movement Entire Run

| Movement | EBL | EBT | WBT | WBR | SBL | All |
|---|---|---|---|---|---|---|
| Denied Del/Veh (s) | 0.2 | 0.2 | 0.0 | 0.0 | 0.1 | 0.1 |
| Total Del/Veh (s) | 1.3 | 0.4 | 1.9 | 1.3 | 7.0 | 1.2 |



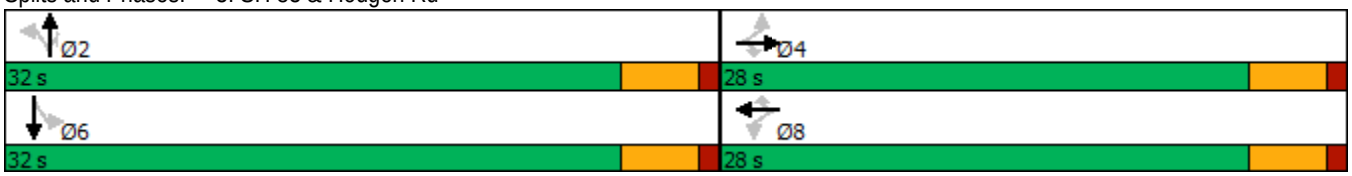
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 32 | 58 | 87 | 204 | 135 | 192 | 38 | 166 | 43 | 61 | 312 | 46 |
| Future Volume (vph) | 32 | 58 | 87 | 204 | 135 | 192 | 38 | 166 | 43 | 61 | 312 | 46 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (ft) | 450 | | 450 | 400 | | 400 | 200 | | 900 | 650 | | 0 |
| Storage Lanes | 1 | | 1 | 1 | | 1 | 1 | | 1 | 1 | | 0 |
| Taper Length (ft) | 100 | | | 100 | | | 100 | | | 100 | | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | | | 0.850 | | | 0.850 | | | 0.850 | | 0.981 | |
| Flt Protected | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (prot) | 1770 | 1863 | 1583 | 1770 | 1863 | 1583 | 1770 | 1863 | 1583 | 1770 | 1827 | 0 |
| Flt Permitted | 0.659 | | | 0.706 | | | 0.406 | | | 0.636 | | |
| Satd. Flow (perm) | 1228 | 1863 | 1583 | 1315 | 1863 | 1583 | 756 | 1863 | 1583 | 1185 | 1827 | 0 |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Satd. Flow (RTOR) | | | 118 | | | 221 | | | 50 | | 16 | |
| Link Speed (mph) | | 40 | | | 40 | | | 60 | | | 60 | |
| Link Distance (ft) | | 843 | | | 1794 | | | 2113 | | | 2252 | |
| Travel Time (s) | | 14.4 | | | 30.6 | | | 24.0 | | | 25.6 | |
| Peak Hour Factor | 0.74 | 0.74 | 0.74 | 0.87 | 0.87 | 0.87 | 0.86 | 0.86 | 0.86 | 0.79 | 0.79 | 0.79 |
| Adj. Flow (vph) | 43 | 78 | 118 | 234 | 155 | 221 | 44 | 193 | 50 | 77 | 395 | 58 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 43 | 78 | 118 | 234 | 155 | 221 | 44 | 193 | 50 | 77 | 453 | 0 |
| Enter Blocked Intersection | No | No | No | No | No | No | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Right | Left | Left | Right | Left | Left | Right | Left | Left | Right |
| Median Width(ft) | | 12 | | | 12 | | | 12 | | | 12 | |
| Link Offset(ft) | | 0 | | | 0 | | | 0 | | | 0 | |
| Crosswalk Width(ft) | | 16 | | | 16 | | | 16 | | | 16 | |
| Two way Left Turn Lane | | | | | | | | | | | | |
| Headway Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Turning Speed (mph) | 15 | | 9 | 15 | | 9 | 15 | | 9 | 15 | | 9 |
| Number of Detectors | 1 | 2 | 1 | 1 | 2 | 1 | 1 | 2 | 1 | 1 | 2 | |
| Detector Template | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | |
| Leading Detector (ft) | 20 | 100 | 20 | 20 | 100 | 20 | 20 | 100 | 20 | 20 | 100 | |
| Trailing Detector (ft) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Detector 1 Position(ft) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Detector 1 Size(ft) | 20 | 6 | 20 | 20 | 6 | 20 | 20 | 6 | 20 | 20 | 6 | |
| Detector 1 Type | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | |
| Detector 1 Channel | | | | | | | | | | | | |
| Detector 1 Extend (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Detector 1 Queue (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Detector 1 Delay (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Detector 2 Position(ft) | | 94 | | | 94 | | | 94 | | | 94 | |
| Detector 2 Size(ft) | | 6 | | | 6 | | | 6 | | | 6 | |
| Detector 2 Type | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | |
| Detector 2 Channel | | | | | | | | | | | | |
| Detector 2 Extend (s) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Turn Type | Perm | NA | Perm | Perm | NA | Perm | Perm | NA | Perm | Perm | NA | |
| Protected Phases | | 4 | | | 8 | | | 2 | | | 6 | |
| Permitted Phases | 4 | | 4 | 8 | | 8 | 2 | | 2 | 6 | | |

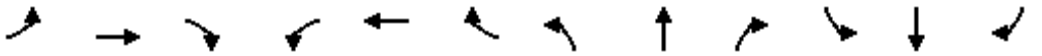


| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Detector Phase | 4 | 4 | 4 | 8 | 8 | 8 | 2 | 2 | 2 | 6 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | |
| Minimum Split (s) | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | |
| Total Split (s) | 28.0 | 28.0 | 28.0 | 28.0 | 28.0 | 28.0 | 32.0 | 32.0 | 32.0 | 32.0 | 32.0 | |
| Total Split (%) | 46.7% | 46.7% | 46.7% | 46.7% | 46.7% | 46.7% | 53.3% | 53.3% | 53.3% | 53.3% | 53.3% | |
| Maximum Green (s) | 23.5 | 23.5 | 23.5 | 23.5 | 23.5 | 23.5 | 27.5 | 27.5 | 27.5 | 27.5 | 27.5 | |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | |
| Lead/Lag | | | | | | | | | | | | |
| Lead-Lag Optimize? | | | | | | | | | | | | |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | |
| Recall Mode | None | None | None | None | None | None | Min | Min | Min | Min | Min | |
| Walk Time (s) | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | |
| Flash Dont Walk (s) | 11.0 | 11.0 | 11.0 | 11.0 | 11.0 | 11.0 | 11.0 | 11.0 | 11.0 | 11.0 | 11.0 | |
| Pedestrian Calls (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Act Effct Green (s) | 13.3 | 13.3 | 13.3 | 13.3 | 13.3 | 13.3 | 15.8 | 15.8 | 15.8 | 15.8 | 15.8 | |
| Actuated g/C Ratio | 0.34 | 0.34 | 0.34 | 0.34 | 0.34 | 0.34 | 0.41 | 0.41 | 0.41 | 0.41 | 0.41 | |
| v/c Ratio | 0.10 | 0.12 | 0.19 | 0.52 | 0.24 | 0.32 | 0.14 | 0.25 | 0.07 | 0.16 | 0.60 | |
| Control Delay | 10.3 | 10.1 | 3.6 | 15.6 | 10.9 | 3.5 | 9.9 | 9.6 | 3.7 | 9.5 | 13.4 | |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Total Delay | 10.3 | 10.1 | 3.6 | 15.6 | 10.9 | 3.5 | 9.9 | 9.6 | 3.7 | 9.5 | 13.4 | |
| LOS | B | B | A | B | B | A | A | A | A | A | B | |
| Approach Delay | | 6.9 | | | 10.0 | | | 8.6 | | | 12.9 | |
| Approach LOS | | A | | | B | | | A | | | B | |
| Queue Length 50th (ft) | 5 | 10 | 0 | 33 | 20 | 0 | 5 | 23 | 0 | 9 | 62 | |
| Queue Length 95th (ft) | 21 | 31 | 15 | 106 | 65 | 30 | 24 | 71 | 14 | 32 | 150 | |
| Internal Link Dist (ft) | | 763 | | | 1714 | | | 2033 | | | 2172 | |
| Turn Bay Length (ft) | 450 | | 450 | 400 | | 400 | 200 | | 900 | 650 | | |
| Base Capacity (vph) | 803 | 1219 | 1076 | 860 | 1219 | 1112 | 575 | 1418 | 1217 | 902 | 1395 | |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Reduced v/c Ratio | 0.05 | 0.06 | 0.11 | 0.27 | 0.13 | 0.20 | 0.08 | 0.14 | 0.04 | 0.09 | 0.32 | |

| Intersection Summary | | | |
|---|---|---|---|
| Area Type: | Other | | |
| Cycle Length: 60 | | | |
| Actuated Cycle Length: 38.9 | | | |
| Natural Cycle: 45 | | | |
| Control Type: Actuated-Uncoordinated | | | |
| Maximum v/c Ratio: 0.60 | | | |
| Intersection Signal Delay: 10.2 | | Intersection LOS: B | |
| Intersection Capacity Utilization 53.8% | | ICU Level of Service A | |
| Analysis Period (min) 15 | | | |

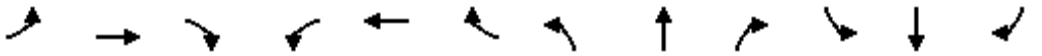
Splits and Phases: 3: SH 83 & Hodgen Rd





| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 6 | 0 | 0 | 0 | 0 | 90 | 0 | 27 | 0 | 120 | 35 | 2 |
| Future Volume (vph) | 6 | 0 | 0 | 0 | 0 | 90 | 0 | 27 | 0 | 120 | 35 | 2 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (ft) | 0 | | 0 | 0 | | 0 | 0 | | 50 | 90 | | 0 |
| Storage Lanes | 0 | | 0 | 0 | | 0 | 0 | | 0 | 1 | | 0 |
| Taper Length (ft) | 100 | | | 100 | | | 100 | | | 75 | | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | | | | | 0.865 | | | | | | 0.992 | |
| Flt Protected | | 0.950 | | | | | | | | 0.950 | | |
| Satd. Flow (prot) | 0 | 1770 | 0 | 0 | 1611 | 0 | 0 | 1863 | 0 | 1770 | 1848 | 0 |
| Flt Permitted | | 0.950 | | | | | | | | 0.950 | | |
| Satd. Flow (perm) | 0 | 1770 | 0 | 0 | 1611 | 0 | 0 | 1863 | 0 | 1770 | 1848 | 0 |
| Link Speed (mph) | | 30 | | | 30 | | | 30 | | | 30 | |
| Link Distance (ft) | | 409 | | | 623 | | | 534 | | | 331 | |
| Travel Time (s) | | 9.3 | | | 14.2 | | | 12.1 | | | 7.5 | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 7 | 0 | 0 | 0 | 0 | 98 | 0 | 29 | 0 | 130 | 38 | 2 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 0 | 7 | 0 | 0 | 98 | 0 | 0 | 29 | 0 | 130 | 40 | 0 |
| Enter Blocked Intersection | No | No | No | No | No | No | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Right | Left | Left | Right | Left | Left | Right | Left | Left | Right |
| Median Width(ft) | | 0 | | | 0 | | | 12 | | | 12 | |
| Link Offset(ft) | | 0 | | | 0 | | | 0 | | | 0 | |
| Crosswalk Width(ft) | | 16 | | | 16 | | | 16 | | | 16 | |
| Two way Left Turn Lane | | | | | | | | | | | | |
| Headway Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Turning Speed (mph) | 15 | | 9 | 15 | | 9 | 15 | | 9 | 15 | | 9 |
| Sign Control | | Stop | | | Stop | | | Free | | | Free | |

| Intersection Summary | |
|---|---|
| Area Type: | Other |
| Control Type: Unsignalized | |



| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 1 | 73 | 41 | 115 | 100 | 4 | 32 | 1 | 90 | 14 | 1 | 8 |
| Future Volume (vph) | 1 | 73 | 41 | 115 | 100 | 4 | 32 | 1 | 90 | 14 | 1 | 8 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (ft) | 0 | | 150 | 150 | | 0 | 0 | | 105 | 0 | | 0 |
| Storage Lanes | 0 | | 1 | 1 | | 1 | 0 | | 1 | 0 | | 0 |
| Taper Length (ft) | 100 | | | 100 | | | 100 | | | 100 | | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | | | 0.850 | | | 0.850 | | | 0.850 | | 0.954 | |
| Flt Protected | | | | 0.950 | | | | 0.954 | | | 0.971 | |
| Satd. Flow (prot) | 0 | 1863 | 1583 | 1770 | 1863 | 1583 | 0 | 1777 | 1583 | 0 | 1726 | 0 |
| Flt Permitted | | | | 0.950 | | | | 0.954 | | | 0.971 | |
| Satd. Flow (perm) | 0 | 1863 | 1583 | 1770 | 1863 | 1583 | 0 | 1777 | 1583 | 0 | 1726 | 0 |
| Link Speed (mph) | | 40 | | | 40 | | | 30 | | | 30 | |
| Link Distance (ft) | | 1413 | | | 843 | | | 331 | | | 1348 | |
| Travel Time (s) | | 24.1 | | | 14.4 | | | 7.5 | | | 30.6 | |
| Peak Hour Factor | 0.74 | 0.74 | 0.74 | 0.87 | 0.87 | 0.87 | 0.92 | 0.92 | 0.92 | 0.61 | 0.61 | 0.61 |
| Adj. Flow (vph) | 1 | 99 | 55 | 132 | 115 | 5 | 35 | 1 | 98 | 23 | 2 | 13 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 0 | 100 | 55 | 132 | 115 | 5 | 0 | 36 | 98 | 0 | 38 | 0 |
| Enter Blocked Intersection | No | No | No | No | No | No | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Right | Left | Left | Right | Left | Left | Right | Left | Left | Right |
| Median Width(ft) | | 12 | | | 12 | | | 12 | | | 12 | |
| Link Offset(ft) | | 0 | | | 0 | | | 0 | | | 0 | |
| Crosswalk Width(ft) | | 16 | | | 16 | | | 16 | | | 16 | |
| Two way Left Turn Lane | | | | | | | | | | | | |
| Headway Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Turning Speed (mph) | 15 | | 9 | 15 | | 9 | 15 | | 9 | 15 | | 9 |
| Sign Control | | Free | | | Free | | | Stop | | | Stop | |

| Intersection Summary | |
|---|---|
| Area Type: | Other |
| Control Type: Unsignalized | |

## 1: Cherry Crossing Dr & Lap Wai Ct/Retail Access Performance by movement Interval #1 7:00

| Movement | EBL | WBR | NBT | SBL | SBT | SBR | All |
|---|---|---|---|---|---|---|---|
| Denied Del/Veh (s) | 0.1 | 0.2 | 0.1 | 0.1 | 0.0 | 0.0 | 0.1 |
| Total Del/Veh (s) | 6.1 | 3.0 | 0.2 | 1.8 | 0.3 | 0.3 | 1.9 |

## 1: Cherry Crossing Dr & Lap Wai Ct/Retail Access Performance by movement Interval #2 7:15

| Movement | EBL | WBR | NBT | SBL | SBT | SBR | All |
|---|---|---|---|---|---|---|---|
| Denied Del/Veh (s) | 0.1 | 0.1 | 0.1 | 0.1 | 0.0 | | 0.1 |
| Total Del/Veh (s) | 5.3 | 2.9 | 0.1 | 1.9 | 0.2 | | 2.0 |

## 1: Cherry Crossing Dr & Lap Wai Ct/Retail Access Performance by movement Interval #3 7:30

| Movement | EBL | WBR | NBT | SBL | SBT | SBR | All |
|---|---|---|---|---|---|---|---|
| Denied Del/Veh (s) | 0.1 | 0.2 | 0.2 | 0.0 | 0.0 | | 0.1 |
| Total Del/Veh (s) | 3.9 | 3.2 | 0.2 | 1.8 | 0.2 | | 1.9 |

## 1: Cherry Crossing Dr & Lap Wai Ct/Retail Access Performance by movement Interval #4 7:45

| Movement | EBL | WBR | NBT | SBL | SBT | SBR | All |
|---|---|---|---|---|---|---|---|
| Denied Del/Veh (s) | 0.1 | 0.1 | 0.1 | 0.3 | 0.0 | 0.0 | 0.2 |
| Total Del/Veh (s) | 4.6 | 2.7 | 0.2 | 1.7 | 0.2 | 0.2 | 1.7 |

## 1: Cherry Crossing Dr & Lap Wai Ct/Retail Access Performance by movement Entire Run

| Movement | EBL | WBR | NBT | SBL | SBT | SBR | All |
|---|---|---|---|---|---|---|---|
| Denied Del/Veh (s) | 0.1 | 0.2 | 0.1 | 0.1 | 0.0 | 0.0 | 0.1 |
| Total Del/Veh (s) | 4.8 | 3.0 | 0.2 | 1.8 | 0.2 | 0.3 | 1.9 |

## 6: Cherry Crossing Dr & Hodgen Rd Performance by movement Interval #1 7:00

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Denied Del/Veh (s) | | 0.2 | 3.3 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | | 0.1 |
| Total Del/Veh (s) | | 0.7 | 0.2 | 3.1 | 2.1 | 0.8 | 6.7 | 4.7 | 2.7 | 6.5 | | 2.9 |

## 6: Cherry Crossing Dr & Hodgen Rd Performance by movement Interval #1 7:00

| Movement | All |
|---|---|
| Denied Del/Veh (s) | 0.3 |
| Total Del/Veh (s) | 2.8 |

## 6: Cherry Crossing Dr & Hodgen Rd Performance by movement Interval #2 7:15

| Movement | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR | All |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Denied Del/Veh (s) | 0.2 | 3.1 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.2 | | 0.1 | 0.3 |
| Total Del/Veh (s) | 0.4 | 0.2 | 3.6 | 2.4 | 0.7 | 7.0 | | 2.7 | 7.4 | | 3.3 | 2.9 |

## 6: Cherry Crossing Dr & Hodgen Rd Performance by movement Interval #3 7:30

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Denied Del/Veh (s) | | 0.2 | 3.2 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.1 | | 0.2 |
| Total Del/Veh (s) | | 0.6 | 0.4 | 3.9 | 2.0 | 1.1 | 8.8 | | 3.2 | 6.5 | | 3.6 |

## 6: Cherry Crossing Dr & Hodgen Rd Performance by movement Interval #3 7:30

| Movement | All |
|---|---|
| Denied Del/Veh (s) | 0.3 |
| Total Del/Veh (s) | 2.9 |

## 6: Cherry Crossing Dr & Hodgen Rd Performance by movement Interval #4 7:45

| Movement | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR | All |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Denied Del/Veh (s) | 0.2 | 2.7 | 0.1 | 0.0 | | 0.0 | | 0.0 | 0.1 | | 0.1 | 0.3 |
| Total Del/Veh (s) | 0.6 | 0.2 | 2.8 | 1.9 | | 6.1 | | 2.9 | 7.1 | | 2.9 | 2.5 |

## 6: Cherry Crossing Dr & Hodgen Rd Performance by movement Entire Run

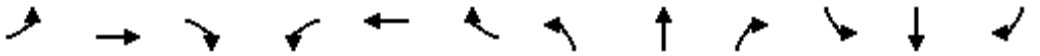
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Denied Del/Veh (s) | 0.1 | 0.2 | 3.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 0.1 | 0.1 |
| Total Del/Veh (s) | 0.6 | 0.6 | 0.3 | 3.4 | 2.1 | 0.9 | 7.7 | 8.8 | 2.9 | 6.8 | 7.6 | 3.3 |

## 6: Cherry Crossing Dr & Hodgen Rd Performance by movement Entire Run

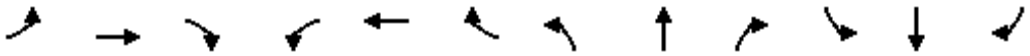
| Movement | All |
|---|---|
| Denied Del/Veh (s) | 0.3 |
| Total Del/Veh (s) | 2.8 |

## Total Zone Performance By Interval

| Interval Start | 7:00 | 7:15 | 7:30 | 7:45 | All |
|---|---|---|---|---|---|
| Denied Del/Veh (s) | 0.8 | 0.7 | 0.7 | 0.7 | 0.7 |
| Total Del/Veh (s) | 445.4 | 150.8 | 59.1 | 130.0 | 208.7 |



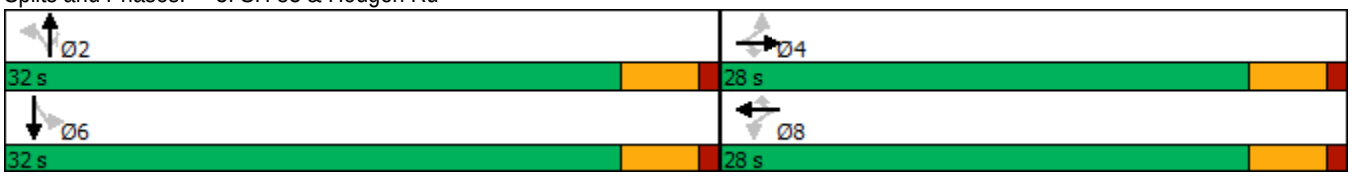
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 55 | 165 | 85 | 104 | 114 | 105 | 105 | 392 | 157 | 177 | 299 | 85 |
| Future Volume (vph) | 55 | 165 | 85 | 104 | 114 | 105 | 105 | 392 | 157 | 177 | 299 | 85 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (ft) | 450 | | 450 | 400 | | 400 | 200 | | 900 | 650 | | 0 |
| Storage Lanes | 1 | | 1 | 1 | | 1 | 1 | | 1 | 1 | | 0 |
| Taper Length (ft) | 100 | | | 100 | | | 100 | | | 100 | | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | | | 0.850 | | | 0.850 | | | 0.850 | | 0.967 | |
| Flt Protected | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (prot) | 1770 | 1863 | 1583 | 1770 | 1863 | 1583 | 1770 | 1863 | 1583 | 1770 | 1801 | 0 |
| Flt Permitted | 0.671 | | | 0.622 | | | 0.482 | | | 0.478 | | |
| Satd. Flow (perm) | 1250 | 1863 | 1583 | 1159 | 1863 | 1583 | 898 | 1863 | 1583 | 890 | 1801 | 0 |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Satd. Flow (RTOR) | | | 112 | | | 124 | | | 174 | | 32 | |
| Link Speed (mph) | | 40 | | | 40 | | | 60 | | | 60 | |
| Link Distance (ft) | | 843 | | | 1794 | | | 2113 | | | 2252 | |
| Travel Time (s) | | 14.4 | | | 30.6 | | | 24.0 | | | 25.6 | |
| Peak Hour Factor | 0.76 | 0.76 | 0.76 | 0.85 | 0.85 | 0.85 | 0.90 | 0.90 | 0.90 | 0.89 | 0.89 | 0.89 |
| Adj. Flow (vph) | 72 | 217 | 112 | 122 | 134 | 124 | 117 | 436 | 174 | 199 | 336 | 96 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 72 | 217 | 112 | 122 | 134 | 124 | 117 | 436 | 174 | 199 | 432 | 0 |
| Enter Blocked Intersection | No | No | No | No | No | No | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Right | Left | Left | Right | Left | Left | Right | Left | Left | Right |
| Median Width(ft) | | 12 | | | 12 | | | 12 | | | 12 | |
| Link Offset(ft) | | 0 | | | 0 | | | 0 | | | 0 | |
| Crosswalk Width(ft) | | 16 | | | 16 | | | 16 | | | 16 | |
| Two way Left Turn Lane | | | | | | | | | | | | |
| Headway Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Turning Speed (mph) | 15 | | 9 | 15 | | 9 | 15 | | 9 | 15 | | 9 |
| Number of Detectors | 1 | 2 | 1 | 1 | 2 | 1 | 1 | 2 | 1 | 1 | 2 | |
| Detector Template | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | |
| Leading Detector (ft) | 20 | 100 | 20 | 20 | 100 | 20 | 20 | 100 | 20 | 20 | 100 | |
| Trailing Detector (ft) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Detector 1 Position(ft) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Detector 1 Size(ft) | 20 | 6 | 20 | 20 | 6 | 20 | 20 | 6 | 20 | 20 | 6 | |
| Detector 1 Type | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | |
| Detector 1 Channel | | | | | | | | | | | | |
| Detector 1 Extend (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Detector 1 Queue (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Detector 1 Delay (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Detector 2 Position(ft) | | 94 | | | 94 | | | 94 | | | 94 | |
| Detector 2 Size(ft) | | 6 | | | 6 | | | 6 | | | 6 | |
| Detector 2 Type | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | |
| Detector 2 Channel | | | | | | | | | | | | |
| Detector 2 Extend (s) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Turn Type | Perm | NA | Perm | Perm | NA | Perm | Perm | NA | Perm | Perm | NA | |
| Protected Phases | | 4 | | | 8 | | | 2 | | | 6 | |
| Permitted Phases | 4 | | 4 | 8 | | 8 | 2 | | 2 | 6 | | |

