# Appendices for Penngrove Traffic Study 

County of Sonoma June 2024


GHD Inc.
2235 Mercury Way, Suite 150
Santa Rosa, California 94507, United States
ghd.com
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## Contents

Appendix A. Survey Results ..... 1
Appendix B. Traffic Operations Analysis ..... 9
LOS Standards ..... 9
Study Intersections ..... 11
Traffic Count Validation - Pandemic Consideration ..... 13
LOS Findings (Existing Conditions) ..... 14
Future Traffic Growth ..... 16
Long-term Future LOS ..... 17
Appendix C. Collision Analysis ..... 19
Total Collisions ..... 19
Collision Severity ..... 23
Party/Vehicle Type ..... 26
Collision Geometry ..... 28
Appendix D. Traffic Level of Service Reports ..... 31
Appendix E. Online Map Comments ..... 189
Interactive Map - Online Comments ..... 191

## Table index

Table B. 1 Intersection Level of Service (LOS) Criteria ..... 10
Table B. 2 Sonoma County Trip Origins \& Destinations - 2019 and 2022 ..... 13
Table B. 3 Peak Hour Traffic LOS - Existing Conditions ..... 15
Table B. 4 Peak Hour Traffic LOS - Long-term Future Conditions ..... 18
Table C. 1 Intersection Collisions ..... 20
Table C. 2 Segment Collisions ..... 21
Table C. 3 Intersection Collisions (2015-2019) by Severity ..... 23
Table C. 4 Segment Collisions (2015-2019) by Severity ..... 24
Table C. 5 Intersection Collisions (2015-2019) by Motor Vehicle Involved With (MVIW) ..... 26
Table C. 6 Segment Collisions (2015-2019) by Motor Vehicle Involved With (MVIW) ..... 27
Table C. 7 Intersection Collisions (2015-2019) by Collision Geometry ..... 28
Table C. 8 Segment Collisions (2015-2019) by Collision Geometry ..... 29
Figure index
Figure B. 1 Study Intersections ..... 12
Figure C. 1 Collision Heatmap ..... 22
Figure C. 2 Collision Severity ..... 25
Figure E. 1 Interactive Map (Initial View) ..... 189
Figure E. 2 Interactive Map Instructions ..... 190
Figure E. 3 Responses by Category Topic ..... 190

## Appendix A. Survey Results

The online survey for the Penngrove Traffic Study opened for responses on January 15, 2023, and closed on June 12, 2023. It was available online on the project website via a clickable "Take The Survey" button on both the Home Page and the Get Involved page.

## Survey Results

The following is a summary of the results for each survey question within the Penngrove Traffic Study Survey, including charts and text summations. The survey received 80 unique responses.

## 1. What zip code do you live in?

84 percent of survey respondents (67) live within the 94951 zip code geographic area associated with the community of Penngrove. The second largest group of respondents, 10 percent (8), live in 94954, bordering Penngrove and including Petaluma and Lakeville. All other respondent zip codes were in neighboring areas of Sonoma County.


## 2. Which of the following best describes you?

Survey respondents were able to select the description(s) that best described them, selecting all that applied. 75 of 80 respondents selected that they live in the study area, with the next largest group ( 25 respondents) selecting that they work in the area.


## 3. How do you typically travel in and around the study area?

Question 3 asked respondents how they typically travel around the study area, selecting all options that apply. All 80 respondents selected "Automobile (including SUV or truck)," while nearly half of respondents (38) also selected "Walk (including use of mobility assistance devices, electric scooter, or skateboard)." 11 selected "Bicycle" while no respondents (0) selected "Public Transit."


## 4. How often do you travel in the study area?

55 percent of respondents (44) travel in the study area multiple times per day and 35 percent (28) travel in the study area daily.

## 5. Which roads do you regularly travel on?

When asked which roads they regularly travel on, nearly all respondents confirmed they regularly travel on Old Redwood Highway (71), Petaluma Hill Road (68), and Main Street (67). Dutch Lane had the lowest response rate for regular travel with only 12 responses.


## 6. What are the issues that concern you regarding traveling in the study area?

Respondents were asked to select all issues that concern them regarding traveling in the study area. The two most frequently selected responses were "Motorists' speeds are too high" (63) and "Traffic congestion/delays to motorists" (60).

7. Which statement below do you most agree with (pertaining to the segments of Adobe Road, Petaluma Hill Road, Main Street and Old Redwood Highway that pass through Penngrove)?

Over three-quarters (76\%) of respondents agreed that "Traffic calming measures should be installed on the major roads through Penngrove to reduce motorists' speeds and discourage cut-through traffic."
7. Which statement below do you most agree with (pertaining to the segments of Adobe Road, Petaluma Hill Road, Main Street and Old Redwood Highway that pass through Penngrove)?