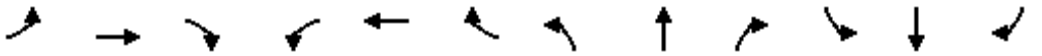


| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Detector Phase | 4 | 4 | 4 | 8 | 8 | 8 | 2 | 2 | 2 | 6 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | |
| Minimum Split (s) | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | |
| Total Split (s) | 28.0 | 28.0 | 28.0 | 28.0 | 28.0 | 28.0 | 32.0 | 32.0 | 32.0 | 32.0 | 32.0 | |
| Total Split (%) | 46.7% | 46.7% | 46.7% | 46.7% | 46.7% | 46.7% | 53.3% | 53.3% | 53.3% | 53.3% | 53.3% | |
| Maximum Green (s) | 23.5 | 23.5 | 23.5 | 23.5 | 23.5 | 23.5 | 27.5 | 27.5 | 27.5 | 27.5 | 27.5 | |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | |
| Lead/Lag | | | | | | | | | | | | |
| Lead-Lag Optimize? | | | | | | | | | | | | |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | |
| Recall Mode | None | None | None | None | None | None | Min | Min | Min | Min | Min | |
| Walk Time (s) | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | 7.0 | |
| Flash Dont Walk (s) | 11.0 | 11.0 | 11.0 | 11.0 | 11.0 | 11.0 | 11.0 | 11.0 | 11.0 | 11.0 | 11.0 | |
| Pedestrian Calls (#/hr) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Act Effct Green (s) | 10.5 | 10.5 | 10.5 | 10.3 | 10.3 | 10.3 | 20.3 | 20.3 | 20.3 | 20.3 | 20.3 | |
| Actuated g/C Ratio | 0.29 | 0.29 | 0.29 | 0.28 | 0.28 | 0.28 | 0.56 | 0.56 | 0.56 | 0.56 | 0.56 | |
| v/c Ratio | 0.20 | 0.40 | 0.21 | 0.37 | 0.25 | 0.23 | 0.23 | 0.42 | 0.18 | 0.40 | 0.42 | |
| Control Delay | 12.8 | 14.0 | 4.5 | 15.4 | 12.6 | 4.5 | 8.3 | 8.6 | 2.0 | 10.5 | 8.1 | |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| Total Delay | 12.8 | 14.0 | 4.5 | 15.4 | 12.6 | 4.5 | 8.3 | 8.6 | 2.0 | 10.5 | 8.1 | |
| LOS | B | B | A | B | B | A | A | A | A | B | A | |
| Approach Delay | | 11.2 | | | 10.9 | | | 7.0 | | | 8.9 | |
| Approach LOS | | B | | | B | | | A | | | A | |
| Queue Length 50th (ft) | 9 | 30 | 0 | 17 | 18 | 0 | 12 | 50 | 0 | 22 | 45 | |
| Queue Length 95th (ft) | 34 | 81 | 18 | 61 | 60 | 25 | 45 | 137 | 22 | 79 | 127 | |
| Internal Link Dist (ft) | | 763 | | | 1714 | | | 2033 | | | 2172 | |
| Turn Bay Length (ft) | 450 | | 450 | 400 | | 400 | 200 | | 900 | 650 | | |
| Base Capacity (vph) | 869 | 1295 | 1134 | 806 | 1295 | 1138 | 721 | 1496 | 1305 | 715 | 1453 | |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Reduced v/c Ratio | 0.08 | 0.17 | 0.10 | 0.15 | 0.10 | 0.11 | 0.16 | 0.29 | 0.13 | 0.28 | 0.30 | |

| Intersection Summary | | | |
|---|---|---|---|
| Area Type: | Other | | |
| Cycle Length: 60 | | | |
| Actuated Cycle Length: 36.2 | | | |
| Natural Cycle: 50 | | | |
| Control Type: Actuated-Uncoordinated | | | |
| Maximum v/c Ratio: 0.42 | | | |
| Intersection Signal Delay: 9.0 | | Intersection LOS: A | |
| Intersection Capacity Utilization 59.9% | | ICU Level of Service B | |
| Analysis Period (min) 15 | | | |

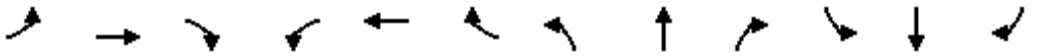
Splits and Phases: 3: SH 83 & Hodgen Rd





| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 4 | 0 | 0 | 0 | 0 | 150 | 0 | 36 | 0 | 130 | 56 | 7 |
| Future Volume (vph) | 4 | 0 | 0 | 0 | 0 | 150 | 0 | 36 | 0 | 130 | 56 | 7 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (ft) | 0 | | 0 | 0 | | 0 | 0 | | 50 | 90 | | 0 |
| Storage Lanes | 0 | | 0 | 0 | | 0 | 0 | | 1 | 1 | | 0 |
| Taper Length (ft) | 100 | | | 100 | | | 100 | | | 75 | | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | | | | | 0.865 | | | | | | 0.983 | |
| Flt Protected | | 0.950 | | | | | | | | 0.950 | | |
| Satd. Flow (prot) | 0 | 1770 | 0 | 0 | 1611 | 0 | 0 | 1863 | 1863 | 1770 | 1831 | 0 |
| Flt Permitted | | 0.950 | | | | | | | | 0.950 | | |
| Satd. Flow (perm) | 0 | 1770 | 0 | 0 | 1611 | 0 | 0 | 1863 | 1863 | 1770 | 1831 | 0 |
| Link Speed (mph) | | 30 | | | 30 | | | 30 | | | 30 | |
| Link Distance (ft) | | 409 | | | 623 | | | 534 | | | 331 | |
| Travel Time (s) | | 9.3 | | | 14.2 | | | 12.1 | | | 7.5 | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 4 | 0 | 0 | 0 | 0 | 163 | 0 | 39 | 0 | 141 | 61 | 8 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 0 | 4 | 0 | 0 | 163 | 0 | 0 | 39 | 0 | 141 | 69 | 0 |
| Enter Blocked Intersection | No | No | No | No | No | No | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Right | Left | Left | Right | Left | Left | Right | Left | Left | Right |
| Median Width(ft) | | 0 | | | 0 | | | 12 | | | 12 | |
| Link Offset(ft) | | 0 | | | 0 | | | 0 | | | 0 | |
| Crosswalk Width(ft) | | 16 | | | 16 | | | 16 | | | 16 | |
| Two way Left Turn Lane | | | | | | | | | | | | |
| Headway Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Turning Speed (mph) | 15 | | 9 | 15 | | 9 | 15 | | 9 | 15 | | 9 |
| Sign Control | | Stop | | | Stop | | | Free | | | Free | |

| Intersection Summary | |
|---|---|
| Area Type: | Other |
| Control Type: Unsignalized | |



| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 6 | 155 | 63 | 129 | 159 | 17 | 43 | 1 | 146 | 4 | 1 | 0 |
| Future Volume (vph) | 6 | 155 | 63 | 129 | 159 | 17 | 43 | 1 | 146 | 4 | 1 | 0 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (ft) | 0 | | 150 | 150 | | 0 | 0 | | 105 | 0 | | 0 |
| Storage Lanes | 0 | | 1 | 1 | | 1 | 0 | | 1 | 0 | | 0 |
| Taper Length (ft) | 100 | | | 100 | | | 100 | | | 100 | | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | | | 0.850 | | | 0.850 | | | 0.850 | | | |
| Flt Protected | | 0.998 | | 0.950 | | | | 0.953 | | | 0.962 | |
| Satd. Flow (prot) | 0 | 1859 | 1583 | 1770 | 1863 | 1583 | 0 | 1775 | 1583 | 0 | 1792 | 0 |
| Flt Permitted | | 0.998 | | 0.950 | | | | 0.953 | | | 0.962 | |
| Satd. Flow (perm) | 0 | 1859 | 1583 | 1770 | 1863 | 1583 | 0 | 1775 | 1583 | 0 | 1792 | 0 |
| Link Speed (mph) | | 40 | | | 40 | | | 30 | | | 30 | |
| Link Distance (ft) | | 1413 | | | 843 | | | 331 | | | 1348 | |
| Travel Time (s) | | 24.1 | | | 14.4 | | | 7.5 | | | 30.6 | |
| Peak Hour Factor | 0.76 | 0.76 | 0.76 | 0.85 | 0.85 | 0.85 | 0.92 | 0.92 | 0.95 | 0.50 | 0.50 | 0.50 |
| Adj. Flow (vph) | 8 | 204 | 83 | 152 | 187 | 20 | 47 | 1 | 154 | 8 | 2 | 0 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 0 | 212 | 83 | 152 | 187 | 20 | 0 | 48 | 154 | 0 | 10 | 0 |
| Enter Blocked Intersection | No | No | No | No | No | No | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Right | Left | Left | Right | Left | Left | Right | Left | Left | Right |
| Median Width(ft) | | 12 | | | 12 | | | 12 | | | 12 | |
| Link Offset(ft) | | 0 | | | 0 | | | 0 | | | 0 | |
| Crosswalk Width(ft) | | 16 | | | 16 | | | 16 | | | 16 | |
| Two way Left Turn Lane | | | | | | | | | | | | |
| Headway Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Turning Speed (mph) | 15 | | 9 | 15 | | 9 | 15 | | 9 | 15 | | 9 |
| Sign Control | | Free | | | Free | | | Stop | | | Stop | |

| Intersection Summary | |
|---|---|
| Area Type: | Other |
| Control Type: Unsignalized | |

## 1: Cherry Crossing Dr & Lap Wai Ct/Retail Access Performance by movement Interval #1 4:30

| Movement | EBL | WBR | NBT | SBL | SBT | SBR | All |
|---|---|---|---|---|---|---|---|
| Denied Del/Veh (s) | 0.1 | 0.2 | 0.1 | 0.2 | 0.0 | 0.0 | 0.1 |
| Total Del/Veh (s) | 4.0 | 3.0 | 0.3 | 1.8 | 0.2 | 0.1 | 1.9 |

## 1: Cherry Crossing Dr & Lap Wai Ct/Retail Access Performance by movement Interval #2 4:45

| Movement | EBL | WBR | NBT | SBL | SBT | SBR | All |
|---|---|---|---|---|---|---|---|
| Denied Del/Veh (s) | 0.1 | 0.2 | 0.1 | 0.2 | 0.0 | 0.0 | 0.2 |
| Total Del/Veh (s) | 8.4 | 2.7 | 0.2 | 1.8 | 0.3 | 0.0 | 1.8 |

## 1: Cherry Crossing Dr & Lap Wai Ct/Retail Access Performance by movement Interval #3 5:00

| Movement | EBL | WBR | NBT | SBL | SBT | SBR | All |
|---|---|---|---|---|---|---|---|
| Denied Del/Veh (s) | 0.1 | 0.2 | 0.1 | 0.0 | 0.0 | 0.0 | 0.1 |
| Total Del/Veh (s) | 7.7 | 3.4 | 0.3 | 2.0 | 0.4 | 0.2 | 2.0 |

## 1: Cherry Crossing Dr & Lap Wai Ct/Retail Access Performance by movement Interval #4 5:15

| Movement | EBL | WBR | NBT | SBL | SBT | SBR | All |
|---|---|---|---|---|---|---|---|
| Denied Del/Veh (s) | 0.1 | 0.2 | 0.1 | 0.2 | 0.0 | 0.0 | 0.1 |
| Total Del/Veh (s) | 4.7 | 3.0 | 0.3 | 1.8 | 0.3 | 0.1 | 2.0 |

## 1: Cherry Crossing Dr & Lap Wai Ct/Retail Access Performance by movement Entire Run

| Movement | EBL | WBR | NBT | SBL | SBT | SBR | All |
|---|---|---|---|---|---|---|---|
| Denied Del/Veh (s) | 0.1 | 0.2 | 0.1 | 0.1 | 0.0 | 0.0 | 0.1 |
| Total Del/Veh (s) | 5.9 | 3.1 | 0.3 | 1.9 | 0.3 | 0.1 | 1.9 |

## 6: Cherry Crossing Dr & Hodgen Rd Performance by movement Interval #1 4:30

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | All |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Denied Del/Veh (s) | 0.5 | 0.2 | 3.3 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.1 | | 0.3 |
| Total Del/Veh (s) | 0.9 | 1.0 | 0.4 | 3.3 | 1.7 | 2.3 | 7.1 | | 3.2 | 7.7 | | 2.5 |

## 6: Cherry Crossing Dr & Hodgen Rd Performance by movement Interval #2 4:45

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | All |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Denied Del/Veh (s) | 0.3 | 0.3 | 3.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.1 | 0.1 | | 0.3 |
| Total Del/Veh (s) | 1.5 | 0.8 | 0.3 | 3.8 | 1.9 | 1.4 | 8.4 | | 3.2 | 8.4 | | 2.5 |

## 6: Cherry Crossing Dr & Hodgen Rd Performance by movement Interval #3 5:00

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | All |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Denied Del/Veh (s) | 0.3 | 0.4 | 3.1 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 0.1 | 0.4 |
| Total Del/Veh (s) | 2.9 | 1.5 | 0.6 | 4.6 | 2.1 | 1.3 | 9.9 | 2.3 | 3.9 | 6.4 | 5.8 | 3.1 |

## 6: Cherry Crossing Dr & Hodgen Rd Performance by movement Interval #4 5:15

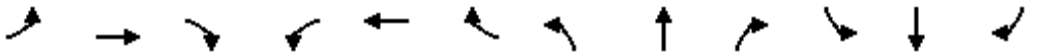
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | All |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Denied Del/Veh (s) | 0.3 | 0.3 | 3.1 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | | | 0.3 |
| Total Del/Veh (s) | 1.4 | 1.0 | 0.4 | 3.2 | 1.9 | 0.8 | 7.9 | | 3.4 | | | 2.6 |

## 6: Cherry Crossing Dr & Hodgen Rd Performance by movement Entire Run

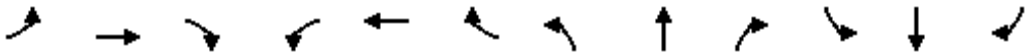
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | All |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Denied Del/Veh (s) | 0.4 | 0.3 | 3.2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 0.1 | 0.3 |
| Total Del/Veh (s) | 2.3 | 1.1 | 0.5 | 3.9 | 1.9 | 1.4 | 8.6 | 8.6 | 3.5 | 8.3 | 6.3 | 2.8 |

## Total Zone Performance By Interval

| Interval Start | 4:30 | 4:45 | 5:00 | 5:15 | All |
|---|---|---|---|---|---|
| Denied Del/Veh (s) | 0.7 | 0.7 | 0.8 | 0.7 | 0.7 |
| Total Del/Veh (s) | 78.3 | 73.3 | 71.4 | 127.5 | 180.1 |



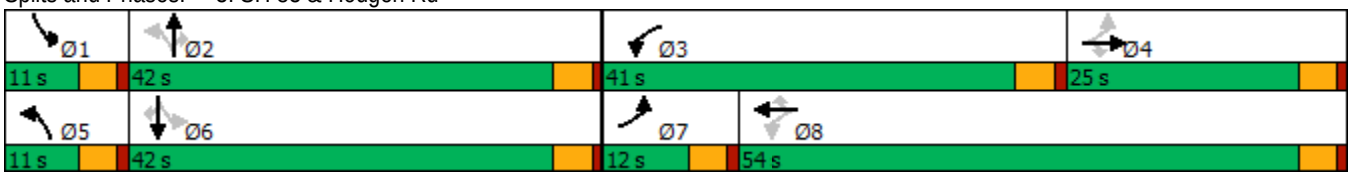
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 75 | 125 | 150 | 400 | 300 | 400 | 50 | 600 | 125 | 160 | 600 | 150 |
| Future Volume (vph) | 75 | 125 | 150 | 400 | 300 | 400 | 50 | 600 | 125 | 160 | 600 | 150 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (ft) | 450 | | 450 | 400 | | 400 | 200 | | 900 | 650 | | 400 |
| Storage Lanes | 1 | | 1 | 1 | | 1 | 1 | | 1 | 2 | | 1 |
| Taper Length (ft) | 100 | | | 100 | | | 100 | | | 100 | | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.95 | 1.00 | 0.97 | 0.95 | 1.00 |
| Frt | | | 0.850 | | | 0.850 | | | 0.850 | | | 0.850 |
| Flt Protected | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (prot) | 1770 | 1863 | 1583 | 1770 | 1863 | 1583 | 1770 | 3539 | 1583 | 3433 | 3539 | 1583 |
| Flt Permitted | 0.569 | | | 0.413 | | | 0.332 | | | 0.301 | | |
| Satd. Flow (perm) | 1060 | 1863 | 1583 | 769 | 1863 | 1583 | 618 | 3539 | 1583 | 1088 | 3539 | 1583 |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Satd. Flow (RTOR) | | | 158 | | | 279 | | | 138 | | | 158 |
| Link Speed (mph) | | 40 | | | 40 | | | 60 | | | 60 | |
| Link Distance (ft) | | 843 | | | 1794 | | | 2113 | | | 2252 | |
| Travel Time (s) | | 14.4 | | | 30.6 | | | 24.0 | | | 25.6 | |
| Peak Hour Factor | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 |
| Adj. Flow (vph) | 79 | 132 | 158 | 421 | 316 | 421 | 53 | 632 | 132 | 168 | 632 | 158 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 79 | 132 | 158 | 421 | 316 | 421 | 53 | 632 | 132 | 168 | 632 | 158 |
| Enter Blocked Intersection | No | No | No | No | No | No | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Right | Left | Left | Right | Left | Left | Right | Left | Left | Right |
| Median Width(ft) | | 12 | | | 12 | | | 24 | | | 24 | |
| Link Offset(ft) | | 0 | | | 0 | | | 0 | | | 0 | |
| Crosswalk Width(ft) | | 16 | | | 16 | | | 16 | | | 16 | |
| Two way Left Turn Lane | | | | | | | | | | | | |
| Headway Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Turning Speed (mph) | 15 | | 9 | 15 | | 9 | 15 | | 9 | 15 | | 9 |
| Number of Detectors | 1 | 2 | 1 | 1 | 2 | 1 | 1 | 2 | 1 | 1 | 2 | 1 |
| Detector Template | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Leading Detector (ft) | 20 | 100 | 20 | 20 | 100 | 20 | 20 | 100 | 20 | 20 | 100 | 20 |
| Trailing Detector (ft) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Detector 1 Position(ft) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Detector 1 Size(ft) | 20 | 6 | 20 | 20 | 6 | 20 | 20 | 6 | 20 | 20 | 6 | 20 |
| Detector 1 Type | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex |
| Detector 1 Channel | | | | | | | | | | | | |
| Detector 1 Extend (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector 1 Queue (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector 1 Delay (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector 2 Position(ft) | | 94 | | | 94 | | | 94 | | | 94 | |
| Detector 2 Size(ft) | | 6 | | | 6 | | | 6 | | | 6 | |
| Detector 2 Type | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | |
| Detector 2 Channel | | | | | | | | | | | | |
| Detector 2 Extend (s) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Turn Type | pm+pt | NA | Perm | pm+pt | NA | Perm | pm+pt | NA | Perm | pm+pt | NA | Perm |
| Protected Phases | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | 4 | 8 | | 8 | 2 | | 2 | 6 | | 6 |

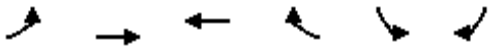


| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Detector Phase | 7 | 4 | 4 | 3 | 8 | 8 | 5 | 2 | 2 | 1 | 6 | 6 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 |
| Minimum Split (s) | 9.5 | 22.5 | 22.5 | 9.5 | 22.5 | 22.5 | 9.5 | 22.5 | 22.5 | 9.5 | 22.5 | 22.5 |
| Total Split (s) | 12.0 | 25.0 | 25.0 | 41.0 | 54.0 | 54.0 | 11.0 | 42.0 | 42.0 | 11.0 | 42.0 | 42.0 |
| Total Split (%) | 10.1% | 21.0% | 21.0% | 34.5% | 45.4% | 45.4% | 9.2% | 35.3% | 35.3% | 9.2% | 35.3% | 35.3% |
| Maximum Green (s) | 7.5 | 20.5 | 20.5 | 36.5 | 49.5 | 49.5 | 6.5 | 37.5 | 37.5 | 6.5 | 37.5 | 37.5 |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lag | Lead | Lag | Lag | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Recall Mode | None | None | None | None | None | None | None | Max | Max | None | Max | Max |
| Walk Time (s) | | 7.0 | 7.0 | | 7.0 | 7.0 | | 7.0 | 7.0 | | 7.0 | 7.0 |
| Flash Dont Walk (s) | | 11.0 | 11.0 | | 11.0 | 11.0 | | 11.0 | 11.0 | | 11.0 | 11.0 |
| Pedestrian Calls (#/hr) | | 0 | 0 | | 0 | 0 | | 0 | 0 | | 0 | 0 |
| Act Effct Green (s) | 19.4 | 12.3 | 12.3 | 40.3 | 30.9 | 30.9 | 44.1 | 37.8 | 37.8 | 45.4 | 40.3 | 40.3 |
| Actuated g/C Ratio | 0.20 | 0.13 | 0.13 | 0.41 | 0.31 | 0.31 | 0.45 | 0.38 | 0.38 | 0.46 | 0.41 | 0.41 |
| v/c Ratio | 0.30 | 0.57 | 0.47 | 0.76 | 0.54 | 0.61 | 0.15 | 0.46 | 0.19 | 0.26 | 0.43 | 0.21 |
| Control Delay | 23.2 | 51.5 | 11.6 | 31.5 | 31.8 | 13.5 | 16.9 | 25.5 | 4.8 | 16.1 | 24.5 | 4.9 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 23.2 | 51.5 | 11.6 | 31.5 | 31.8 | 13.5 | 16.9 | 25.5 | 4.8 | 16.1 | 24.5 | 4.9 |
| LOS | C | D | B | C | C | B | B | C | A | B | C | A |
| Approach Delay | | 28.4 | | | 25.1 | | | 21.6 | | | 19.8 | |
| Approach LOS | | C | | | C | | | C | | | B | |
| Queue Length 50th (ft) | 30 | 78 | 0 | 198 | 168 | 70 | 16 | 152 | 0 | 27 | 152 | 0 |
| Queue Length 95th (ft) | 57 | 149 | 59 | 286 | 249 | 166 | 47 | 252 | 39 | 58 | 252 | 46 |
| Internal Link Dist (ft) | | 763 | | | 1714 | | | 2033 | | | 2172 | |
| Turn Bay Length (ft) | 450 | | 450 | 400 | | 400 | 200 | | 900 | 650 | | 400 |
| Base Capacity (vph) | 268 | 392 | 458 | 708 | 947 | 941 | 356 | 1363 | 694 | 659 | 1453 | 743 |
| Starvation Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Reduced v/c Ratio | 0.29 | 0.34 | 0.34 | 0.59 | 0.33 | 0.45 | 0.15 | 0.46 | 0.19 | 0.25 | 0.43 | 0.21 |

| Intersection Summary | | | |
|---|---|---|---|
| Area Type: | Other | | |
| Cycle Length: 119 | | | |
| Actuated Cycle Length: 98.2 | | | |
| Natural Cycle: 65 | | | |
| Control Type: Semi Act-Uncoord | | | |
| Maximum v/c Ratio: 0.76 | | | |
| Intersection Signal Delay: 23.0 | | Intersection LOS: C | |
| Intersection Capacity Utilization 64.9% | | ICU Level of Service C | |
| Analysis Period (min) 15 | | | |

Splits and Phases: 3: SH 83 & Hodgen Rd





| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 2 | 335 | 495 | 5 | 15 | 10 |
| Future Volume (vph) | 2 | 335 | 495 | 5 | 15 | 10 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (ft) | 0 | | | 0 | 0 | 0 |
| Storage Lanes | 0 | | | 1 | 1 | 0 |
| Taper Length (ft) | 100 | | | | 100 | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | | | | 0.850 | 0.945 | |
| Flt Protected | | | | | 0.971 | |
| Satd. Flow (prot) | 0 | 1863 | 1863 | 1583 | 1709 | 0 |
| Flt Permitted | | | | | 0.971 | |
| Satd. Flow (perm) | 0 | 1863 | 1863 | 1583 | 1709 | 0 |
| Link Speed (mph) | | 40 | 40 | | 30 | |
| Link Distance (ft) | | 1413 | 843 | | 1348 | |
| Travel Time (s) | | 24.1 | 14.4 | | 30.6 | |
| Peak Hour Factor | 0.95 | 0.95 | 0.95 | 0.95 | 0.92 | 0.92 |
| Adj. Flow (vph) | 2 | 353 | 521 | 5 | 16 | 11 |
| Shared Lane Traffic (%) | | | | | | |
| Lane Group Flow (vph) | 0 | 355 | 521 | 5 | 27 | 0 |
| Enter Blocked Intersection | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Left | Right | Left | Right |
| Median Width(ft) | | 12 | 12 | | 12 | |
| Link Offset(ft) | | 0 | 0 | | 0 | |
| Crosswalk Width(ft) | | 16 | 16 | | 16 | |
| Two way Left Turn Lane | | | | | | |
| Headway Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Turning Speed (mph) | 15 | | | 9 | 15 | 9 |
| Sign Control | | Free | Free | | Stop | |

| Intersection Summary | |
|---|---|
| Area Type: | Other |
| Control Type: Unsignalized | |

## 6: Hodgen Rd & Cherry Crossing Dr Performance by movement Interval #1 7:30

| Movement | EBT | WBT | WBR | SBL | SBR | All |
|---|---|---|---|---|---|---|
| Denied Del/Veh (s) | 0.4 | 0.0 | 0.0 | 0.1 | 0.1 | 0.2 |
| Total Del/Veh (s) | 0.9 | 2.9 | 3.2 | 16.0 | 1.8 | 2.3 |

## 6: Hodgen Rd & Cherry Crossing Dr Performance by movement Interval #2 7:45

| Movement | EBT | WBT | SBL | SBR | All |
|---|---|---|---|---|---|
| Denied Del/Veh (s) | 0.2 | 0.0 | 0.1 | 0.1 | 0.1 |
| Total Del/Veh (s) | 0.6 | 3.0 | 4.6 | 1.8 | 2.0 |

## 6: Hodgen Rd & Cherry Crossing Dr Performance by movement Interval #3 8:00

| Movement | EBT | WBT | WBR | SBL | SBR | All |
|---|---|---|---|---|---|---|
| Denied Del/Veh (s) | 0.3 | 0.0 | 0.0 | 0.1 | 0.1 | 0.1 |
| Total Del/Veh (s) | 0.9 | 3.0 | 2.2 | 16.1 | 6.3 | 2.4 |

## 6: Hodgen Rd & Cherry Crossing Dr Performance by movement Interval #4 8:15

| Movement | EBT | WBT | WBR | SBL | SBR | All |
|---|---|---|---|---|---|---|
| Denied Del/Veh (s) | 0.2 | 0.0 | 0.0 | 0.1 | 0.1 | 0.1 |
| Total Del/Veh (s) | 0.8 | 3.4 | 1.3 | 6.1 | 19.7 | 2.6 |

## 6: Hodgen Rd & Cherry Crossing Dr Performance by movement Entire Run

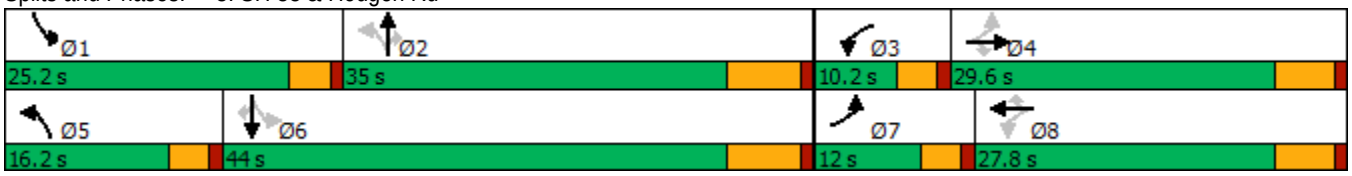
| Movement | EBT | WBT | WBR | SBL | SBR | All |
|---|---|---|---|---|---|---|
| Denied Del/Veh (s) | 0.3 | 0.0 | 0.0 | 0.1 | 0.1 | 0.1 |
| Total Del/Veh (s) | 0.8 | 3.1 | 1.9 | 11.5 | 8.7 | 2.4 |

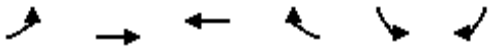
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 150 | 300 | 75 | 125 | 275 | 283 | 150 | 800 | 400 | 375 | 700 | 150 |
| Future Volume (vph) | 150 | 300 | 75 | 125 | 275 | 283 | 150 | 800 | 400 | 375 | 700 | 150 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (ft) | 450 | | 450 | 400 | | 400 | 0 | | 900 | 650 | | 400 |
| Storage Lanes | 1 | | 1 | 1 | | 1 | 1 | | 1 | 2 | | 1 |
| Taper Length (ft) | 100 | | | 100 | | | 100 | | | 100 | | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.95 | 1.00 | 0.97 | 0.95 | 1.00 |
| Frt | | | 0.850 | | | 0.850 | | | 0.850 | | | 0.850 |
| Flt Protected | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (prot) | 1770 | 1863 | 1583 | 1770 | 1863 | 1583 | 1770 | 3539 | 1583 | 3433 | 3539 | 1583 |
| Flt Permitted | 0.327 | | | 0.364 | | | 0.274 | | | 0.165 | | |
| Satd. Flow (perm) | 609 | 1863 | 1583 | 678 | 1863 | 1583 | 510 | 3539 | 1583 | 596 | 3539 | 1583 |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Satd. Flow (RTOR) | | | 169 | | | 298 | | | 304 | | | 158 |
| Link Speed (mph) | | 40 | | | 40 | | | 60 | | | 60 | |
| Link Distance (ft) | | 843 | | | 4808 | | | 4090 | | | 2881 | |
| Travel Time (s) | | 14.4 | | | 82.0 | | | 46.5 | | | 32.7 | |
| Peak Hour Factor | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 |
| Adj. Flow (vph) | 158 | 316 | 79 | 132 | 289 | 298 | 158 | 842 | 421 | 395 | 737 | 158 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 158 | 316 | 79 | 132 | 289 | 298 | 158 | 842 | 421 | 395 | 737 | 158 |
| Enter Blocked Intersection | No | No | No | No | No | No | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Right | Left | Left | Right | Left | Left | Right | Left | Left | Right |
| Median Width(ft) | | 12 | | | 12 | | | 24 | | | 24 | |
| Link Offset(ft) | | 0 | | | 0 | | | 0 | | | 0 | |
| Crosswalk Width(ft) | | 16 | | | 16 | | | 16 | | | 16 | |
| Two way Left Turn Lane | | | | | | | | | | | | |
| Headway Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Turning Speed (mph) | 15 | | 9 | 15 | | 9 | 15 | | 9 | 15 | | 9 |
| Number of Detectors | 1 | 2 | 1 | 1 | 2 | 1 | 1 | 2 | 1 | 1 | 2 | 1 |
| Detector Template | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Leading Detector (ft) | 20 | 100 | 20 | 20 | 100 | 20 | 20 | 100 | 20 | 20 | 100 | 20 |
| Trailing Detector (ft) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Detector 1 Position(ft) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Detector 1 Size(ft) | 20 | 6 | 20 | 20 | 6 | 20 | 20 | 6 | 20 | 20 | 6 | 20 |
| Detector 1 Type | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex |
| Detector 1 Channel | | | | | | | | | | | | |
| Detector 1 Extend (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector 1 Queue (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector 1 Delay (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector 2 Position(ft) | | 94 | | | 94 | | | 94 | | | 94 | |
| Detector 2 Size(ft) | | 6 | | | 6 | | | 6 | | | 6 | |
| Detector 2 Type | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | |
| Detector 2 Channel | | | | | | | | | | | | |
| Detector 2 Extend (s) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Turn Type | pm+pt | NA | Perm | pm+pt | NA | Perm | pm+pt | NA | Perm | pm+pt | NA | Perm |
| Protected Phases | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | 4 | 8 | | 8 | 2 | | 2 | 6 | | 6 |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Detector Phase | 7 | 4 | 4 | 3 | 8 | 8 | 5 | 2 | 2 | 1 | 6 | 6 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 |
| Minimum Split (s) | 9.5 | 23.5 | 23.5 | 9.5 | 23.5 | 23.5 | 11.5 | 24.5 | 24.5 | 9.5 | 24.5 | 24.5 |
| Total Split (s) | 12.0 | 29.6 | 29.6 | 10.2 | 27.8 | 27.8 | 16.2 | 35.0 | 35.0 | 25.2 | 44.0 | 44.0 |
| Total Split (%) | 12.0% | 29.6% | 29.6% | 10.2% | 27.8% | 27.8% | 16.2% | 35.0% | 35.0% | 25.2% | 44.0% | 44.0% |
| Maximum Green (s) | 8.0 | 24.1 | 24.1 | 6.2 | 22.3 | 22.3 | 12.2 | 28.5 | 28.5 | 21.2 | 37.5 | 37.5 |
| Yellow Time (s) | 3.0 | 4.5 | 4.5 | 3.0 | 4.5 | 4.5 | 3.0 | 5.5 | 5.5 | 3.0 | 5.5 | 5.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.0 | 5.5 | 5.5 | 4.0 | 5.5 | 5.5 | 4.0 | 6.5 | 6.5 | 4.0 | 6.5 | 6.5 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lag | Lead | Lag | Lag | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Recall Mode | None | None | None | None | None | None | None | Min | Min | None | Min | Min |
| Walk Time (s) | | 7.0 | 7.0 | | 7.0 | 7.0 | | 7.0 | 7.0 | | 7.0 | 7.0 |
| Flash Dont Walk (s) | | 11.0 | 11.0 | | 11.0 | 11.0 | | 11.0 | 11.0 | | 11.0 | 11.0 |
| Pedestrian Calls (#/hr) | | 0 | 0 | | 0 | 0 | | 0 | 0 | | 0 | 0 |
| Act Effct Green (s) | 29.0 | 19.5 | 19.5 | 25.7 | 17.9 | 17.9 | 38.0 | 25.9 | 25.9 | 41.7 | 27.8 | 27.8 |
| Actuated g/C Ratio | 0.35 | 0.23 | 0.23 | 0.31 | 0.21 | 0.21 | 0.46 | 0.31 | 0.31 | 0.50 | 0.33 | 0.33 |
| v/c Ratio | 0.49 | 0.73 | 0.16 | 0.45 | 0.72 | 0.52 | 0.42 | 0.77 | 0.60 | 0.58 | 0.63 | 0.25 |
| Control Delay | 24.9 | 41.0 | 0.7 | 25.0 | 42.8 | 7.4 | 14.8 | 32.3 | 11.6 | 14.6 | 26.8 | 4.9 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 24.9 | 41.0 | 0.7 | 25.0 | 42.8 | 7.4 | 14.8 | 32.3 | 11.6 | 14.6 | 26.8 | 4.9 |
| LOS | C | D | A | C | D | A | B | C | B | B | C | A |
| Approach Delay | | 30.6 | | | 24.9 | | | 24.2 | | | 20.4 | |
| Approach LOS | | C | | | C | | | C | | | C | |

| Intersection Summary | | | |
|---|---|---|---|
| Area Type: | Other | | |
| Cycle Length: 100 | | | |
| Actuated Cycle Length: 83.5 | | | |
| Natural Cycle: 70 | | | |
| Control Type: Actuated-Uncoordinated | | | |
| Maximum v/c Ratio: 0.77 | | | |
| Intersection Signal Delay: 24.0 | | Intersection LOS: C | |
| Intersection Capacity Utilization 72.3% | | ICU Level of Service C | |
| Analysis Period (min) 15 | | | |

Splits and Phases: 3: SH 83 & Hodgen Rd





| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 10 | 520 | 555 | 20 | 5 | 0 |
| Future Volume (vph) | 10 | 520 | 555 | 20 | 5 | 0 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (ft) | 0 | | | 0 | 0 | 0 |
| Storage Lanes | 0 | | | 1 | 1 | 0 |
| Taper Length (ft) | 100 | | | | 100 | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | | | | 0.850 | | |
| Flt Protected | | 0.999 | | | 0.950 | |
| Satd. Flow (prot) | 0 | 1861 | 1863 | 1583 | 1770 | 0 |
| Flt Permitted | | 0.999 | | | 0.950 | |
| Satd. Flow (perm) | 0 | 1861 | 1863 | 1583 | 1770 | 0 |
| Link Speed (mph) | | 40 | 40 | | 30 | |
| Link Distance (ft) | | 1413 | 843 | | 1348 | |
| Travel Time (s) | | 24.1 | 14.4 | | 30.6 | |
| Peak Hour Factor | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 |
| Adj. Flow (vph) | 11 | 547 | 584 | 21 | 5 | 0 |
| Shared Lane Traffic (%) | | | | | | |
| Lane Group Flow (vph) | 0 | 558 | 584 | 21 | 5 | 0 |
| Enter Blocked Intersection | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Left | Right | Left | Right |
| Median Width(ft) | | 12 | 12 | | 12 | |
| Link Offset(ft) | | 0 | 0 | | 0 | |
| Crosswalk Width(ft) | | 16 | 16 | | 16 | |
| Two way Left Turn Lane | | | | | | |
| Headway Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Turning Speed (mph) | 15 | | | 9 | 15 | 9 |
| Sign Control | | Free | Free | | Stop | |

| Intersection Summary | |
|---|---|
| Area Type: | Other |
| Control Type: Unsignalized | |

## 6: Hodgen Rd & Cherry Crossing Dr Performance by movement Interval #1 7:00

| Movement | EBL | EBT | WBT | WBR | SBL | All |
|---|---|---|---|---|---|---|
| Denied Del/Veh (s) | 0.6 | 0.4 | 0.0 | 0.0 | 0.1 | 0.2 |
| Total Del/Veh (s) | 5.3 | 1.3 | 3.6 | 1.6 | 10.7 | 2.5 |

## 6: Hodgen Rd & Cherry Crossing Dr Performance by movement Interval #2 7:15

| Movement | EBL | EBT | WBT | WBR | SBL | All |
|---|---|---|---|---|---|---|
| Denied Del/Veh (s) | 0.4 | 0.4 | 0.0 | 0.0 | 0.1 | 0.2 |
| Total Del/Veh (s) | 4.5 | 1.2 | 3.7 | 1.9 | 14.5 | 2.5 |

## 6: Hodgen Rd & Cherry Crossing Dr Performance by movement Interval #3 7:30

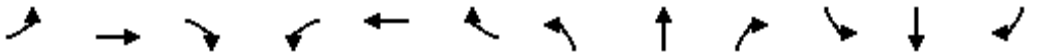
| Movement | EBL | EBT | WBT | WBR | SBL | All |
|---|---|---|---|---|---|---|
| Denied Del/Veh (s) | 0.1 | 0.4 | 0.0 | 0.0 | 0.1 | 0.2 |
| Total Del/Veh (s) | 2.3 | 1.0 | 3.7 | 1.7 | 8.5 | 2.4 |

## 6: Hodgen Rd & Cherry Crossing Dr Performance by movement Interval #4 7:45

| Movement | EBL | EBT | WBT | WBR | SBL | All |
|---|---|---|---|---|---|---|
| Denied Del/Veh (s) | 0.2 | 0.4 | 0.0 | 0.0 | 0.1 | 0.2 |
| Total Del/Veh (s) | 4.5 | 1.2 | 3.5 | 1.9 | 12.6 | 2.5 |

## 6: Hodgen Rd & Cherry Crossing Dr Performance by movement Entire Run

| Movement | EBL | EBT | WBT | WBR | SBL | All |
|---|---|---|---|---|---|---|
| Denied Del/Veh (s) | 0.4 | 0.4 | 0.0 | 0.0 | 0.1 | 0.2 |
| Total Del/Veh (s) | 4.8 | 1.2 | 3.7 | 1.8 | 13.5 | 2.5 |

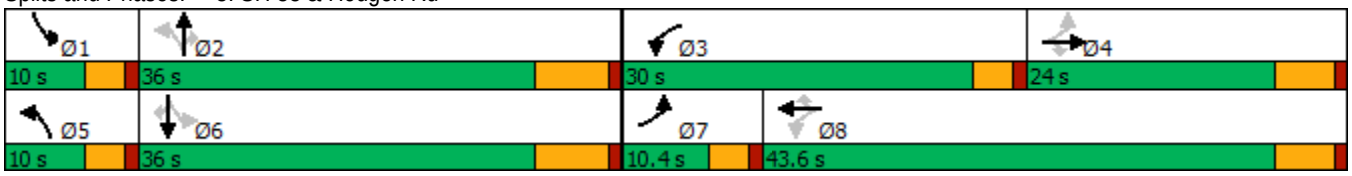


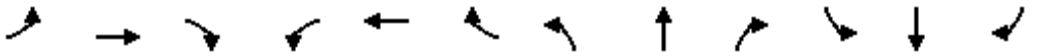
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 96 | 137 | 185 | 390 | 332 | 392 | 69 | 592 | 125 | 156 | 579 | 187 |
| Future Volume (vph) | 96 | 137 | 185 | 390 | 332 | 392 | 69 | 592 | 125 | 156 | 579 | 187 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (ft) | 450 | | 450 | 400 | | 400 | 200 | | 900 | 650 | | 400 |
| Storage Lanes | 1 | | 1 | 1 | | 1 | 1 | | 1 | 2 | | 1 |
| Taper Length (ft) | 100 | | | 100 | | | 100 | | | 100 | | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.95 | 1.00 | 0.97 | 0.95 | 1.00 |
| Frt | | | 0.850 | | | 0.850 | | | 0.850 | | | 0.850 |
| Flt Protected | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (prot) | 1770 | 1863 | 1583 | 1770 | 1863 | 1583 | 1770 | 3539 | 1583 | 3433 | 3539 | 1583 |
| Flt Permitted | 0.552 | | | 0.463 | | | 0.357 | | | 0.310 | | |
| Satd. Flow (perm) | 1028 | 1863 | 1583 | 862 | 1863 | 1583 | 665 | 3539 | 1583 | 1120 | 3539 | 1583 |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Satd. Flow (RTOR) | | | 195 | | | 283 | | | 158 | | | 197 |
| Link Speed (mph) | | 40 | | | 40 | | | 60 | | | 60 | |
| Link Distance (ft) | | 843 | | | 1794 | | | 2113 | | | 2252 | |
| Travel Time (s) | | 14.4 | | | 30.6 | | | 24.0 | | | 25.6 | |
| Peak Hour Factor | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 |
| Adj. Flow (vph) | 101 | 144 | 195 | 411 | 349 | 413 | 73 | 623 | 132 | 164 | 609 | 197 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 101 | 144 | 195 | 411 | 349 | 413 | 73 | 623 | 132 | 164 | 609 | 197 |
| Enter Blocked Intersection | No | No | No | No | No | No | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Right | Left | Left | Right | Left | Left | Right | Left | Left | Right |
| Median Width(ft) | | 12 | | | 12 | | | 24 | | | 24 | |
| Link Offset(ft) | | 0 | | | 0 | | | 0 | | | 0 | |
| Crosswalk Width(ft) | | 16 | | | 16 | | | 16 | | | 16 | |
| Two way Left Turn Lane | | | | | | | | | | | | |
| Headway Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Turning Speed (mph) | 15 | | 9 | 15 | | 9 | 15 | | 9 | 15 | | 9 |
| Number of Detectors | 1 | 2 | 1 | 1 | 2 | 1 | 1 | 2 | 1 | 1 | 2 | 1 |
| Detector Template | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Leading Detector (ft) | 20 | 100 | 20 | 20 | 100 | 20 | 20 | 100 | 20 | 20 | 100 | 20 |
| Trailing Detector (ft) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Detector 1 Position(ft) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Detector 1 Size(ft) | 20 | 6 | 20 | 20 | 6 | 20 | 20 | 6 | 20 | 20 | 6 | 20 |
| Detector 1 Type | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex |
| Detector 1 Channel | | | | | | | | | | | | |
| Detector 1 Extend (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector 1 Queue (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector 1 Delay (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector 2 Position(ft) | | 94 | | | 94 | | | 94 | | | 94 | |
| Detector 2 Size(ft) | | 6 | | | 6 | | | 6 | | | 6 | |
| Detector 2 Type | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | |
| Detector 2 Channel | | | | | | | | | | | | |
| Detector 2 Extend (s) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Turn Type | pm+pt | NA | Perm | pm+pt | NA | Perm | pm+pt | NA | Perm | pm+pt | NA | Perm |
| Protected Phases | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | 4 | 8 | | 8 | 2 | | 2 | 6 | | 6 |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Detector Phase | 7 | 4 | 4 | 3 | 8 | 8 | 5 | 2 | 2 | 1 | 6 | 6 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 |
| Minimum Split (s) | 9.5 | 23.5 | 23.5 | 9.5 | 23.5 | 23.5 | 9.5 | 24.5 | 24.5 | 9.5 | 24.5 | 24.5 |
| Total Split (s) | 10.4 | 24.0 | 24.0 | 30.0 | 43.6 | 43.6 | 10.0 | 36.0 | 36.0 | 10.0 | 36.0 | 36.0 |
| Total Split (%) | 10.4% | 24.0% | 24.0% | 30.0% | 43.6% | 43.6% | 10.0% | 36.0% | 36.0% | 10.0% | 36.0% | 36.0% |
| Maximum Green (s) | 6.4 | 18.5 | 18.5 | 26.0 | 38.1 | 38.1 | 6.0 | 29.5 | 29.5 | 6.0 | 29.5 | 29.5 |
| Yellow Time (s) | 3.0 | 4.5 | 4.5 | 3.0 | 4.5 | 4.5 | 3.0 | 5.5 | 5.5 | 3.0 | 5.5 | 5.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.0 | 5.5 | 5.5 | 4.0 | 5.5 | 5.5 | 4.0 | 6.5 | 6.5 | 4.0 | 6.5 | 6.5 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lag | Lead | Lag | Lag | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Recall Mode | None | None | None | None | None | None | None | Max | Max | None | Max | Max |
| Walk Time (s) | | 7.0 | 7.0 | | 7.0 | 7.0 | | 7.0 | 7.0 | | 7.0 | 7.0 |
| Flash Dont Walk (s) | | 11.0 | 11.0 | | 11.0 | 11.0 | | 11.0 | 11.0 | | 11.0 | 11.0 |
| Pedestrian Calls (#/hr) | | 0 | 0 | | 0 | 0 | | 0 | 0 | | 0 | 0 |
| Act Effct Green (s) | 20.1 | 12.2 | 12.2 | 37.9 | 28.3 | 28.3 | 38.2 | 29.7 | 29.7 | 39.2 | 32.0 | 32.0 |
| Actuated g/C Ratio | 0.23 | 0.14 | 0.14 | 0.43 | 0.32 | 0.32 | 0.43 | 0.34 | 0.34 | 0.44 | 0.36 | 0.36 |
| v/c Ratio | 0.35 | 0.56 | 0.50 | 0.71 | 0.58 | 0.59 | 0.20 | 0.52 | 0.21 | 0.25 | 0.47 | 0.28 |
| Control Delay | 20.6 | 44.9 | 10.3 | 25.8 | 29.8 | 11.6 | 16.6 | 26.9 | 3.6 | 15.5 | 25.6 | 5.1 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 20.6 | 44.9 | 10.3 | 25.8 | 29.8 | 11.6 | 16.6 | 26.9 | 3.6 | 15.5 | 25.6 | 5.1 |
| LOS | C | D | B | C | C | B | B | C | A | B | C | A |
| Approach Delay | | 24.0 | | | 22.0 | | | 22.3 | | | 19.7 | |
| Approach LOS | | C | | | C | | | C | | | B | |