Traffic calming measures should be installed on the major roads through Penngrove to reduce motorists' speeds and discourage cut-through traffic 76\%


## 8. How frequently do you bicycle in the area?

Like in question 3, question 8 identifies that most respondents do not bicycle in the area. Of those that do, the largest number ( $12 \%$ of all respondents) bicycle in the area a few times a week

9. How frequently do you walk/run in the study area?

Respondents were asked how frequently they walk or run in the study area. Most respondents confirmed that they walk or run either everyday (34\%) or a few times a week (29\%).
9. How frequently do you walk/run in the study


## 10. How comfortable do you feel when bicycling on roads within the study area?

Question 10 asked respondents to identify how comfortable they feel when bicycling on roads within the study area. 56 percent of respondents (45) reiterated that they don't bicycle in the area. This is lower than the same response in question 8 , which asked about frequency of bicycling. Additional respondents shifted their answers from "I don't bicycle in the area" to clarify their level of comfort - perhaps hinting at why they do not bicycle in the area - with 35 percent (28) respondents admitting they were "not comfortable" and 9 percent (7) of respondents answering that they were "somewhat uncomfortable."
10. How comfortable do you feel when bicycling on roads within the study area?


## 11. How comfortable do you feel when walking or running within the study area?

Respondents were asked about their comfort while walking or running in the study area. The largest percentage of respondents answered that they were "not comfortable" at 38 percent. Combined with the second largest group, "somewhat uncomfortable" at 25 percent, most respondents felt at least some discomfort while walking or running in the study area.

## 11. How comfortable do you feel when walking or running within the study area? <br> 

12. If you answered 'somewhat uncomfortable' or 'not comfortable' to questions 10 and 11, what are the issues that concern you?

Respondents who felt at least some discomfort walking or running in the study were able to clarify which issues concerned them, selecting options that applied. The two most frequent responses were "Motorists' speeds" (51) and "Driver behavior" (49), with "Lack of sidewalks or paths" (36) rounding out the top three.

13. When thinking about possible enhancements to roads in the study area, in what priority order would you place these elements?
Respondents were asked to prioritize or rank their preferred possible roadway enhancements for the study area from 1 to 6 , with 1 being their first choice and 6 being their last. "Measures to reduce motorists' speeds" came out ahead with the most first choice votes (44) followed by "Additional traffic signals or controls" (29), "Enhanced pedestrian crossings" (27), and "Additional sidewalks and paths" (25). "Measures to reduce motorists' speeds" was also the most frequently selected second choice (10).

## 13. When thinking about possible enhancements to roads in the study area, in what priority order would you place these elements?


14. If you answered 'Other' to question 13, please describe a new possible enhancement to roads in the study area to include in your ranking above.

Eleven survey respondents provide additional suggestions regarding "other" enhancements that they would like to see used in the study area, including:

- New turn lanes
- $\quad$ New traffic control devices, including turn signals and stop signs
- Improving pavement condition
- Addressing school drop-off/pick-up
- $\quad$ Traffic calming
- Discouragement of cut-through traffic


## Demographics of Survey Participants

As all but one respondent provided demographic information, demographics results are out of 79 respondents instead of 80 . Based on the below results, most respondents were 45 years old or older, female, White, had lived in their place of residence for greater than 10 years, had no children 18 or under living in their residence, and had at least one older adult 65 or older living in their residence.

- The largest group of respondents were 65 years old or older at 40 percent. Most respondents were 45 years old or older at 77 percent.
- Most respondents (45) identified as female at 57 percent.
- Respondents were asked to select the race/ethnicity with which they identify, selecting all that apply. Most respondents (63) identified as White.
- When asked about their residential tenure, a plurality of respondents ( 45 percent) answered that they had lived at their place of residence for "more than 25 years" while an additional 26 percent answered they had lived at their place of residence for "more than 10 years."
- Most respondents (68 percent) do not have children under 18 living in their household.
- Most respondents ( 54 percent) had at least one older adult age 65 or older living in their household.


## Appendix B. Traffic Operations Analysis

The following section outlines the analysis parameters and methodologies that will be used in the traffic study to quantify the performance of current facilities and potential improvements at study locations under Existing and Future scenarios.

## B1. Level of Service (LOS) Methodology

Motor vehicle traffic operations were evaluated based on Level of Service (LOS). LOS is a qualitative measure of traffic measuring conditions, whereby a letter grade "A" through " $F$ " is assigned to an intersection or roadway segment representing progressively worsening traffic conditions. LOS is calculated for all intersection control types using the methods documented in the Transportation Research Board's publication Highway Capacity Manual, Sixth Edition, A Guide for Multimodal Mobility Analysis, 2016 (HCM 6).
Per HCM 6, overall intersection LOS for all-way stop-controlled (AWSC) and signalized intersections is determined by the average delay (in seconds per vehicle) for all approaches, while overall intersection LOS for two-way stopcontrolled (TWSC) intersections is based on the average delay of the worst-performing approach. The Synchro 11 (Trafficware) software program will be used to implement the HCM 6 analysis methodologies for all scenarios. Where roundabouts are proposed, traffic operations will be analyzed using SIDRA 10 software based on the SIDRA standard Roundabout Capacity Model. The vehicular-based LOS criteria for different types of intersection controls are presented in Table B.1.