| Intersection Summary | | | |
|---|---|---|---|
| Area Type: | Other | | |
| Cycle Length: 100 | | | |
| Actuated Cycle Length: 88.3 | | | |
| Natural Cycle: 70 | | | |
| Control Type: Semi Act-Uncoord | | | |
| Maximum v/c Ratio: 0.71 | | | |
| Intersection Signal Delay: 21.7 | | Intersection LOS: C | |
| Intersection Capacity Utilization 66.3% | | ICU Level of Service C | |
| Analysis Period (min) 15 | | | |

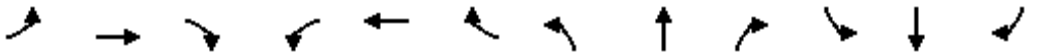
Splits and Phases: 3: SH 83 & Hodgen Rd





| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 6 | 0 | 0 | 0 | 0 | 90 | 0 | 27 | 0 | 120 | 35 | 2 |
| Future Volume (vph) | 6 | 0 | 0 | 0 | 0 | 90 | 0 | 27 | 0 | 120 | 35 | 2 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (ft) | 0 | | 0 | 0 | | 0 | 0 | | 50 | 90 | | 0 |
| Storage Lanes | 0 | | 0 | 0 | | 0 | 0 | | 0 | 1 | | 0 |
| Taper Length (ft) | 100 | | | 100 | | | 100 | | | 75 | | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | | | | | 0.865 | | | | | | 0.992 | |
| Flt Protected | | 0.950 | | | | | | | | 0.950 | | |
| Satd. Flow (prot) | 0 | 1770 | 0 | 0 | 1611 | 0 | 0 | 1863 | 0 | 1770 | 1848 | 0 |
| Flt Permitted | | 0.950 | | | | | | | | 0.950 | | |
| Satd. Flow (perm) | 0 | 1770 | 0 | 0 | 1611 | 0 | 0 | 1863 | 0 | 1770 | 1848 | 0 |
| Link Speed (mph) | | 30 | | | 30 | | | 30 | | | 30 | |
| Link Distance (ft) | | 409 | | | 623 | | | 534 | | | 331 | |
| Travel Time (s) | | 9.3 | | | 14.2 | | | 12.1 | | | 7.5 | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 7 | 0 | 0 | 0 | 0 | 98 | 0 | 29 | 0 | 130 | 38 | 2 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 0 | 7 | 0 | 0 | 98 | 0 | 0 | 29 | 0 | 130 | 40 | 0 |
| Enter Blocked Intersection | No | No | No | No | No | No | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Right | Left | Left | Right | Left | Left | Right | Left | Left | Right |
| Median Width(ft) | | 0 | | | 0 | | | 12 | | | 12 | |
| Link Offset(ft) | | 0 | | | 0 | | | 0 | | | 0 | |
| Crosswalk Width(ft) | | 16 | | | 16 | | | 16 | | | 16 | |
| Two way Left Turn Lane | | | | | | | | | | | | |
| Headway Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Turning Speed (mph) | 15 | | 9 | 15 | | 9 | 15 | | 9 | 15 | | 9 |
| Sign Control | | Stop | | | Stop | | | Free | | | Free | |

| Intersection Summary | |
|---|---|
| Area Type: | Other |
| Control Type: Unsignalized | |



| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 2 | 313 | 41 | 115 | 468 | 5 | 32 | 1 | 90 | 15 | 1 | 10 |
| Future Volume (vph) | 2 | 313 | 41 | 115 | 468 | 5 | 32 | 1 | 90 | 15 | 1 | 10 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (ft) | 0 | | 150 | 150 | | 0 | 0 | | 105 | 0 | | 0 |
| Storage Lanes | 0 | | 1 | 1 | | 1 | 0 | | 1 | 0 | | 0 |
| Taper Length (ft) | 100 | | | 100 | | | 50 | | | 100 | | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | | | 0.850 | | | 0.850 | | | 0.850 | | 0.947 | |
| Flt Protected | | | | 0.950 | | | | 0.954 | | | 0.972 | |
| Satd. Flow (prot) | 0 | 1863 | 1583 | 1770 | 1863 | 1583 | 0 | 1777 | 1583 | 0 | 1715 | 0 |
| Flt Permitted | | | | 0.950 | | | | 0.954 | | | 0.972 | |
| Satd. Flow (perm) | 0 | 1863 | 1583 | 1770 | 1863 | 1583 | 0 | 1777 | 1583 | 0 | 1715 | 0 |
| Link Speed (mph) | | 40 | | | 40 | | | 30 | | | 30 | |
| Link Distance (ft) | | 1413 | | | 843 | | | 331 | | | 1348 | |
| Travel Time (s) | | 24.1 | | | 14.4 | | | 7.5 | | | 30.6 | |
| Peak Hour Factor | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.92 | 0.92 | 0.92 | 0.95 | 0.95 | 0.95 |
| Adj. Flow (vph) | 2 | 329 | 43 | 121 | 493 | 5 | 35 | 1 | 98 | 16 | 1 | 11 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 0 | 331 | 43 | 121 | 493 | 5 | 0 | 36 | 98 | 0 | 28 | 0 |
| Enter Blocked Intersection | No | No | No | No | No | No | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Right | Left | Left | Right | Left | Left | Right | Left | Left | Right |
| Median Width(ft) | | 12 | | | 12 | | | 12 | | | 12 | |
| Link Offset(ft) | | 0 | | | 0 | | | 0 | | | 0 | |
| Crosswalk Width(ft) | | 16 | | | 16 | | | 16 | | | 16 | |
| Two way Left Turn Lane | | | | | | | | | | | | |
| Headway Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Turning Speed (mph) | 15 | | 9 | 15 | | 9 | 15 | | 9 | 15 | | 9 |
| Sign Control | | Free | | | Free | | | Stop | | | Stop | |

| Intersection Summary | |
|---|---|
| Area Type: | Other |
| Control Type: Unsignalized | |

## 1: Cherry Crossing Dr & Lap Wai Ct/Retail Access Performance by movement Interval #1 7:30

| Movement | EBL | WBR | NBT | SBL | SBT | SBR | All |
|---|---|---|---|---|---|---|---|
| Denied Del/Veh (s) | 0.1 | 0.1 | 0.1 | 0.0 | 0.0 | 0.0 | 0.1 |
| Total Del/Veh (s) | 7.6 | 3.0 | 0.2 | 2.0 | 0.4 | 0.4 | 2.0 |

## 1: Cherry Crossing Dr & Lap Wai Ct/Retail Access Performance by movement Interval #2 7:45

| Movement | EBL | WBR | NBT | SBL | SBT | SBR | All |
|---|---|---|---|---|---|---|---|
| Denied Del/Veh (s) | 0.1 | 0.1 | 0.1 | 0.0 | 0.0 | | 0.1 |
| Total Del/Veh (s) | 6.2 | 2.8 | 0.2 | 2.0 | 0.4 | | 1.9 |

## 1: Cherry Crossing Dr & Lap Wai Ct/Retail Access Performance by movement Interval #3 8:00

| Movement | EBL | WBR | NBT | SBL | SBT | SBR | All |
|---|---|---|---|---|---|---|---|
| Denied Del/Veh (s) | 0.1 | 0.2 | 0.1 | 0.2 | 0.0 | | 0.1 |
| Total Del/Veh (s) | 4.4 | 3.0 | 0.2 | 1.9 | 0.4 | | 2.0 |

## 1: Cherry Crossing Dr & Lap Wai Ct/Retail Access Performance by movement Interval #4 8:15

| Movement | EBL | WBR | NBT | SBL | SBT | SBR | All |
|---|---|---|---|---|---|---|---|
| Denied Del/Veh (s) | 0.1 | 0.2 | 0.1 | 0.0 | 0.0 | 0.0 | 0.1 |
| Total Del/Veh (s) | 3.8 | 2.8 | 0.2 | 2.0 | 0.6 | 0.3 | 1.9 |

## 1: Cherry Crossing Dr & Lap Wai Ct/Retail Access Performance by movement Entire Run

| Movement | EBL | WBR | NBT | SBL | SBT | SBR | All |
|---|---|---|---|---|---|---|---|
| Denied Del/Veh (s) | 0.1 | 0.1 | 0.1 | 0.0 | 0.0 | 0.0 | 0.1 |
| Total Del/Veh (s) | 5.1 | 2.9 | 0.2 | 2.0 | 0.5 | 0.4 | 2.0 |

## 6: Cherry Crossing Dr & Hodgen Rd Performance by movement Interval #1 7:30

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Denied Del/Veh (s) | | 0.3 | 3.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.2 | | 0.2 |
| Total Del/Veh (s) | | 1.2 | 0.4 | 5.8 | 3.2 | 1.0 | 17.0 | | 4.6 | 19.7 | | 8.9 |

## 6: Cherry Crossing Dr & Hodgen Rd Performance by movement Interval #1 7:30

| Movement | All |
|---|---|
| Denied Del/Veh (s) | 0.2 |
| Total Del/Veh (s) | 3.7 |

## 6: Cherry Crossing Dr & Hodgen Rd Performance by movement Interval #2 7:45

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Denied Del/Veh (s) | | 0.3 | 3.1 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.2 | | 0.1 |
| Total Del/Veh (s) | | 1.1 | 0.5 | 5.4 | 3.4 | 1.9 | 13.1 | | 4.2 | 14.8 | | 5.0 |

## 6: Cherry Crossing Dr & Hodgen Rd Performance by movement Interval #2 7:45

| Movement | All |
|---|---|
| Denied Del/Veh (s) | 0.2 |
| Total Del/Veh (s) | 3.4 |

## 6: Cherry Crossing Dr & Hodgen Rd Performance by movement Interval #3 8:00

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Denied Del/Veh (s) | | 0.3 | 2.7 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.1 | | 0.2 |
| Total Del/Veh (s) | | 1.3 | 0.5 | 6.0 | 3.7 | 1.6 | 18.0 | | 4.9 | 14.2 | | 7.3 |

## 6: Cherry Crossing Dr & Hodgen Rd Performance by movement Interval #3 8:00

| Movement | All |
|---|---|
| Denied Del/Veh (s) | 0.2 |
| Total Del/Veh (s) | 3.7 |

## 6: Cherry Crossing Dr & Hodgen Rd Performance by movement Interval #4 8:15

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Denied Del/Veh (s) | | 0.2 | 2.5 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.1 | | 0.1 |
| Total Del/Veh (s) | | 0.9 | 0.5 | 5.6 | 3.5 | 1.2 | 17.3 | | 4.2 | 20.5 | | 9.6 |

## 6: Cherry Crossing Dr & Hodgen Rd Performance by movement Interval #4 8:15

| Movement | All |
|---|---|
| Denied Del/Veh (s) | 0.1 |
| Total Del/Veh (s) | 3.8 |

## 6: Cherry Crossing Dr & Hodgen Rd Performance by movement Entire Run

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Denied Del/Veh (s) | 0.8 | 0.3 | 2.9 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 0.1 | 0.1 |
| Total Del/Veh (s) | 3.6 | 1.1 | 0.5 | 5.8 | 3.6 | 1.4 | 16.1 | 8.4 | 4.6 | 16.4 | 21.9 | 7.6 |

## 6: Cherry Crossing Dr & Hodgen Rd Performance by movement Entire Run

| Movement | All |
|---|---|
| Denied Del/Veh (s) | 0.2 |
| Total Del/Veh (s) | 3.7 |

## Total Zone Performance By Interval

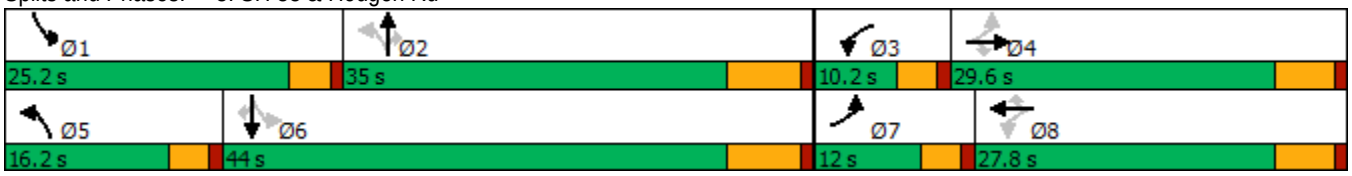
| Interval Start | 7:30 | 7:45 | 8:00 | 8:15 | All |
|---|---|---|---|---|---|
| Denied Del/Veh (s) | 0.4 | 0.5 | 0.5 | 0.3 | 0.4 |
| Total Del/Veh (s) | 195.0 | 113.2 | 157.2 | 197.9 | 661.8 |

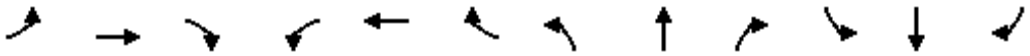
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 179 | 335 | 116 | 122 | 295 | 283 | 188 | 783 | 394 | 363 | 677 | 199 |
| Future Volume (vph) | 179 | 335 | 116 | 122 | 295 | 283 | 188 | 783 | 394 | 363 | 677 | 199 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (ft) | 450 | | 450 | 400 | | 400 | 0 | | 900 | 650 | | 400 |
| Storage Lanes | 1 | | 1 | 1 | | 1 | 1 | | 1 | 2 | | 1 |
| Taper Length (ft) | 100 | | | 100 | | | 100 | | | 100 | | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.95 | 1.00 | 0.97 | 0.95 | 1.00 |
| Frt | | | 0.850 | | | 0.850 | | | 0.850 | | | 0.850 |
| Flt Protected | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (prot) | 1770 | 1863 | 1583 | 1770 | 1863 | 1583 | 1770 | 3539 | 1583 | 3433 | 3539 | 1583 |
| Flt Permitted | 0.297 | | | 0.312 | | | 0.262 | | | 0.180 | | |
| Satd. Flow (perm) | 553 | 1863 | 1583 | 581 | 1863 | 1583 | 488 | 3539 | 1583 | 650 | 3539 | 1583 |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Satd. Flow (RTOR) | | | 169 | | | 298 | | | 293 | | | 209 |
| Link Speed (mph) | | 40 | | | 40 | | | 60 | | | 60 | |
| Link Distance (ft) | | 843 | | | 4808 | | | 4090 | | | 2881 | |
| Travel Time (s) | | 14.4 | | | 82.0 | | | 46.5 | | | 32.7 | |
| Peak Hour Factor | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 |
| Adj. Flow (vph) | 188 | 353 | 122 | 128 | 311 | 298 | 198 | 824 | 415 | 382 | 713 | 209 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 188 | 353 | 122 | 128 | 311 | 298 | 198 | 824 | 415 | 382 | 713 | 209 |
| Enter Blocked Intersection | No | No | No | No | No | No | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Right | Left | Left | Right | Left | Left | Right | Left | Left | Right |
| Median Width(ft) | | 12 | | | 12 | | | 24 | | | 24 | |
| Link Offset(ft) | | 0 | | | 0 | | | 0 | | | 0 | |
| Crosswalk Width(ft) | | 16 | | | 16 | | | 16 | | | 16 | |
| Two way Left Turn Lane | | | | | | | | | | | | |
| Headway Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Turning Speed (mph) | 15 | | 9 | 15 | | 9 | 15 | | 9 | 15 | | 9 |
| Number of Detectors | 1 | 2 | 1 | 1 | 2 | 1 | 1 | 2 | 1 | 1 | 2 | 1 |
| Detector Template | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Leading Detector (ft) | 20 | 100 | 20 | 20 | 100 | 20 | 20 | 100 | 20 | 20 | 100 | 20 |
| Trailing Detector (ft) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Detector 1 Position(ft) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Detector 1 Size(ft) | 20 | 6 | 20 | 20 | 6 | 20 | 20 | 6 | 20 | 20 | 6 | 20 |
| Detector 1 Type | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex | Cl+Ex |
| Detector 1 Channel | | | | | | | | | | | | |
| Detector 1 Extend (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector 1 Queue (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector 1 Delay (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector 2 Position(ft) | | 94 | | | 94 | | | 94 | | | 94 | |
| Detector 2 Size(ft) | | 6 | | | 6 | | | 6 | | | 6 | |
| Detector 2 Type | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | | | Cl+Ex | |
| Detector 2 Channel | | | | | | | | | | | | |
| Detector 2 Extend (s) | | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | |
| Turn Type | pm+pt | NA | Perm | pm+pt | NA | Perm | pm+pt | NA | Perm | pm+pt | NA | Perm |
| Protected Phases | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | 4 | 8 | | 8 | 2 | | 2 | 6 | | 6 |

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Detector Phase | 7 | 4 | 4 | 3 | 8 | 8 | 5 | 2 | 2 | 1 | 6 | 6 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 |
| Minimum Split (s) | 9.5 | 23.5 | 23.5 | 9.5 | 23.5 | 23.5 | 11.5 | 24.5 | 24.5 | 9.5 | 24.5 | 24.5 |
| Total Split (s) | 12.0 | 29.6 | 29.6 | 10.2 | 27.8 | 27.8 | 16.2 | 35.0 | 35.0 | 25.2 | 44.0 | 44.0 |
| Total Split (%) | 12.0% | 29.6% | 29.6% | 10.2% | 27.8% | 27.8% | 16.2% | 35.0% | 35.0% | 25.2% | 44.0% | 44.0% |
| Maximum Green (s) | 8.0 | 24.1 | 24.1 | 6.2 | 22.3 | 22.3 | 12.2 | 28.5 | 28.5 | 21.2 | 37.5 | 37.5 |
| Yellow Time (s) | 3.0 | 4.5 | 4.5 | 3.0 | 4.5 | 4.5 | 3.0 | 5.5 | 5.5 | 3.0 | 5.5 | 5.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.0 | 5.5 | 5.5 | 4.0 | 5.5 | 5.5 | 4.0 | 6.5 | 6.5 | 4.0 | 6.5 | 6.5 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lag | Lead | Lag | Lag | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 |
| Recall Mode | None | None | None | None | None | None | None | Min | Min | None | Min | Min |
| Walk Time (s) | | 7.0 | 7.0 | | 7.0 | 7.0 | | 7.0 | 7.0 | | 7.0 | 7.0 |
| Flash Dont Walk (s) | | 11.0 | 11.0 | | 11.0 | 11.0 | | 11.0 | 11.0 | | 11.0 | 11.0 |
| Pedestrian Calls (#/hr) | | 0 | 0 | | 0 | 0 | | 0 | 0 | | 0 | 0 |
| Act Effct Green (s) | 30.3 | 20.6 | 20.6 | 26.6 | 18.8 | 18.8 | 38.8 | 25.7 | 25.7 | 40.1 | 26.4 | 26.4 |
| Actuated g/C Ratio | 0.36 | 0.24 | 0.24 | 0.32 | 0.22 | 0.22 | 0.46 | 0.31 | 0.31 | 0.48 | 0.31 | 0.31 |
| v/c Ratio | 0.59 | 0.77 | 0.24 | 0.47 | 0.75 | 0.51 | 0.52 | 0.76 | 0.60 | 0.56 | 0.64 | 0.33 |
| Control Delay | 28.1 | 43.3 | 2.9 | 25.3 | 43.6 | 7.1 | 16.8 | 32.3 | 12.1 | 14.8 | 28.2 | 4.9 |
| Queue Delay | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Delay | 28.1 | 43.3 | 2.9 | 25.3 | 43.6 | 7.1 | 16.8 | 32.3 | 12.1 | 14.8 | 28.2 | 4.9 |
| LOS | C | D | A | C | D | A | B | C | B | B | C | A |
| Approach Delay | | 31.5 | | | 25.7 | | | 24.3 | | | 20.6 | |
| Approach LOS | | C | | | C | | | C | | | C | |

| Intersection Summary | | | |
|---|---|---|---|
| Area Type: | Other | | |
| Cycle Length: 100 | | | |
| Actuated Cycle Length: 84.1 | | | |
| Natural Cycle: 70 | | | |
| Control Type: Actuated-Uncoordinated | | | |
| Maximum v/c Ratio: 0.77 | | | |
| Intersection Signal Delay: 24.5 | | Intersection LOS: C | |
| Intersection Capacity Utilization 74.1% | | ICU Level of Service D | |
| Analysis Period (min) 15 | | | |

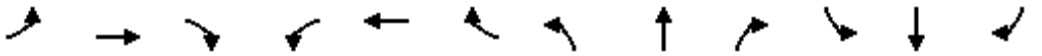
Splits and Phases: 3: SH 83 & Hodgen Rd





| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 4 | 0 | 0 | 0 | 0 | 150 | 0 | 36 | 0 | 130 | 56 | 7 |
| Future Volume (vph) | 4 | 0 | 0 | 0 | 0 | 150 | 0 | 36 | 0 | 130 | 56 | 7 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (ft) | 0 | | 0 | 0 | | 0 | 0 | | 50 | 90 | | 0 |
| Storage Lanes | 0 | | 0 | 0 | | 0 | 0 | | 1 | 1 | | 0 |
| Taper Length (ft) | 100 | | | 100 | | | 100 | | | 75 | | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | | | | | 0.865 | | | | | | 0.983 | |
| Flt Protected | | 0.950 | | | | | | | | 0.950 | | |
| Satd. Flow (prot) | 0 | 1770 | 0 | 0 | 1611 | 0 | 0 | 1863 | 1863 | 1770 | 1831 | 0 |
| Flt Permitted | | 0.950 | | | | | | | | 0.950 | | |
| Satd. Flow (perm) | 0 | 1770 | 0 | 0 | 1611 | 0 | 0 | 1863 | 1863 | 1770 | 1831 | 0 |
| Link Speed (mph) | | 30 | | | 30 | | | 30 | | | 30 | |
| Link Distance (ft) | | 409 | | | 623 | | | 534 | | | 331 | |
| Travel Time (s) | | 9.3 | | | 14.2 | | | 12.1 | | | 7.5 | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 4 | 0 | 0 | 0 | 0 | 163 | 0 | 39 | 0 | 141 | 61 | 8 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 0 | 4 | 0 | 0 | 163 | 0 | 0 | 39 | 0 | 141 | 69 | 0 |
| Enter Blocked Intersection | No | No | No | No | No | No | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Right | Left | Left | Right | Left | Left | Right | Left | Left | Right |
| Median Width(ft) | | 0 | | | 0 | | | 12 | | | 12 | |
| Link Offset(ft) | | 0 | | | 0 | | | 0 | | | 0 | |
| Crosswalk Width(ft) | | 16 | | | 16 | | | 16 | | | 16 | |
| Two way Left Turn Lane | | | | | | | | | | | | |
| Headway Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Turning Speed (mph) | 15 | | 9 | 15 | | 9 | 15 | | 9 | 15 | | 9 |
| Sign Control | | Stop | | | Stop | | | Free | | | Free | |

| Intersection Summary | |
|---|---|
| Area Type: | Other |
| Control Type: Unsignalized | |



| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 10 | 479 | 63 | 129 | 533 | 20 | 43 | 1 | 146 | 5 | 1 | 0 |
| Future Volume (vph) | 10 | 479 | 63 | 129 | 533 | 20 | 43 | 1 | 146 | 5 | 1 | 0 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (ft) | 0 | | 150 | 150 | | 0 | 0 | | 105 | 0 | | 0 |
| Storage Lanes | 0 | | 1 | 1 | | 1 | 0 | | 1 | 0 | | 0 |
| Taper Length (ft) | 100 | | | 100 | | | 50 | | | 100 | | |
| Lane Util. Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Frt | | | 0.850 | | | 0.850 | | | 0.850 | | | |
| Flt Protected | | 0.999 | | 0.950 | | | | 0.953 | | | 0.960 | |
| Satd. Flow (prot) | 0 | 1861 | 1583 | 1770 | 1863 | 1583 | 0 | 1775 | 1583 | 0 | 1788 | 0 |
| Flt Permitted | | 0.999 | | 0.950 | | | | 0.953 | | | 0.960 | |
| Satd. Flow (perm) | 0 | 1861 | 1583 | 1770 | 1863 | 1583 | 0 | 1775 | 1583 | 0 | 1788 | 0 |
| Link Speed (mph) | | 40 | | | 40 | | | 30 | | | 30 | |
| Link Distance (ft) | | 1413 | | | 843 | | | 331 | | | 1348 | |
| Travel Time (s) | | 24.1 | | | 14.4 | | | 7.5 | | | 30.6 | |
| Peak Hour Factor | 0.76 | 0.76 | 0.76 | 0.85 | 0.85 | 0.85 | 0.92 | 0.92 | 0.95 | 0.50 | 0.50 | 0.50 |
| Adj. Flow (vph) | 13 | 630 | 83 | 152 | 627 | 24 | 47 | 1 | 154 | 10 | 2 | 0 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 0 | 643 | 83 | 152 | 627 | 24 | 0 | 48 | 154 | 0 | 12 | 0 |
| Enter Blocked Intersection | No | No | No | No | No | No | No | No | No | No | No | No |
| Lane Alignment | Left | Left | Right | Left | Left | Right | Left | Left | Right | Left | Left | Right |
| Median Width(ft) | | 12 | | | 12 | | | 12 | | | 12 | |
| Link Offset(ft) | | 0 | | | 0 | | | 0 | | | 0 | |
| Crosswalk Width(ft) | | 16 | | | 16 | | | 16 | | | 16 | |
| Two way Left Turn Lane | | | | | | | | | | | | |
| Headway Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Turning Speed (mph) | 15 | | 9 | 15 | | 9 | 15 | | 9 | 15 | | 9 |
| Sign Control | | Free | | | Free | | | Stop | | | Stop | |

| Intersection Summary | |
|---|---|
| Area Type: | Other |
| Control Type: Unsignalized | |

## 1: Cherry Crossing Dr & Lap Wai Ct/Retail Access Performance by movement Interval #1 4:30

| Movement | EBL | WBR | NBT | SBL | SBT | SBR | All |
|---|---|---|---|---|---|---|---|
| Denied Del/Veh (s) | 0.1 | 0.2 | 0.1 | 0.0 | 0.0 | 0.0 | 0.1 |
| Total Del/Veh (s) | 7.0 | 2.8 | 0.3 | 2.1 | 0.5 | 0.4 | 2.0 |

## 1: Cherry Crossing Dr & Lap Wai Ct/Retail Access Performance by movement Interval #2 4:45

| Movement | EBL | WBR | NBT | SBL | SBT | SBR | All |
|---|---|---|---|---|---|---|---|
| Denied Del/Veh (s) | 0.1 | 0.2 | 0.1 | 0.0 | 0.0 | 0.0 | 0.1 |
| Total Del/Veh (s) | 4.6 | 3.1 | 0.2 | 2.0 | 0.4 | 0.3 | 1.9 |

## 1: Cherry Crossing Dr & Lap Wai Ct/Retail Access Performance by movement Interval #3 5:00

| Movement | EBL | WBR | NBT | SBL | SBT | SBR | All |
|---|---|---|---|---|---|---|---|
| Denied Del/Veh (s) | 0.1 | 0.2 | 0.1 | 0.1 | 0.0 | 0.0 | 0.1 |
| Total Del/Veh (s) | 3.2 | 3.1 | 0.2 | 2.0 | 0.5 | 0.5 | 2.1 |

## 1: Cherry Crossing Dr & Lap Wai Ct/Retail Access Performance by movement Interval #4 5:15

| Movement | EBL | WBR | NBT | SBL | SBT | SBR | All |
|---|---|---|---|---|---|---|---|
| Denied Del/Veh (s) | 0.1 | 0.2 | 0.1 | 0.0 | 0.0 | 0.0 | 0.1 |
| Total Del/Veh (s) | 6.4 | 3.1 | 0.4 | 2.1 | 0.4 | 0.4 | 2.1 |

## 1: Cherry Crossing Dr & Lap Wai Ct/Retail Access Performance by movement Entire Run

| Movement | EBL | WBR | NBT | SBL | SBT | SBR | All |
|---|---|---|---|---|---|---|---|
| Denied Del/Veh (s) | 0.1 | 0.2 | 0.1 | 0.0 | 0.0 | 0.0 | 0.1 |
| Total Del/Veh (s) | 6.9 | 3.1 | 0.3 | 2.1 | 0.5 | 0.4 | 2.1 |

## 6: Cherry Crossing Dr & Hodgen Rd Performance by movement Interval #1 4:30

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | All |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Denied Del/Veh (s) | 0.2 | 0.5 | 2.8 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.1 | 0.1 | | 0.3 |
| Total Del/Veh (s) | 4.6 | 1.6 | 0.7 | 7.3 | 3.5 | 1.7 | 26.6 | | 5.7 | 20.2 | | 3.9 |

## 6: Cherry Crossing Dr & Hodgen Rd Performance by movement Interval #2 4:45

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | All |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Denied Del/Veh (s) | 0.4 | 0.6 | 2.9 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.1 | | 0.3 |
| Total Del/Veh (s) | 5.8 | 2.0 | 0.8 | 8.7 | 3.5 | 1.9 | 25.9 | | 6.0 | 14.9 | | 4.1 |

## 6: Cherry Crossing Dr & Hodgen Rd Performance by movement Interval #3 5:00

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | All |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Denied Del/Veh (s) | 0.6 | 0.5 | 2.9 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | | 0.3 |
| Total Del/Veh (s) | 5.2 | 1.9 | 0.7 | 7.3 | 3.6 | 1.5 | 32.1 | 2.1 | 6.0 | 6.4 | | 4.2 |

## 6: Cherry Crossing Dr & Hodgen Rd Performance by movement Interval #4 5:15

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBR | SBL | SBT | All |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Denied Del/Veh (s) | 0.4 | 0.5 | 2.7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | | 0.3 |
| Total Del/Veh (s) | 5.6 | 2.0 | 0.8 | 6.8 | 3.7 | 1.6 | 28.2 | 5.9 | 24.8 | | 4.5 |

## 6: Cherry Crossing Dr & Hodgen Rd Performance by movement Entire Run

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | All |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Denied Del/Veh (s) | 0.4 | 0.5 | 2.8 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 0.1 | 0.3 |
| Total Del/Veh (s) | 5.3 | 1.9 | 0.8 | 7.6 | 3.6 | 1.6 | 29.9 | 7.9 | 6.0 | 16.6 | 27.0 | 4.3 |

## Total Zone Performance By Interval

| Interval Start | 4:30 | 4:45 | 5:00 | 5:15 | All |
|---|---|---|---|---|---|
| Denied Del/Veh (s) | 0.6 | 0.7 | 0.7 | 0.6 | 0.6 |
| Total Del/Veh (s) | 131.6 | 189.4 | 128.2 | 152.1 | 493.1 |

## Intersection: 1: Cherry Crossing Dr & Lap Wai Ct/Retail Access, Interval #1

| Movement | EB | WB | SB |
|---|---|---|---|
| Directions Served | LTR | LTR | L |
| Maximum Queue (ft) | 15 | 46 | 20 |
| Average Queue (ft) | 4 | 33 | 3 |
| 95th Queue (ft) | 21 | 50 | 17 |
| Link Distance (ft) | 374 | 589 | |
| Upstream Blk Time (%) | | | |
| Queuing Penalty (veh) | | | |
| Storage Bay Dist (ft) | | | 90 |
| Storage Blk Time (%) | | | |
| Queuing Penalty (veh) | | | |

## Intersection: 1: Cherry Crossing Dr & Lap Wai Ct/Retail Access, Interval #2

| Movement | EB | WB | SB |
|---|---|---|---|
| Directions Served | LTR | LTR | L |
| Maximum Queue (ft) | 25 | 38 | 15 |
| Average Queue (ft) | 4 | 29 | 3 |
| 95th Queue (ft) | 19 | 44 | 17 |
| Link Distance (ft) | 374 | 589 | |
| Upstream Blk Time (%) | | | |
| Queuing Penalty (veh) | | | |
| Storage Bay Dist (ft) | | | 90 |
| Storage Blk Time (%) | | | |
| Queuing Penalty (veh) | | | |

## Intersection: 1: Cherry Crossing Dr & Lap Wai Ct/Retail Access, Interval #3

| Movement | EB | WB | SB |
|---|---|---|---|
| Directions Served | LTR | LTR | L |
| Maximum Queue (ft) | 25 | 52 | 15 |
| Average Queue (ft) | 6 | 33 | 3 |
| 95th Queue (ft) | 26 | 48 | 19 |
| Link Distance (ft) | 374 | 589 | |
| Upstream Blk Time (%) | | | |
| Queuing Penalty (veh) | | | |
| Storage Bay Dist (ft) | | | 90 |
| Storage Blk Time (%) | | | |
| Queuing Penalty (veh) | | | |

## Intersection: 1: Cherry Crossing Dr & Lap Wai Ct/Retail Access, Interval #4

| Movement | EB | WB | SB |
|---|---|---|---|
| Directions Served | LTR | LTR | L |
| Maximum Queue (ft) | 20 | 43 | 20 |
| Average Queue (ft) | 5 | 31 | 5 |
| 95th Queue (ft) | 23 | 46 | 22 |
| Link Distance (ft) | 374 | 589 | |
| Upstream Blk Time (%) | | | |
| Queuing Penalty (veh) | | | |
| Storage Bay Dist (ft) | | | 90 |
| Storage Blk Time (%) | | | |
| Queuing Penalty (veh) | | | |

## Intersection: 1: Cherry Crossing Dr & Lap Wai Ct/Retail Access, All Intervals

| Movement | EB | WB | SB |
|---|---|---|---|
| Directions Served | LTR | LTR | L |
| Maximum Queue (ft) | 30 | 60 | 30 |
| Average Queue (ft) | 5 | 31 | 3 |
| 95th Queue (ft) | 23 | 47 | 19 |
| Link Distance (ft) | 374 | 589 | |
| Upstream Blk Time (%) | | | |
| Queuing Penalty (veh) | | | |
| Storage Bay Dist (ft) | | | 90 |
| Storage Blk Time (%) | | | |
| Queuing Penalty (veh) | | | |

## Intersection: 6: Cherry Crossing Dr & Hodgen Rd, Interval #1

| Movement | EB | WB | NB | NB | SB |
|---|---|---|---|---|---|
| Directions Served | R | L | LT | R | LTR |
| Maximum Queue (ft) | 4 | 57 | 40 | 49 | 36 |
| Average Queue (ft) | 1 | 25 | 21 | 30 | 18 |
| 95th Queue (ft) | 6 | 56 | 47 | 55 | 39 |
| Link Distance (ft) | | | 256 | | 1303 |
| Upstream Blk Time (%) | | | | | |
| Queuing Penalty (veh) | | | | | |
| Storage Bay Dist (ft) | 150 | 150 | | 105 | |
| Storage Blk Time (%) | | | | | |
| Queuing Penalty (veh) | | | | | |

## Intersection: 6: Cherry Crossing Dr & Hodgen Rd, Interval #2

| Movement | EB | EB | WB | NB | NB | SB |
|---|---|---|---|---|---|---|
| Directions Served | LT | R | L | LT | R | LTR |
| Maximum Queue (ft) | 4 | 6 | 49 | 36 | 46 | 28 |
| Average Queue (ft) | 0 | 1 | 22 | 16 | 24 | 17 |
| 95th Queue (ft) | 0 | 9 | 49 | 39 | 38 | 38 |
| Link Distance (ft) | 1376 | | | 256 | | 1303 |
| Upstream Blk Time (%) | | | | | | |
| Queuing Penalty (veh) | | | | | | |
| Storage Bay Dist (ft) | | 150 | 150 | | 105 | |
| Storage Blk Time (%) | | | | | | |
| Queuing Penalty (veh) | | | | | | |

## Intersection: 6: Cherry Crossing Dr & Hodgen Rd, Interval #3

| Movement | EB | WB | NB | NB | SB |
|---|---|---|---|---|---|
| Directions Served | R | L | LT | R | LTR |
| Maximum Queue (ft) | 3 | 32 | 40 | 55 | 28 |
| Average Queue (ft) | 0 | 19 | 22 | 28 | 14 |
| 95th Queue (ft) | 5 | 39 | 46 | 50 | 34 |
| Link Distance (ft) | | | 256 | | 1303 |
| Upstream Blk Time (%) | | | | | |
| Queuing Penalty (veh) | | | | | |
| Storage Bay Dist (ft) | 150 | 150 | | 105 | |
| Storage Blk Time (%) | | | | | |
| Queuing Penalty (veh) | | | | | |

## Intersection: 6: Cherry Crossing Dr & Hodgen Rd, Interval #4

| Movement | EB | WB | NB | NB | SB |
|---|---|---|---|---|---|
| Directions Served | R | L | LT | R | LTR |
| Maximum Queue (ft) | 6 | 44 | 44 | 48 | 38 |
| Average Queue (ft) | 0 | 23 | 21 | 28 | 18 |
| 95th Queue (ft) | 5 | 46 | 48 | 47 | 44 |
| Link Distance (ft) | | | 256 | | 1303 |
| Upstream Blk Time (%) | | | | | |
| Queuing Penalty (veh) | | | | | |
| Storage Bay Dist (ft) | 150 | 150 | | 105 | |
| Storage Blk Time (%) | | | | | |
| Queuing Penalty (veh) | | | | | |

## Intersection: 6: Cherry Crossing Dr & Hodgen Rd, All Intervals

| Movement | EB | EB | WB | NB | NB | SB |
|---|---|---|---|---|---|---|
| Directions Served | LT | R | L | LT | R | LTR |
| Maximum Queue (ft) | 4 | 13 | 61 | 54 | 65 | 46 |
| Average Queue (ft) | 0 | 1 | 22 | 20 | 27 | 17 |
| 95th Queue (ft) | 0 | 6 | 48 | 45 | 48 | 39 |
| Link Distance (ft) | 1376 | | | 256 | | 1303 |
| Upstream Blk Time (%) | | | | | | |
| Queuing Penalty (veh) | | | | | | |
| Storage Bay Dist (ft) | | 150 | 150 | | 105 | |
| Storage Blk Time (%) | | | | | | |
| Queuing Penalty (veh) | | | | | | |

## Zone Summary

Zone wide Queuing Penalty, Interval #1: 0
Zone wide Queuing Penalty, Interval #2: 0
Zone wide Queuing Penalty, Interval #3: 0
Zone wide Queuing Penalty, Interval #4: 0
Zone wide Queuing Penalty, All Intervals: 0

## Intersection: 1: Cherry Crossing Dr & Lap Wai Ct/Retail Access, Interval #1

| Movement | EB | WB | SB |
|---|---|---|---|
| Directions Served | LTR | LTR | L |
| Maximum Queue (ft) | 25 | 48 | 13 |
| Average Queue (ft) | 2 | 29 | 3 |
| 95th Queue (ft) | 15 | 50 | 19 |
| Link Distance (ft) | 374 | 575 | |
| Upstream Blk Time (%) | | | |
| Queuing Penalty (veh) | | | |
| Storage Bay Dist (ft) | | | 90 |
| Storage Blk Time (%) | | | |
| Queuing Penalty (veh) | | | |

## Intersection: 1: Cherry Crossing Dr & Lap Wai Ct/Retail Access, Interval #2

| Movement | EB | WB | SB |
|---|---|---|---|
| Directions Served | LTR | LTR | L |
| Maximum Queue (ft) | 18 | 52 | 15 |
| Average Queue (ft) | 3 | 32 | 3 |
| 95th Queue (ft) | 16 | 56 | 17 |
| Link Distance (ft) | 374 | 575 | |
| Upstream Blk Time (%) | | | |
| Queuing Penalty (veh) | | | |
| Storage Bay Dist (ft) | | | 90 |
| Storage Blk Time (%) | | | |
| Queuing Penalty (veh) | | | |

## Intersection: 1: Cherry Crossing Dr & Lap Wai Ct/Retail Access, Interval #3

| Movement | EB | WB | SB |
|---|---|---|---|
| Directions Served | LTR | LTR | L |
| Maximum Queue (ft) | 20 | 45 | 15 |
| Average Queue (ft) | 4 | 29 | 3 |
| 95th Queue (ft) | 20 | 46 | 17 |
| Link Distance (ft) | 374 | 575 | |
| Upstream Blk Time (%) | | | |
| Queuing Penalty (veh) | | | |
| Storage Bay Dist (ft) | | | 90 |
| Storage Blk Time (%) | | | |
| Queuing Penalty (veh) | | | |

## Intersection: 1: Cherry Crossing Dr & Lap Wai Ct/Retail Access, Interval #4

| Movement | EB | WB | SB |
|---|---|---|---|
| Directions Served | LTR | LTR | L |
| Maximum Queue (ft) | 10 | 38 | 33 |
| Average Queue (ft) | 3 | 26 | 7 |
| 95th Queue (ft) | 17 | 40 | 30 |
| Link Distance (ft) | 374 | 575 | |
| Upstream Blk Time (%) | | | |
| Queuing Penalty (veh) | | | |
| Storage Bay Dist (ft) | | | 90 |
| Storage Blk Time (%) | | | |
| Queuing Penalty (veh) | | | |

## Intersection: 1: Cherry Crossing Dr & Lap Wai Ct/Retail Access, All Intervals

| Movement | EB | WB | SB |
|---|---|---|---|
| Directions Served | LTR | LTR | L |
| Maximum Queue (ft) | 30 | 55 | 36 |
| Average Queue (ft) | 3 | 29 | 4 |
| 95th Queue (ft) | 17 | 48 | 21 |
| Link Distance (ft) | 374 | 575 | |
| Upstream Blk Time (%) | | | |
| Queuing Penalty (veh) | | | |
| Storage Bay Dist (ft) | | | 90 |
| Storage Blk Time (%) | | | |
| Queuing Penalty (veh) | | | |

## Intersection: 6: Cherry Crossing Dr & Hodgen Rd, Interval #1

| Movement | EB | EB | WB | NB | NB | SB |
|---|---|---|---|---|---|---|
| Directions Served | LT | R | L | LT | R | LTR |
| Maximum Queue (ft) | 27 | 12 | 61 | 56 | 56 | 12 |
| Average Queue (ft) | 6 | 2 | 34 | 27 | 33 | 3 |
| 95th Queue (ft) | 38 | 13 | 66 | 57 | 59 | 16 |
| Link Distance (ft) | 1376 | | | 256 | | 1303 |
| Upstream Blk Time (%) | | | | | | |
| Queuing Penalty (veh) | | | | | | |
| Storage Bay Dist (ft) | | 150 | 150 | | 105 | |
| Storage Blk Time (%) | | | | | | |
| Queuing Penalty (veh) | | | | | | |

## Intersection: 6: Cherry Crossing Dr & Hodgen Rd, Interval #2

| Movement | EB | WB | NB | NB | SB |
|---|---|---|---|---|---|
| Directions Served | LT | L | LT | R | LTR |
| Maximum Queue (ft) | 21 | 61 | 50 | 69 | 20 |
| Average Queue (ft) | 3 | 32 | 27 | 36 | 5 |
| 95th Queue (ft) | 21 | 59 | 56 | 68 | 20 |
| Link Distance (ft) | 1376 | | 256 | | 1303 |
| Upstream Blk Time (%) | | | | | |
| Queuing Penalty (veh) | | | | | |
| Storage Bay Dist (ft) | | 150 | | 105 | |
| Storage Blk Time (%) | | | | 0 | |
| Queuing Penalty (veh) | | | | 0 | |

## Intersection: 6: Cherry Crossing Dr & Hodgen Rd, Interval #3

| Movement | EB | EB | WB | NB | NB | SB |
|---|---|---|---|---|---|---|
| Directions Served | LT | R | L | LT | R | LTR |
| Maximum Queue (ft) | 52 | 11 | 59 | 64 | 52 | 20 |
| Average Queue (ft) | 12 | 2 | 30 | 31 | 35 | 6 |
| 95th Queue (ft) | 51 | 15 | 56 | 67 | 57 | 23 |
| Link Distance (ft) | 1376 | | | 256 | | 1303 |
| Upstream Blk Time (%) | | | | | | |
| Queuing Penalty (veh) | | | | | | |
| Storage Bay Dist (ft) | | 150 | 150 | | 105 | |
| Storage Blk Time (%) | | | | 0 | | |
| Queuing Penalty (veh) | | | | 0 | | |

## Intersection: 6: Cherry Crossing Dr & Hodgen Rd, Interval #4

| Movement | EB | EB | WB | NB | NB | SB |
|---|---|---|---|---|---|---|
| Directions Served | LT | R | L | LT | R | LTR |
| Maximum Queue (ft) | 35 | 11 | 54 | 46 | 66 | 20 |
| Average Queue (ft) | 7 | 2 | 25 | 24 | 32 | 4 |
| 95th Queue (ft) | 38 | 14 | 53 | 56 | 68 | 17 |
| Link Distance (ft) | 1376 | | | 256 | | 1303 |
| Upstream Blk Time (%) | | | | | | |
| Queuing Penalty (veh) | | | | | | |
| Storage Bay Dist (ft) | | 150 | 150 | | 105 | |
| Storage Blk Time (%) | | | | 0 | 0 | |
| Queuing Penalty (veh) | | | | 0 | 0 | |

## Intersection: 6: Cherry Crossing Dr & Hodgen Rd, All Intervals

| Movement | EB | EB | WB | NB | NB | SB |
|---|---|---|---|---|---|---|
| Directions Served | LT | R | L | LT | R | LTR |
| Maximum Queue (ft) | 68 | 24 | 75 | 74 | 93 | 24 |
| Average Queue (ft) | 7 | 1 | 30 | 27 | 34 | 5 |
| 95th Queue (ft) | 39 | 12 | 59 | 59 | 64 | 19 |
| Link Distance (ft) | 1376 | | | 256 | | 1303 |
| Upstream Blk Time (%) | | | | | | |
| Queuing Penalty (veh) | | | | | | |
| Storage Bay Dist (ft) | | 150 | 150 | | 105 | |
| Storage Blk Time (%) | | | | 0 | 0 | |
| Queuing Penalty (veh) | | | | 0 | 0 | |

## Zone Summary

Zone wide Queuing Penalty, Interval #1: 0
Zone wide Queuing Penalty, Interval #2: 0
Zone wide Queuing Penalty, Interval #3: 0
Zone wide Queuing Penalty, Interval #4: 0
Zone wide Queuing Penalty, All Intervals: 0

**LSC TRANSPORTATION CONSULTANTS, INC.**
**545 East Pikes Peak Avenue, Suite 210**
**Colorado Springs, CO 80903**
**(719) 633-2868**
**FAX (719) 633-5430**
**E-mail: lsc@lsctrans.com**
**Website: http://www.lsctrans.com**

ORTATION
TANTS, INC.

# Rollin' Ridge
# Traffic Impact Study
## (LSC #174470)
## January 3, 2018

1 Add "PCD File No P181"

**ffic Engineer's Statement**

s traffic report and supporting information were prepared under my responsible charge and they comport n the standard of care. So far as is consistent with the standard of care, said report was prepared in eral conformance with the criteria established by the County for traffic reports.

rey C. Hodsdon, P.E., #31684

COLORADO LICENSED
JEFFREY C. HODSDON
31684
1-4-18
PROFESSIONAL ENGINEER

1/4/18
Date

**eloper's Statement**

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

1-3-18
Date

# Summary of Comments on Microsoft Word - Rollin' Ridge -- report

## Page: 1

Number: 1 Author: dsdlaforce Subject: Text Box Date: 3/26/2018 7:09:20 AM

Add "PCD File No P181"

Status
jchodsdon Completed 5/10/2018 4:26:41 PM

- Estimates of average weekday peak-hour trip generation for the proposed development, including the estimated directional distribution of site-generated vehicle-trips on SH 83 and adjacent to the intersection of Hodgen Road/site access/Cherry Crossing Drive near the site.
- Projected site-generated and resulting total traffic.
- Intersection level of service analysis.
- Auxiliary right-/left-turn lane needs analysis based on the projected volumes and criteria in the El Paso County *Engineering Criteria Manual* (ECM) and the *Colorado State Highway Access Code*.
- Findings and recommendations.

## LAND USE AND ACCESS

Figure 1 shows the site location relative to the adjacent and nearby roadways. Rollin' Ridge is planned to contain 16 lots for **single-family homes** and a commercial site. The site plan is shown in Figure 2a and Figure 2b.

Rollin' Ridge's most recent commercial site plan identifies several buildings with a mix of land uses, as shown in Table 1.

**Table 1: Land Uses for Proposed Rollin' Ridge Commercial Development**

| Lot # | ITE Code | ITE Land Use Description | Value | Units |
|---|---|---|---|---|
| 17 | 946 | Gasoline/Service Station w/ Convenience Market | 5.000 | KSF* |
| 18 | 720 | Medical-Dental Office Building | 5.000 | KSF |
| | 820 | Shopping Center | 5.000 | KSF |
| 19 | 820 | Shopping Center | 5.000 | KSF |
| | 820 | Shopping Center | 5.000 | KSF |
| | 820 | Shopping Center | 5.000 | KSF |
| | 820 | Shopping Center | 5.000 | KSF |
| * KSF = 1,000 square feet<br>12 vehicle fueling positions (VFPs) are planned | | | | |

Access to Hodgen Road is proposed via a full-movement access located approximately 900 feet west of SH 83 (centerline spacing) and across from Cherry Crossing Drive.

## ROAD AND TRAFFIC CONDITIONS

State what the sight distance is at the site access to Hodgen and whether it can be met. If it cannot be met, state the required modifications so that it can be met. 1

### Area Roads and Streets

Figure 1 shows the roads in the vicinity of the site. The major roads are identified below followed by a brief description of each:

**State Highway (SH) 83** extends from Colorado Springs north to Parker and areas of southeast Denver. In the vicinity of the site, SH 83 is classified as a Regional Highway (R-A). At this location,

Number: 1 Author: dsdlaforce Subject: Callout Date: 3/26/2018 11:01:00 AM

State what the sight distance is at the site access to Hodgen and whether it can be met. If it cannot be met, state the required modifications so that it can be met.

Status

jchodsdon Completed 5/10/2018 4:26:37 PM

SH 83 is a two-lane rural highway with two- to four-foot shoulders and a speed limit of 60 miles per hour (mph). The intersection with Hodgen Road is signalized. Per the El Paso County 2040 *Major Transportation Corridors Plan (MTCP)*, SH 83 is projected to be expanded from a two-lane highway to a four-lane highway by 2040. Additionally, the southbound approach is projected to have a dual left-turn lane and an exclusive right-turn lane by 20

1 Update to include the MTCP Corridor Preservation Plan.

**Hodgen Road** is a two-lane paved Rural Principal Arterial that extends west from State Highway 83 to Roller Coaster Road, where it continues west as Baptist Road. Hodgen also extends east from the intersection of Roller Coaster Road/Baptist Road to Eastonville Road (as a Minor Arterial). The speed limit on Hodgen Road is 40 mph adjacent to the site.

**Cherry Crossing Drive** is a north/south

Elaborate. Does the intersection along Hodgen Rd b/w Cherry Crossing Dr and Hwy 83 meet County Criteria. If not may need to identify that a deviation request is required in the recommendation section and submit a deviation request.

**Traffic Volumes**

Turning movement traffic counts were
8:30 a.m. and from 4:00 to 6:00 p.m. at t
Crossing Drive, as shown in Figure 3. Raw
also shows CDOT annual average daily tr

3 No site access intersection is proposed between Cherry Crossing Drive and SH 83. All access will be from the extension of Cherry Crossing Drive south of Hodgen.

**TRIP GENERATION**

Estimates of the vehicle-trips projected to be generated by the proposed development have been made using the nationally published trip generation rates from *Trip Generation, 10th Edition, 2017* by the Institute of Transportation Engineers (ITE).

**Pass-By and Diverted Trips**

The total number of trips generated by the site has also been aggregated by trip type to account for pass-by and diverted trips. A pass-by trip is one made by a motorist who would already be on an adjacent road regardless of the proposed development, but who stops in at the site while passing by. That pass-by motorist would then continue on his or her way to a final destination in the original direction. Table 6 (attached) shows the percent of the trips generated that were assumed to be pass-by trips. Pass-by percentage has been based on data from the *Trip Generation Handbook - An ITE Proposed Recommended Practice, 3rd Edition, 2014* by ITE and adjustments by LSC for site-specific conditions.

Analysis also accounts for diverted trips from adjacent State Highway 83. These trips are considered non-pass-by trips. These trips would be added to Hodgen Road and would result in altered turning movements at the nearby major intersection of SH 83/Hodgen Road. New trips would also be added to the proposed site access intersection.

4 Elaborate. Identify the ITE average and the adjustment proposed by LSC. Explain the site-specific condition that lead to the LSC value.

# Page: 4

Number: 1 Author: dsdlaforce Subject: Callout Date: 3/26/2018 9:25:31 AM

Update to include the MTCP Corridor Preservation Plan.

Status
jchodsdon Completed 5/10/2018 5:04:10 PM

Number: 2 Author: dsdlaforce Subject: Callout Date: 3/26/2018 9:28:51 AM

Elaborate. Does the intersection along Hodgen Rd b/w Cherry Crossing Dr and Hwy 83 meet County Criteria. If not may need to identify that a deviation request is required in the recommendation section and submit a deviation request.

Number: 3 Author: jchodsdon Subject: Text Box Date: 5/10/2018 5:04:00 PM

No site access intersection is proposed between Cherry Crossing Drive and SH 83. All access will be from the extension of Cherry Crossing Drive south of Hodgen.

Number: 4 Author: dsdlaforce Subject: Callout Date: 3/26/2018 8:35:13 AM

Elaborate. Identify the ITE average and the adjustment proposed by LSC. Explain the site-specific condition that lead to the LSC value.

Status
jchodsdon None 5/10/2018 5:02:52 PM

**Evening Peak Hour**

A summary of current and projected 2040 background traffic conditions—both with and without considering site-generated traffic—is shown in Table 5. LOS and control delays during the weekday evening peak hour are shown in this table. Detailed Synchro reports are attached.

**Table 5: Level of Service Comparison by Scenario (P.M. Peak)**

| Analysis Period | Site Access @ Hodgen | | | | | SH 83 @ Hodgen | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Control | SB | NBL | NBR | WBL | Control | Overall | EBL | WBL | NBL | SBL |
| **LOS** | | | | | | | | | | | |
| 2017 Existing | TWSC* | B | - | - | - | Signal | A | B | B | A | B |
| 2017 Existing + Site | | B | B | A | A | | A | B | B | A | B |
| 2040 Background | | B | - | - | - | | C | C | C | B | B |
| 2040 Background + Site | | C | C | A | A | | C | C | C | B | B |
| **Control Delay (Seconds)** | | | | | | | | | | | |
| 2017 Existing | TWSC | 10.6 | - | - | - | Signal | 9.4 | 12.7 | 16.5 | 7.3 | 13.2 |
| 2017 Existing + Site | | 10.0 | 13.2 | 4.4 | 5.6 | | 9.0 | 12.8 | 15.4 | 8.3 | 10.5 |
| 2040 Background | | 10.4 | - | - | - | | 24.0 | 24.9 | 25.0 | 14.8 | 14.6 |
| 2040 Background + Site | | 27.1 | 26.0 | 6.0 | 9.9 | | 24.5 | 28.1 | 25.3 | 16.8 | 14.8 |
| * TWSC = Two-Way Stop Sign Control | | | | | | | | | | | |

Site Access/Hodgen Road

All turning movements at the intersection of Hodgen Road/Cherry Crossing Drive/site access currently operate and are projected to remain at LOS C or better for all short-term and long-term evening traffic conditions, with or without development.

SH 83/Hodgen Road

This intersection is projected to operate at LOS D or weekday evening peak hour.

Update to include recommendations regarding ROW dedication and preservation. 1

**CONCLUSIONS AND RECOMMENDATIONS**

- The site is projected to generate about 2,899 new/non-passby vehicle-trips on the average weekday. A significant portion of these non-pass-by trips are projected to be diverted trips from the Highway 83/Hodgen Road intersection.

- Approximately 157 vehicles would enter the site during the weekday morning peak hour, while 116 vehicles are projected to exit. During the weekday evening peak hour of adjacent street traffic, 183 vehicles would enter the site while 183 vehicles would exit.

# Page: 8

Number: 1 Author: dsdlaforce Subject: Callout Date: 3/26/2018 9:22:39 AM

Update to include recommendations regarding ROW dedication and preservation.

Status
jchodsdon Accepted 5/10/2018 4:27:57 PM

- All approaches at the site access intersection with Hodgen Road and at the intersection of SH 83/Hodgen will operate at LOS C or better during both the short and long term during the weekday morning peak hour and evening peak ho[illegible] this development. It is assumed that SH 83 will be expanded [illegible] Hodgen Road south with dual southbound left-turn lanes in 2040).

Is there sufficient length to meet the minimum requirements per the ECM? Identify the minimum requirement per the ECM and the amount that would be accommodated with the restriping. 1

- According to the El Paso County *Engineering Criteria Manual* (ECM), exclusive left-turn lanes shall be provided for any access on a Principal Arterial with a projected peak-hour ingress turning volume of 10 vehicles per hour (vph) or greater. Projected left-turn volumes at the site access point are expected to exceed the minimum left-turn volume thresholds outlined in the *ECM* upon site buildout. Thus, an exclusive westbound left-turn lane **is** prescribed by the ECM at the intersection of Hodgen Road/Cherry Crossing Drive/ site access. The painted center median could be restriped to provide for this left-turn lane. This turn lane would be back-to-back with the eastbound left-turn lane at the Hodgen/SH 83 intersection.

- As shown in Figure 6 and Figure 8, the projected future westbound left-turn volume, including existing, future background, and site traffic, is approximately 115 and 129 vehicles during the short- and long-term morning peak hour and evening peak hour, respectively.

- Per ECM criteria, exclusive right-turn lanes shall be provided for any access on a Principal Arterial with a projected peak-hour ingress turning volume of 25 vehicles per hour (vph) or greater. As shown in Figure 6 and Figure 8, the projected future eastbound right-turn volume is approximately 63 vehicles during the evening peak hour, which exceeds the minimum right-turn volume ECM thresholds upon site buildout. Thus, an exclusive right-turn deceleration lane **is** prescribed by the ECM at the intersection of Hodgen Road/site access.

- The *Colorado State Highway Access Code* requires a right-turn deceleration lane for any "access" (Hodgen Road is considered an "access" to SH 83) with a projected peak-hour right ingress turning volume greater than 25 vph. Per code, a southbound right-turn deceleration lane is required at the intersection of SH 83/Hodgen Road based on existing traffic volumes.

- The *Colorado State Highway Access Code* requires a right-turn acceleration lane for any "access" (Hodgen Road is considered an "access" to SH 83) with a projected peak-hour right ingress turning volume greater than 50 vph. Per code, a southbound right-turn acceleration lane is required at the intersection of SH 83/Hodgen Road based on existing traffic volumes.

Provide an exhibit showing these proposed auxiliary lane improvements. Are there additional ROW dedication that will be required? 2

# Page: 9

Number: 1 Author: dsdlaforce Subject: Callout Date: 3/26/2018 10:48:40 AM

Is there sufficient length to meet the minimum requirements per the ECM?Identify the minimum requirement per the ECM and the amount that would be accommodated with the restriping.

Status
jchodsdon Completed 5/10/2018 4:28:20 PM

Number: 2 Author: dsdlaforce Subject: Text Box Date: 3/26/2018 10:52:51 AM

Provide an exhibit showing these proposed auxiliary lane improvements. Are there additional ROW dedication that will be required?

Status
jchodsdon Completed 5/10/2018 4:28:37 PM

- The current northbound left-turn deceleration lane at the SH 83/Hodgen intersection will need to be lengthened to the south to meet Access Code criteria based on existing plus buildout site-generated traffic.

- This project will be required to participate in the El Paso County Road Impact Fee program. Consideration for Fee Program credit may be given to intersection improvements completed at the State Highway 83/Hodgen Road intersection (applicable MTCP project reference numbers U9 and SH 6).

* * * * *

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

Sincerely,

LSC TRANSPORTATION CONSULTANTS, INC.

By _____
Jeffrey C. Hodsdon, P.E., PTOE
Principal

JCH:JAB:bjwb

Enclosures: Table 6
Figure 1 – Figure 8
Traffic Count Reports
Level of Service Reports

Include an exhibit identifying roadway classification for the proposed internal roads. 1

List all deviations from the ECM that the applicant will be making. Submit signed/stamped deviation request forms for the deviations requested.

The recommended classification of the internal roads has been added to the report narrative. 2

The TIS report includes a list of deviations

# Page: 10

Number: 1 Author: dsdlaforce Subject: Text Box Date: 3/26/2018 11:02:52 AM

Include an exhibit identifying roadway classification for the proposed internal roads. List all deviations from the ECM that the applicant will be making. Submit signed/stamped deviation request forms for the deviations requested.

Status

jchodsdon Completed 5/10/2018 5:02:04 PM

Number: 2 Author: jchodsdon Subject: Text Box Date: 5/10/2018 5:02:00 PM

The recommended classification of the internal roads has been added to the report narrative.

The TIS report includes a list of deviations

revise to 945 1

**Table 6: Detailed Trip Generation Estimate**

| ITE | | Value | Units | Trip Generation Rates [1] | | | | | Driveway Trips Generated | | | | | % Diverted Trips | % Pass-by Trips | Non-Pass-by Trips Generated | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Avg Weekday Traffic | A.M. | | P.M. | | Avg Weekday Traffic | A.M. | | P.M. | | | | Avg Weekday Traffic | A.M. | | P.M. | |
| Code | Description | | | | In | Out | In | Out | | In | Out | In | Out | | | | In | Out | In | Out |
| 210 | Single-Family Detached Housing | 16 | DU[2] | 9.52 | 0.19 | 0.56 | 0.63 | 0.37 | 152 | 3 | 9 | 10 | 6 | 0% | 0% | 152 | 3 | 9 | 10 | 6 |
| 945 | Gasoline/Service Station w/ Convenience Market | 12 | VFP[3] | 162.78 | 5.08 | 5.08 | 6.76 | 6.76 | 1,953 | 61 | 61 | 81 | 81 | 45% | 40% | 1172 | 37 | 37 | 49 | 49 |
| 720 | Medical-Dental Office Building | 5.000 | KSF[4] | 36.13 | 1.89 | 0.50 | 1.00 | 2.57 | 181 | 9 | 3 | 5 | 13 | 0% | 0% | 181 | 9 | 3 | 5 | 13 |
| 820 | Shopping Center | 25.000 | KSF | 88.38 | 3.45 | 2.11 | 3.86 | 3.57 | 2,209 | 86 | 53 | 97 | 89 | 30% | 30% | 1547 | 60 | 37 | 68 | 62 |
| | | | | | | | | | **4,343** | **157** | **116** | **183** | **183** | | | **2,899** | **106** | **76** | **121** | **124** |

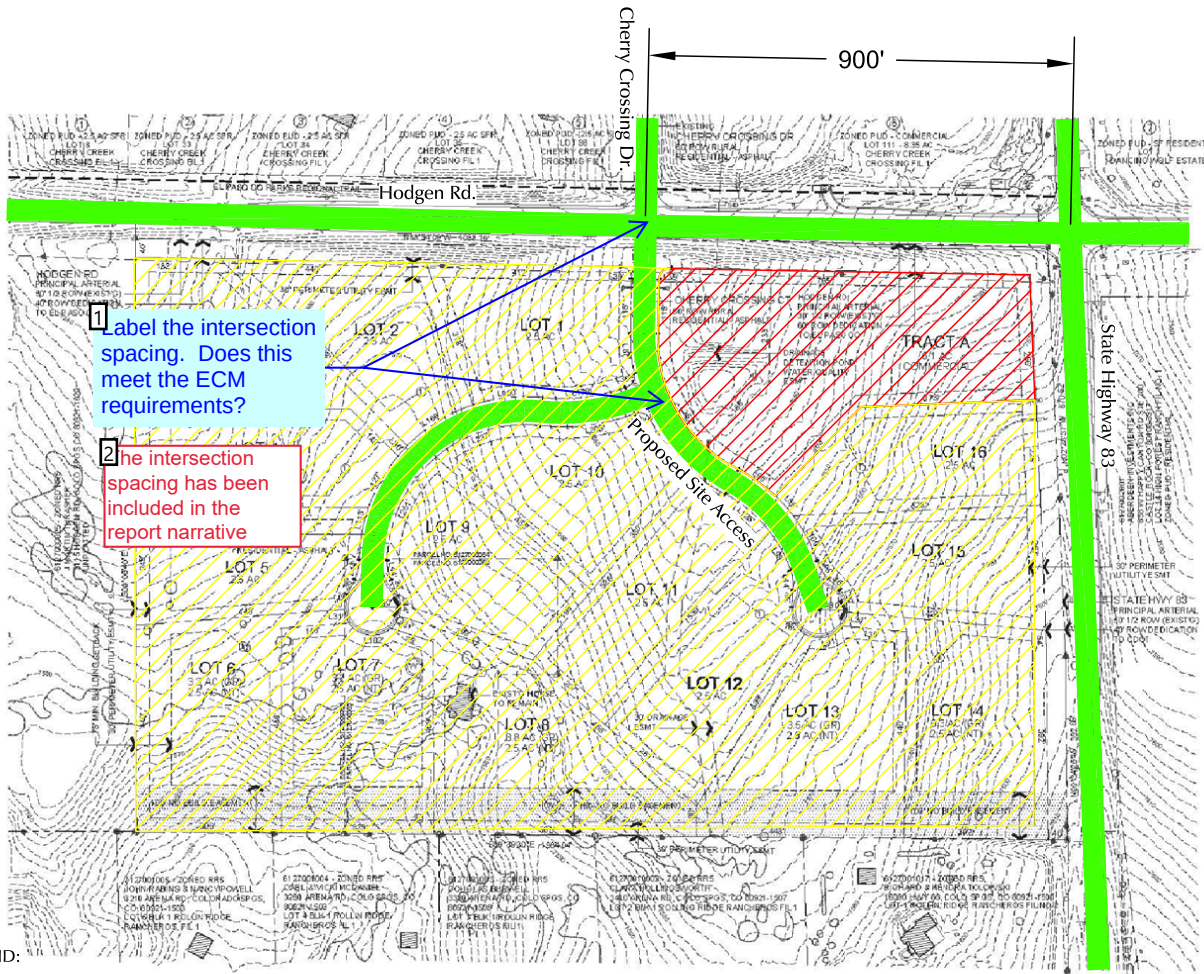
(1) Source: *Trip Generation, 9th Edition, 2012* by the Institute of Transportation Engineers (ITE)
(2) DU = dwelling units
(3) VFP = vehicle fueling positions
(4) KSF = 1,000 square feet

# Page: 11

Number: 1 Author: dsdlaforce Subject: Callout Date: 3/26/2018 8:23:42 AM

revise to 945

Status
jchodsdon Completed 5/10/2018 5:00:41 PM




LEGEND:

= Commercial Development Site (See Figure 2b for Commercial Site Plan Detail)

= Residential Development Site

Figure 2a

# Site Plan

Rollin Ridge Estates (LSC #174470)

# Page: 13

Number: 1 Author: dsdlaforce Subject: Callout Date: 3/26/2018 8:10:06 AM

Label the intersection spacing. Does this meet the ECM requirements?

Status
jchodsdon Completed 5/10/2018 4:59:16 PM

Number: 2 Author: jchodsdon Subject: Text Box Date: 5/10/2018 4:59:09 PM

The intersection spacing has been included in the report narrative

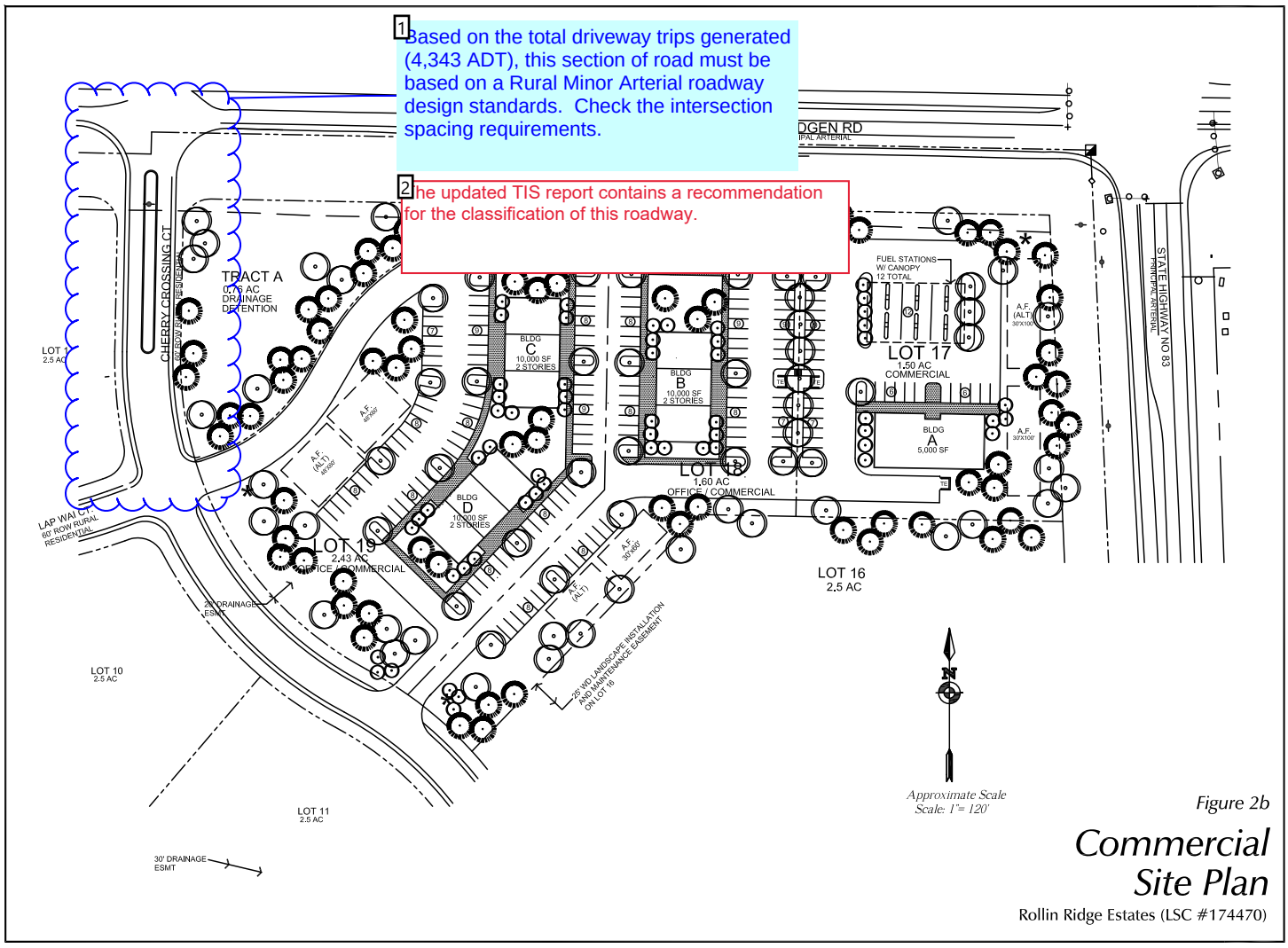



*Figure 2b*

# *Commercial Site Plan*

Rollin Ridge Estates (LSC #174470)

# Page: 14

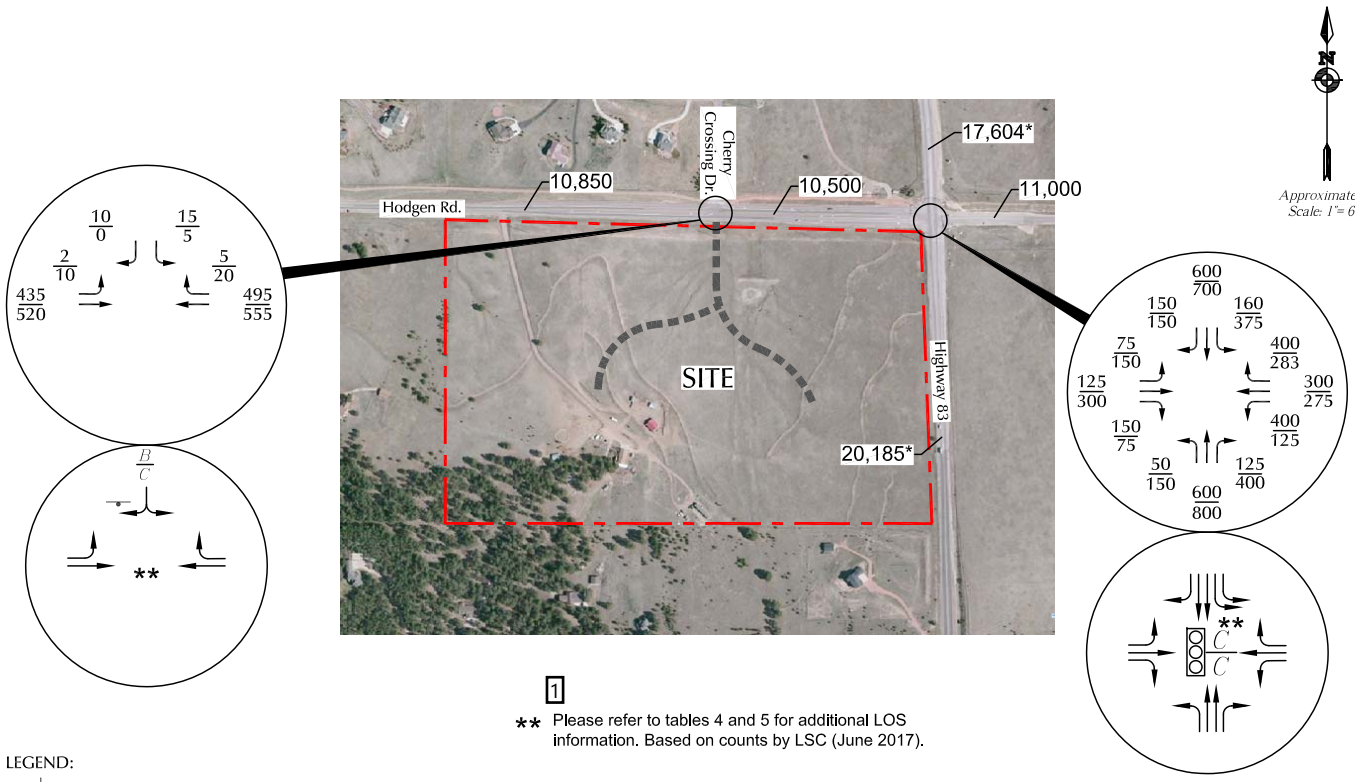
Number: 1 Author: dsdlaforce Subject: Cloud+ Date: 3/26/2018 10:39:00 AM

Based on the total driveway trips generated (4,343 ADT), this section of road must be based on a Rural Minor Arterial roadway design standards. Check the intersection spacing requirements.

Status
jchodsdon Completed 5/10/2018 5:00:12 PM

Number: 2 Author: jchodsdon Subject: Text Box Date: 5/10/2018 5:00:28 PM

The updated TIS report contains a recommendation for the classification of this roadway.




** Please refer to tables 4 and 5 for additional LOS information. Based on counts by LSC (June 2017).

LEGEND:

= Stop Sign

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

A/B = AM Individual Movement Peak-Hour Level of Service / PM Individual Movement Peak-Hour Level of Service

C/C = AM Entire Intersection Peak-Hour Level of Service / PM Entire Intersection Peak-Hour Level of Service

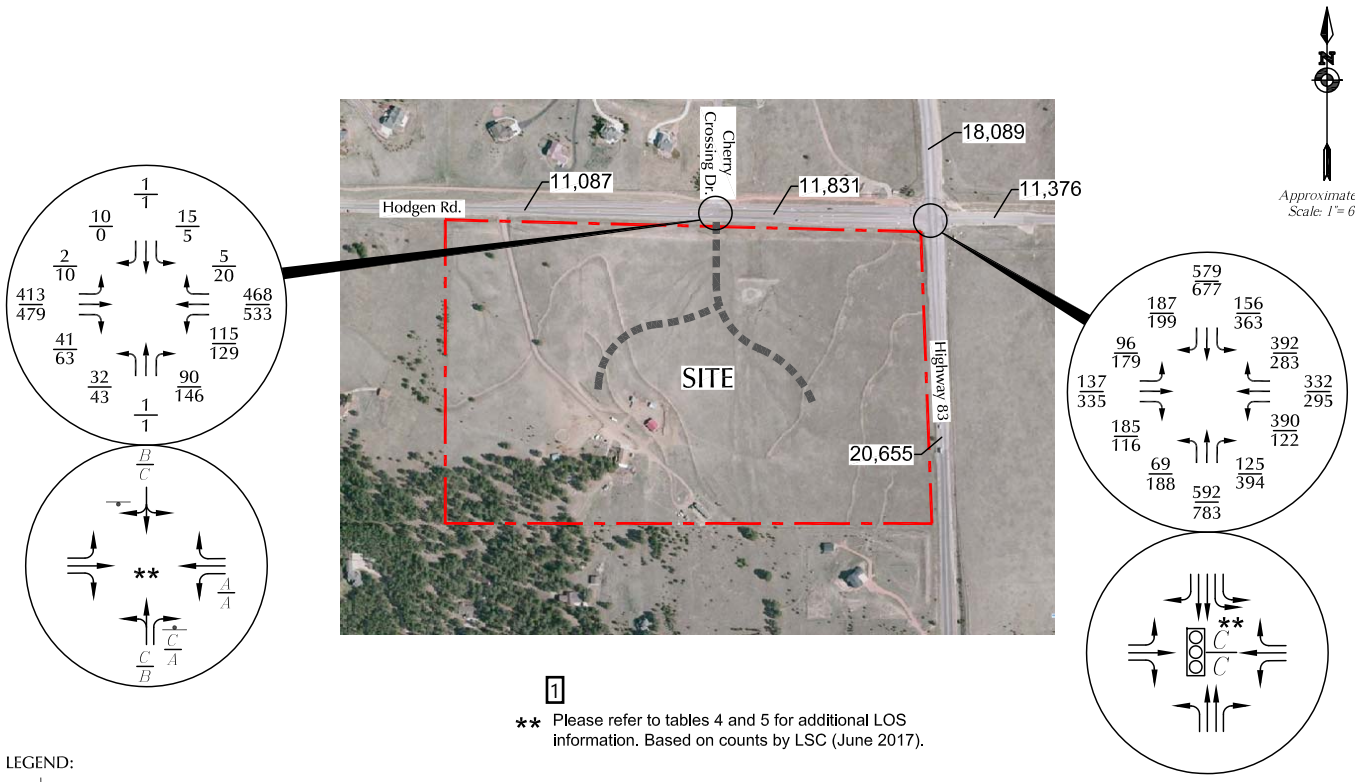
X,XXX= Average Daily Traffic (vehicles per day) Estimates by LSC unless otherwise noted.

Figure 7

# Year 2040 Background Traffic, Lane Geometry, Traffic Control and Level of Service

Rollin Ridge Estates (LSC #174470)

Number: 1 Author: jchodsdon Subject: Rectangle Date: 1/5/2018 8:23:47 AM -07'00'




1

** Please refer to tables 4 and 5 for additional LOS information. Based on counts by LSC (June 2017).

LEGEND:

= Stop Sign

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

A/B = AM Individual Movement Peak-Hour Level of Service / PM Individual Movement Peak-Hour Level of Service

C/C = AM Entire Intersection Peak-Hour Level of Service / PM Entire Intersection Peak-Hour Level of Service

X,XXX= Average Daily Traffic (vehicles per day) Estimates by LSC unless otherwise noted.

Figure 8

# Year 2040 Total Traffic, Lane Geometry, Traffic Control and Level of Service

Rollin Ridge Estates (LSC #174470)

# Page: 20

Number: 1 Author: jchodsdon Subject: Rectangle Date: 1/5/2018 8:23:47 AM -07'00'

**Development Services Department**
**2880 International Circle**
**Colorado Springs, Colorado 80910**

Phone: 719.520.6300
Fax: 719.520.6695
Website www.elpasoco.com

# DEVIATION REVIEW AND DECISION FORM

Procedure # R-FM-051-07
Issue Date: 12/31/07
Revision Issued: 00/00/00
**DSD FILE NO.:**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | | | | | |

This deviation is being evaluated and comments will be returned as soon as possible.

16390 Highway 83

Tax Schedule ID(s) #:6127000064

Legal Description of Property:
THAT PT N2N2 SEC 27-11-66 DESC AS FOLS; COM AT NW COR SD SEC 27, TH S88<54'14"E ALG N LN OF SD SEC 1974.02 FT TO THE NW COR OF THE E2NE4NW4 SD SEC 27, TH S 00<06'40"E ALG W LN OF SD E2 50.04 FT & POB, TH S00<06'40"E 1262.73 FT, S89<30'26"E 443.60 FT, N00<00'00"W 585.28 FT, N90<00'00"E 454.78 FT, S00<00'00"E 247.11 FT, N90<00'00"W 127.15 FT, S00<00'00"E 340.99 FT, TH S90<30'26"E 1212.80 FT, N00<24'12"W 393.03 FT, N02<29'28"W 870.43 FT TO S LN OF THE N 30.0 FT SD SEC 27, TH N88<54'17"W 856.46, S01<05'43"W 20.0 FT, N88<54'17"W 430.09 FT TO W LN NW4NE4 & POB

Subdivision or Project Name: Rollin' Ridge Estates

Section of ECM from Which Deviation is Sought: 2.3.7.E.1, 2.3.7.E.2, and 2.3.7.E.3

Specific Criteria from Which a Deviation is Sought: Turn Lane Design, Taper Lengths, and Storage Lengths

Proposed Nature and Extent of Deviation: Allow an abbreviated westbound left-turn lane length on Hodgen Road at the Cherry Crossing Drive intersection given the constrained distance (about 950 feet - center to center) between the two intersections. The ECM prescribes deceleration plus vehicle storage distance plus transition taper for left-turn lanes on Principal Arterial roadways where turn lanes are required per section 2.3.7.D. The attached exhibit for Hodgen Road reflects 250 feet of total full-width plus an abbreviated 100-foot-long reverse curve taper for this lane and the eastbound left turn lane approaching the Hodgen/SH 83 intersection. The intent of this striping plan is to best allocate the available back-to-back left-turn decel/ stacking distance available between the Cherry Crossing Drive and SH 83 intersections.

**Applicant Information:**
Applicant: Carl Turse, TC&C, LLC Email Address: carlturse@icloud.com
Applicant is: __X__ Owner ____ Consultant _____ Contractor
Mailing Address: 17572 Colonial Park Drive, Monument State: CO Postal Code: 80132
Telephone Number: 488-8600

**Engineer Information:**
Engineer: Jeffrey C. Hodsdon, P.E., PTOE Email Address: jeff@LSCTrans.com
Company Name: LSC Transportation Consultants, Inc.
Mailing Address: 545 East Pikes Peak Ave. Suite 210 Colo Springs State: CO Postal Code: 80903
Registration Number: 31684 State of Registration: CO
Telephone Number: 719-633-2868 Fax Number: 719-633-5430

**Explanation of Request (Attached diagrams, figures and other documentation to clarify request):**
Section of ECM from Which Deviation is Sought: 2.3.7.E.1, 2.3.7.E.2, and 2.3.7.E.3
Specific Criteria from Which a Deviation is Sought: Turn Lane Design, Taper Lengths, and Storage Lengths

Deviations must be submitted as separate documents in EDARP

Proposed Nature and Extent of Deviation: Allow an abbreviated westbound left-turn lane length on Hodgen Road at the Cherry Crossing Drive intersection given the constrained distance (about 950 feet - center to center) between the two intersections. The ECM prescribes deceleration plus vehicle storage distance plus transition taper for left-turn lanes on Principal Arterial roadways where turn lanes are required per section 2.3.7.D. The attached exhibit for Hodgen Road reflects 250 feet of total full-width plus an abbreviated 100-foot-long reverse curve taper for this lane and the eastbound left turn lane approaching the Hodgen/SH 83 intersection. The intent of this striping plan is to best allocate the available back-to-back left-turn decel/ stacking distance available between the Cherry Crossing Drive and SH 83 intersections.

Reason for the Requested Deviation: The deviation is requested given the constrained distance for back-to-back left-turn lanes between the two intersections of Hodgen Road/SH 83 and Hodgen Road/Cherry Crossing Drive. No access is permitted to State Highway 83 and the standard access spacing along Hodgen is 1/2 mile. Aligning the access with Cherry Crossing Drive is proposed as this is an existing intersection. However, there is limited back-to-back stacking distance due to the existing spacing.

Comparison of Proposed Deviation to ECM Standard: The ECM standard for a 45-mph design speed is interpolated to be 200 feet of deceleration distance plus a 170-foot taper plus stacking needs. There appears to be a grade of just over three percent at the start of the left turn lane, then the grades become more level closer to the intersection. To be conservative, an adjusted combined deceleration plus taper length is 444 feet - or 74 feet longer. The stacking length required from the analysis included in the TIS is 61 feet. Therefore, a full-width lane length of 335 feet (200'+74'+61') would be required (250' proposed as shown on the striping exhibit). The required taper is 170-feet and a 100-foot taper is proposed.

Applicable Regional or National Standards used as Basis:

**Application Consideration:**

| **CHECK IF APPLICATION MEETS CRITERIA FOR CONSIDERATION** | **JUSTIFICATION** |
|---|---|
| ☐ The ECM standard is inapplicable to a particular situation. | |
| ▣ Topography, right-of-way, or other geographical conditions or impediments impose an undue hardship on the applicant, and an equivalent alternative that can accomplish the same design objective is available and does not compromise public safety or accessibility. | The deviation is requested given the constrained distance for back-to-back left- turn lanes between the two intersections of Hodgen Road/SH 83 and Hodgen Road/Cherry Crossing Drive. No access is permitted to State Highway 83 and the standard access spacing along Hodgen is 1/2 mile. Aligning the access with Cherry Crossing Drive is proposed as this is an existing intersection. However, there is limited back-to-back stacking distance due to the existing spacing. |
| ☐ A change to a standard is required to address a specific design or construction problem, and if not modified, the standard will impose an undue hardship on the applicant with little or no material benefit to the public. | _____<br>_____<br>_____<br>_____<br>_____ |

**If at least one of the criteria listed above is not met, this application for deviation cannot be considered.**

**Criteria for Approval:**

| **PLEASE EXPLAIN HOW EACH OF THE FOLLOWING CRITERIA HAVE BEEN SATISFIED BY THIS REQUEST** | |
|---|---|
| The request for a deviation is not based exclusively on financial considerations. | The deviation is requested due to the limited back-to-back left turn lane distance along Hodgen Road. |

| | |
|---|---|
| The deviation will achieve the intended result with a comparable or superior design and quality of improvement. | The proposed left-turn lane will provide a reasonable length for the westbound left turn lane approaching Cherry Crossing Drive without shortening the existing eastbound left turn lane approaching SH 83. The proposed laneage is shown in the attached exhibit. |
| The deviation will not adversely affect safety or operations. | The 2040 queuing analysis contained in the TIS indicates no queue block time or spillback time during either peak hour for the westbound left-turn lane at the intersections of Hodgen Road/Cherry Crossing Drive. Please refer to the queuing analysis section of the updated TIS (May 2018). The grade adjustment included in this deviation is likely conservative as the grades over three percent are not for the entire length of the lane. |
| The deviation will not adversely affect maintenance and its associated cost. | This deviation will not change the maintenance cost. |
| The deviation will not adversely affect aesthetic appearance. | This deviation will not change the aesthetic appearance. |

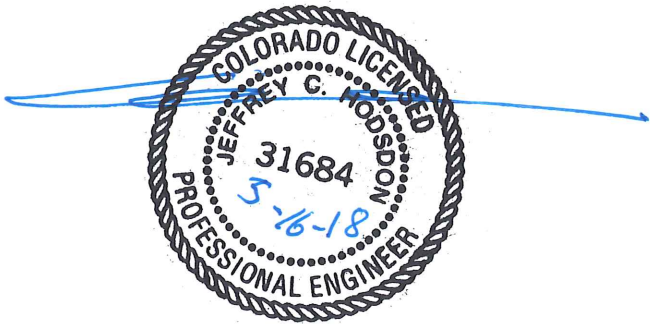
**Owner, Applicant and Engineer Declaration:**
To the best of my knowledge, the information on this application and all additional or supplemental documentation is true, factual and complete. I am fully aware that any misrepresentation of any information on this application may be grounds for denial. I have familiarized myself with the rules, regulations and procedures with respect to preparing and filing this application. I also understand that an incorrect submittal will be cause to have the project removed from the agenda of the Planning Commission, Board of County Commissioners and/or Board of Adjustment or delay review, and that any approval of this application is based on the representations made in the application and may be revoked on any breach of representation or condition(s) of approval.

Signature of owner (or authorized representative) — Date: 5-15-18

Signature of applicant (if different from owner) — Date

Signature of Engineer — Date

Engineer's Seal



**Review and Recommendation:**
**APPROVED by the ECM Administrator**

_____ Date_____

This request has been determined to have met the criteria for approval. A deviation from Section _____of ECM is hereby granted based on the justification provided. Comments:

_____

_____

____ Additional comments or information are attached.

**DENIED by the ECM Administrator**

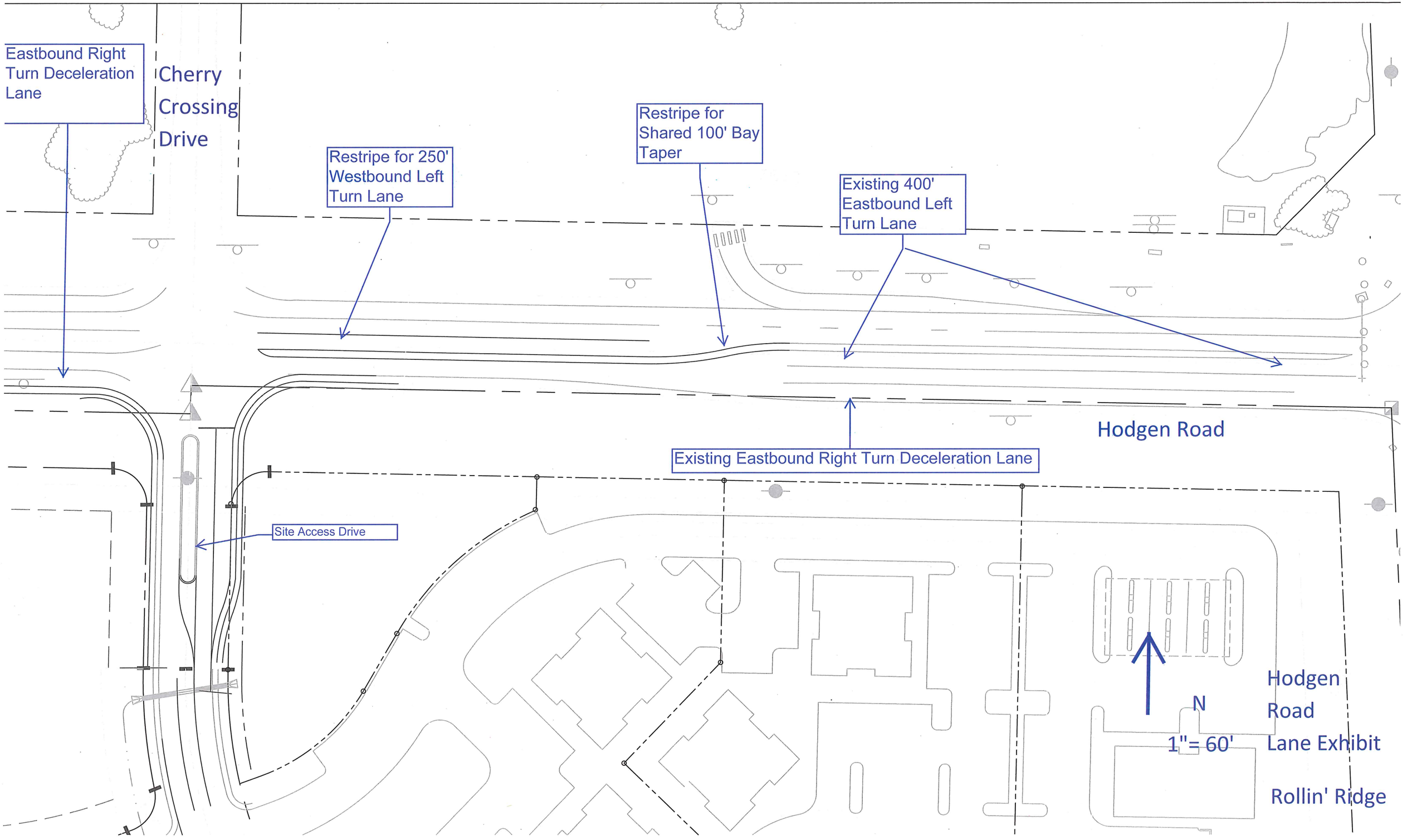
_____ Date_____

This request has been determined not to have met criteria for approval. A deviation from Section _____of ECM is hereby denied. Comments:

_____

_____

____ Additional comments or information are attached.


Eastbound Right Turn Deceleration Lane
Cherry Crossing Drive
Restripe for 250' Westbound Left Turn Lane
Restripe for Shared 100' Bay Taper
Existing 400' Eastbound Left Turn Lane
Hodgen Road
Existing Eastbound Right Turn Deceleration Lane
Site Access Drive
N
1"= 60'
Hodgen Road
Lane Exhibit
Rollin' Ridge

**Development Services Department**
**2880 International Circle**
**Colorado Springs, Colorado 80910**

Phone: 719.520.6300
Fax: 719.520.6695
Website www.elpasoco.com

# DEVIATION REVIEW AND DECISION FORM

Procedure # R-FM-051-07
Issue Date: 12/31/07
Revision Issued: 00/00/00
**DSD FILE NO.:**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | | | | | |

**General Property Information:**

Address of Subject Property (Street Number/Name):16390 Highway 83

Tax Schedule ID(s) #6127000064:

Legal Description of Property: THAT PT N2N2 SEC 27-11-66 DESC AS FOLS; COM AT NW COR SD SEC 27, TH S88<54'14"E ALG N LN OF SD SEC 1974.02 FT TO THE NW COR OF THE E2NE4NW4 SD SEC 27, TH S 00<06'40"E ALG W LN OF SD E2 50.04 FT & POB, TH S00<06'40"E 1262.73 FT, S89<30'26"E 443.60 FT, N00<00'00"W 585.28 FT, N90<00'00"E 454.78 FT, S00<00'00"E 247.11 FT, N90<00'00"W 127.15 FT, S00<00'00"E 340.99 FT, TH S90<30'26"E 1212.80 FT, N00<24'12"W 393.03 FT, N02<29'28"W 870.43 FT TO S LN OF THE N 30.0 FT SD SEC 27, TH N88<54'17"W 856.46, S01<05'43"W 20.0 FT, N88<54'17"W 430.09 FT TO W LN NW4NE4 & POB

Subdivision or Project Name: Rollin' Ridge

Section of ECM from Which Deviation is Sought: 2.3.2 Design Standards by Functional Classification w/ Table 2-5 “Design ADT” for a Rural Local Roadway.

Specific Criteria from Which a Deviation is Sought: Table 2-5 prescribes a maximum Design ADT (Average Daily Traffic volume) of 750 vehicles per day on a Rural Local roadway.

Proposed Nature and Extent of Deviation: This deviation request is to allow an ADT of up to 5,000 vehicles per day for the proposed Cherry Crossing Drive south of Hodgen Road. The roadway is proposed as a “modified” Rural Local roadway. The deviation would apply to the section of roadway from Hodgen Road south to the southernmost commercial site access. The projected buildout ADT in the traffic report is 4,343 vehicles per day. Please refer to the attached lane exhibit.

The ECM-standard roadway design elements would be modified to accommodate the higher-than-Local-standard traffic volumes.as follows:

- Right- and left-turn bays where needed, in addition to the two 12-foot-wide through lanes, to accommodate the projected higher-than-Local-standard traffic volumes.
- Outside shoulder widths of 8 feet, including 4 feet of paved shoulder and 4 feet of gravel shoulder – also to accommodate the higher-than-Local-standard traffic volumes.
- No on-street parking and no individual lot access except south of the south commercial access.
- Seventy-foot right-of way north of the first commercial access, tapering/variable right-of-way between the two commercial access points, and Local standard 60 feet of right-of-way with two 5-foot public improvements easements south of the south commercial access.
- As part of this deviation, an intersection spacing of 290 feet between the two commercial access drives is requested where local street spacing is 330 feet.

**Applicant Information:**

Applicant: TC&C LLC (Carl Turse) Email Address: carlturse@icloud.com
Applicant is: __X__ Owner _____ Consultant _____ Contractor
Mailing Address: 17572 Colonial Park Drive, Monument State: CO Postal Code: 80132
Telephone Number: (719) 488-8600 Fax Number: _____



Engineering does not find this deviation acceptable. If you would like a formal disapproval, please submit under its own item within this review.

**Engineer Information:**

Engineer: Jeffery C. Hodsdon, P.E., P.T.O.E. Email Address: jeff@lsctrans.com
Company Name: LSC Transportation Consultants, Inc.
Mailing Address: 545 E Pikes Peak Ave, Suite 210, Colorado Springs State: CO Postal Code: 80903
Registration Number: 31684 State of Registration: Colorado
Telephone Number: (719) 633-2868 Fax Number: (719) 633-5430

**Explanation of Request (Attached diagrams, figures and other documentation to clarify request):**

Section of ECM from Which Deviation is Sought: 2.3.2 Design Standards by Functional Classification w/ Table 2-5 “Design ADT” for a Rural Local Roadway.

Specific Criteria from Which a Deviation is Sought: Table 2-5 prescribes a maximum Design ADT (Average Daily Traffic volume) of 750 vehicles per day on a Rural Local roadway.

Proposed Nature and Extent of Deviation: This deviation request is to allow an ADT of up to 5,000 vehicles per day for the proposed Cherry Crossing Drive south of Hodgen Road. The roadway is proposed as a “modified” Rural Local roadway. The deviation would apply to the section of roadway from Hodgen Road south to the southernmost commercial site access. The projected buildout ADT in the traffic report is 4,343 vehicles per day. Please refer to the attached lane exhibit.

The ECM-standard roadway design elements would be modified to accommodate the accommodate the higher-than-Local-standard traffic volumes.as follows:

- Right- and left-turn bays where needed, in addition to the two 12-foot-wide through lanes, to accommodate the projected higher-than-Local-standard traffic volumes.
- Outside shoulder widths of 8 feet, including 4 feet of paved shoulder and 4 feet of gravel shoulder – also to accommodate the higher-than-Local-standard traffic volumes.
- No on-street parking and no individual lot access except south of the south commercial access.
- Seventy-foot right-of way north of the first commercial access, tapering/variable right-of-way between the two commercial access points, and Local standard 60 feet of right-of-way with two 5-foot public improvements easements south of the south commercial access.
- As part of this deviation, an intersection spacing of 290 feet between the two commercial access drives is requested where local street spacing is 330 feet.

Reason for the Requested Deviation: The request is to allow traffic volumes on Cherry Crossing Drive south of Hodgen Road over the prescribed design ADT of 750 vehicles per day for a Rural Local Roadway. The Rural Local Roadway would be modified as described above about to accommodate the higher traffic volumes to be generated by the commercial development. The details of the proposed modified Rural Local cross section are described in this deviation. These modifications would increase the traffic carrying capacity of this proposed short section of street. The reason for the deviation is that a "modified" Local classification is more appropriate than a Rural Minor Arterial for several reasons explained herein. A deviation is required to support the proposed modifications to the standard Rural Local road.

Comparison of Proposed Deviation to ECM Standard: The allowable ADT would be up to 5,000 vehicles per day, which would be 4,250 vehicles-per-day over the ECM Standard.

Applicable Regional or National Standards used as Basis: _____
_____

**Application Consideration:**

| **CHECK IF APPLICATION MEETS CRITERIA FOR CONSIDERATION** | **JUSTIFICATION** |
|---|---|
| ☐ The ECM standard is inapplicable to a particular situation. | |
| ▣ Topography, right-of-way, or other geographical conditions or impediments impose an undue hardship on the applicant, and an equivalent alternative that can accomplish the same design objective is available and does not compromise public safety or accessibility. | This deviation request is to allow an ADT of up to 5,000 vehicles per day for the proposed Cherry Crossing Drive south of Hodgen Road. The roadway is proposed as a "modified" Rural Local roadway. The deviation would apply to the section of roadway from Hodgen Road south to the southernmost commercial site access. The projected buildout ADT in the traffic report is 4,343 vehicles per day. Please refer to the attached lane exhibit.<br><br>• The proposed commercial development is not allowed access to State Highway 83 or Hodgen Road -- the two existing adjacent roadways. Access would only be from the proposed internal road -- Cherry Crossing Drive.<br><br>• There would be a relatively small number of residential lots served by this roadway. Except for the lots south of the south commercial access, all lots would access the other local street proposed for the development.<br><br>• The roadway is not planned to extend to the south of this property.<br><br>• The proposed modified Rural Local classification and associated modifications to the standard roadway design elements would be more appropriate for this development than the Rural Minor Arterial classification (with a design ADT of up to 10,000 ADT). A Rural Minor Arterial would not be appropriate. This roadway will only serve a relatively small residential development and a small commercial center. The roadway will basically be an access drive with a length of 950 feet. Most traffic will turn left into and right out of the first commercial access point located 360 feet south of Hodgen Road (centerline spacing). Given the nature and low level of continuity of the roadway, a modified local roadway is more appropriate than a Minor Arterial. The modifications are to allow for higher traffic volumes, but not high-speed, through traffic volumes, rather low-speed, local access traffic turning to/from Hodgen Road and turning into and out of the commercial center and the residential subdivision streets. |
| ☐ A change to a standard is required to address a specific design or construction problem, and if not modified, the standard will impose an undue hardship on the applicant with little or no material benefit to the public. | |

**If at least one of the criteria listed above is not met, this application for deviation cannot be considered.**

**Criteria for Approval:**

**PLEASE EXPLAIN HOW EACH OF THE FOLLOWING CRITERIA HAVE BEEN SATISFIED BY THIS REQUEST**

| | |
|---|---|
| The request for a deviation is not based exclusively on financial considerations. | See next paragraph. |
| The deviation will achieve the intended result with a comparable or superior design and quality of improvement. | The proposed modified Rural Local roadway can be designed to accommodate the projected commercial (and residential) traffic volumes. The proposed cross section shown in the attached lane exhibit includes the addition of auxiliary turn lanes and wider shoulders to accommodating the proposed daily commercial traffic volumes (and peak hour intersection turning movement volumes) that would need to use this section of street due to access restrictions on SH 83 and Hodgen Road. |
| The deviation will not adversely affect safety or operations. | The proposed modified Rural Local classification and associated modifications to the standard roadway design elements would be more appropriate for this development than the Rural Minor Arterial classification (with a design ADT of up to 10,000 ADT). A Rural Minor Arterial would not be appropriate. This roadway will only serve a relatively small residential development and a small commercial center. The roadway will basically be an access drive with a length of 950 feet. Most traffic will turn left into and right out of the first commercial access point located 360 feet south of Hodgen Road (centerline spacing). Given the nature and low level of continuity of the roadway, a modified local roadway is more appropriate than a Minor Arterial. The modifications are to allow for higher traffic volumes, but not high-speed, through traffic volumes, rather low-speed, local access traffic turning to/from Hodgen Road and turning into and out of the commercial center and the residential subdivision streets.<br><br>The queuing analysis included in the Traffic Impact Study (dated May 14, 2018) indicates that the projected queues can be accommodated by the proposed laneage shown in the attached exhibit. Intersection levels of service are shown to meet county standards. |
| The deviation will not adversely affect maintenance and its associated cost. | The proposed cross section would be less costly to maintain than a higher classification roadway. |
| The deviation will not adversely affect aesthetic appearance. | The proposed right-of-way and cross section would be more aesthetically pleasing than with a right-of-way and cross section for a higher classification roadway. The roadway would not be excessively wide with unnecessary pavement width. |

**Owner, Applicant and Engineer Declaration:**
To the best of my knowledge, the information on this application and all additional or supplemental documentation is true, factual and complete. I am fully aware that any misrepresentation of any information on this application may be grounds for denial. I have familiarized myself with the rules, regulations and procedures with respect to preparing and filing this application. I also understand that an incorrect submittal will be cause to have the project removed from the agenda of the Planning Commission, Board of County Commissioners and/or Board of Adjustment or delay review, and that any approval of this application is based on the representations made in the application and may be revoked on any breach of representation or condition(s) of approval.

Gina Tuzy _____ 5.15.18

Signature of owner (or authorized representative) _____ Date

_____ _____

Signature of applicant (if different from owner) _____ Date

_____ _____

Signature of Engineer _____ Date

Engineer's Seal


**Review and Recommendation:**

**APPROVED by the ECM Administrator**

_____ Date_____

This request has been determined to have met the criteria for approval. A deviation from Section _____ of ECM is hereby granted based on the justification provided. Comments:

_____
_____
_____
_____

____ Additional comments or information are attached.

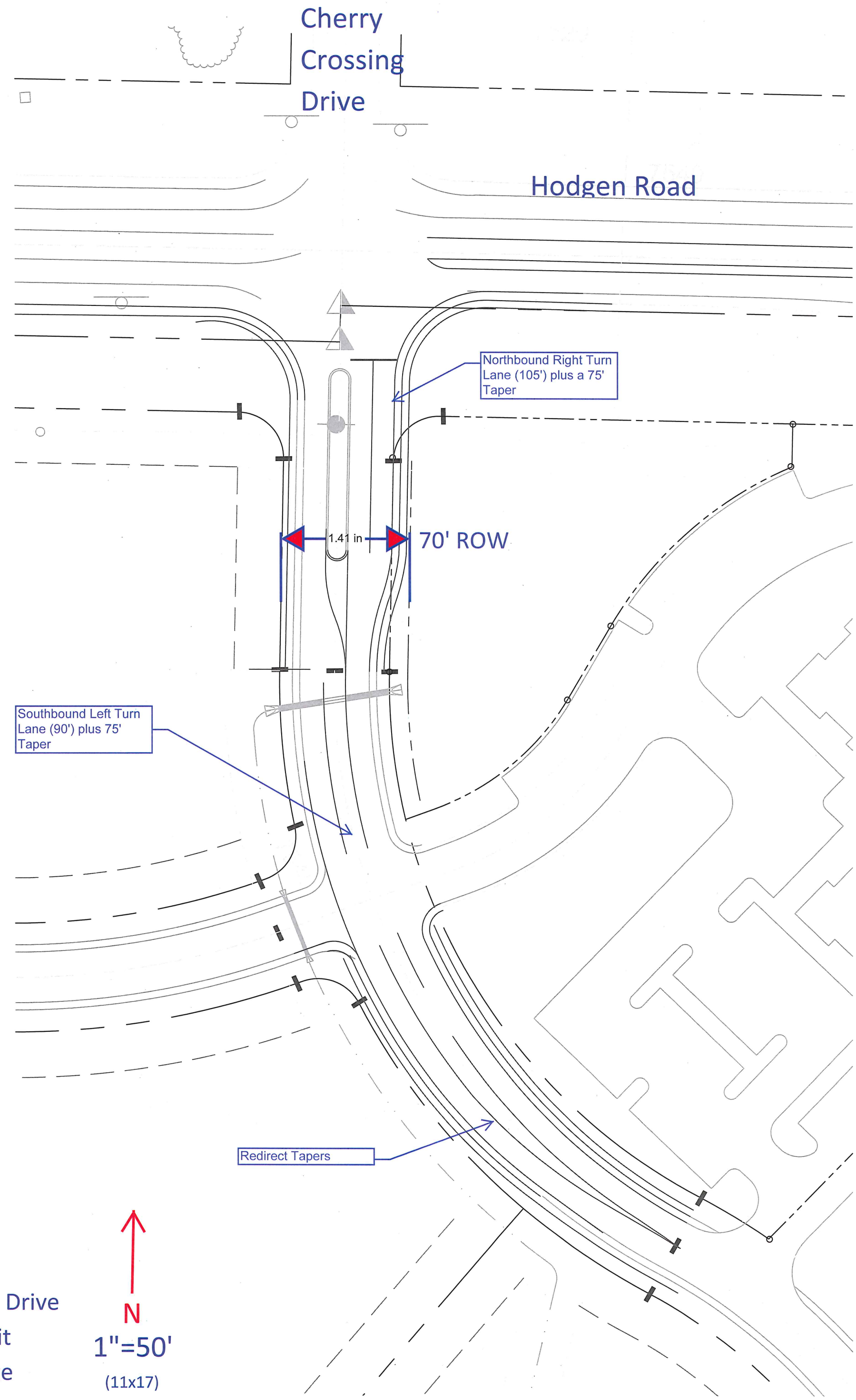
**DENIED by the ECM Administrator**

_____ Date_____

This request has been determined not to have met criteria for approval. A deviation from Section _____of ECM is hereby denied. Comments:

_____
_____
_____
_____

____ Additional comments or information are attached.

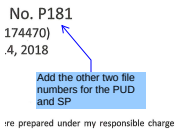



Site Access Drive
Lane Exhibit
Rollin' Ridge

1"=50'
(11x17)

# Markup Summary

## dsdgrimm (14)

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**Date:** 6/15/2018 3:51:36 PM
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Add the other two file numbers for the PUD and SP

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Remove "Updated"

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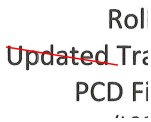


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**Author:** dsdgrimm
**Date:** 6/15/2018 3:51:38 PM
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**Subject:** Engineer
**Page Label:** 2
**Lock:** Locked
**Author:** dsdgrimm
**Date:** 6/15/2018 3:51:39 PM
**Color:**

Given the high disproportion of traffic split at Prayer Tree Ct. and Cherry Crossing Ct. please provide an analysis for a round-about.

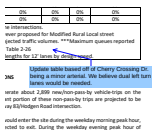
Elizabeth is hesitant to approve the deviation for the classification of road given the fact that large trucks will be using this and with a 28' foot pavement mat, not sure these trucks can maneuver. We are amenable to

---


**Subject:** Engineer
**Page Label:** 4
**Lock:** Locked
**Author:** dsdgrimm
**Date:** 6/15/2018 3:51:40 PM
**Color:**

The distance between Cherry Crossing Drive and Hwy 83 does not meet criteria. Please state that here and submit a deviation request for the spacing.

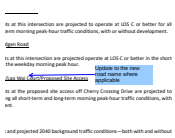
---




**Subject:** Engineer
**Page Label:** 12
**Lock:** Locked
**Author:** dsdgrimm
**Date:** 6/15/2018 3:51:42 PM
**Color:**

Update table based off of Cherry Crossing Dr. being a minor arterial. We believe dual left turn lanes would be needed.

---




**Subject:** Engineer
**Page Label:** 9
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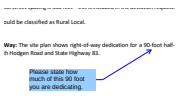
**Date:** 6/15/2018 3:51:42 PM
**Color:**

Update to the new road name where applicable




**Subject:** Engineer
**Page Label:** 14
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**Date:** 6/15/2018 3:51:44 PM
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Please state how much of this 90 foot you are dedicating.

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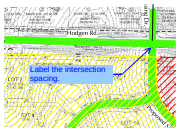


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**Date:** 6/15/2018 3:51:45 PM
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Label the intersection spacing.

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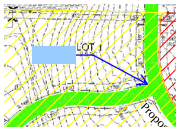


**Subject:** Engineer
**Page Label:** 18
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**Author:** dsdgrimm
**Date:** 6/15/2018 3:51:46 PM
**Color:**

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**Subject:** Engineer
**Page Label:** 18
**Lock:** Locked
**Author:** dsdgrimm
**Date:** 6/15/2018 3:51:46 PM
**Color:**

Please add a bar scale on all plans that are to scale

---


**Subject:** Engineer
**Page Label:** 112
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**Author:** dsdgrimm
**Date:** 6/15/2018 3:51:47 PM
**Color:**

Deviations must be submitted as separate documents in EDARP

---


**Subject:** Engineer
**Page Label:** 112
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**Date:** 6/15/2018 3:51:48 PM
**Color:**

This deviation is being evaluated and comments will be returned as soon as possible.

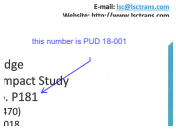
---


**Subject:** Engineer
**Page Label:** 117
**Lock:** Locked
**Author:** dsdgrimm
**Date:** 6/15/2018 3:51:50 PM
**Color:**

Engineering does not find this deviation acceptable. If you would like a formal disapproval, please submit under its own item within this review.

---

## dsdnijkamp (1)

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this number is PUD 18-001