## LOS Standards

The study area encompasses several jurisdictions, including study intersections located within the City of Cotati, City of Petaluma City of Rohnert Park in addition to unincorporated Sonoma County. This section lists the relevant Level of Service threshold policies found in the general plan documents or traffic study guidelines of each jurisdiction.

## Sonoma County

LOS D or better is considered acceptable at County intersections pursuant to General Plan Policy CT-4.2.
County Intersection Operations: The County level of service standard for County intersection operations is to maintain a Level of Service D or better pursuant to General Plan Policy CT-4.2.

## City of Cotati General Plan

LOS D or better is considered acceptable at most City intersections, while LOS E or better is considered acceptable within the boundaries of the Cotati Downtown Specific Plan. In addition, the following additional stipulations concerning the LOS methodology are described in Policy C1.13 of the Cotati General Plan:

- Levels of service shall be calculated using the average hourly delay for all vehicles entering the intersection, and assessed for the entire peak hour ( 60 minutes) rather than the peak 15 --- minute period ( $P H F=1.0$ ).
- At unsignalized intersections, levels of service shall be determined for both controlled movements and for the overall intersection. Controlled movements operating at LOS E or LOS F are allowable if 1) the intersection is projected to operate at LOS C or better overall, and 2) the projected traffic volume on the controlled movement is 30 vehicles or less per hour on approaches with single lanes, or on multi---lane approaches, 30 vehicles or less per hour on lanes serving left turns and through movements.
- Intersection queuing shall be evaluated in tandem with LOS. Projected $95^{\text {th }}$ percentile queues at signalized intersections shall not extend through upstream signalized intersections.
Study intersections \#24, 27, 28, 29 and 30 fall within the Cotati Downtown Specific Plan area


## City of Petaluma

The acceptable LOS threshold for study intersections within Petaluma city limits is LOS D as specified by Policy 5-P10 of the Petaluma General Plan.

## City of Rohnert Park

Policy TR-1 of the Rohnert Park 2020 General Plan stipulates that LOS C is the minimum acceptable standard. Policy TR-1 also indicates that intersections operating at LOS D or lower at the time a development application is submitted are allowable, so long as the development results in no further LOS reduction, and provided that no feasible improvements exist to improve the LOS.

Table B. 1 Intersection Level of Service (LOS) Criteria

| Level of Service | Type of Flow | Delay | Maneuverability | Stopped Delay per Vehicle |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | Signalized | Un-signalized |
| A |  | Very slight delay. Progression is very favorable, with most vehicles arriving during the green phase not stopping at all. | Turning movements are easily made, and nearly all drivers find freedom of operation. | $\leq 10.0$ | $\leq 10.0$ |
| B | $\begin{aligned} & \frac{0}{0} \\ & \frac{3}{0} \\ & \stackrel{3}{\Pi} \\ & \text { © } \end{aligned}$ | Good progression and/or short cycle lengths. More vehicles stop than for LOS A, causing higher levels of average delay. | Vehicle platoons are formed. Many drivers begin to feel somewhat restricted within groups of vehicles. | $\begin{aligned} & >10.0 \\ & \text { and } \\ & \leq 20.0 \end{aligned}$ | $\begin{aligned} & >10.0 \\ & \text { and } \\ & \leq 15.0 \end{aligned}$ |
| C |  | Higher delays resulting from fair progression and/or longer cycle lengths. Individual cycle failures may begin to appear at this level. The number of vehicles stopping is significant, although many still pass through the intersection without stopping. | Back-ups may develop behind turning vehicles. Most drivers feel somewhat restricted | $\begin{aligned} & >20.0 \\ & \text { and } \\ & \leq 35.0 \end{aligned}$ | $\begin{aligned} & >15.0 \\ & \text { and } \\ & \leq 25.0 \end{aligned}$ |
| D |  | The influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle lengths, or high volume-to-capacity ratios. Many vehicles stop, and the proportion of vehicles not stopping declines. Individual cycle failures are noticeable. | Maneuverability is severely limited during short periods due to temporary backups. | $\begin{aligned} & >35.0 \\ & \text { and } \\ & \leq 55.0 \end{aligned}$ | $\begin{aligned} & >25.0 \\ & \text { and } \\ & \leq 35.0 \end{aligned}$ |
| E | $\begin{aligned} & \frac{0}{0} \\ & \stackrel{0}{0} \\ & \stackrel{3}{0} \\ & \frac{3}{5} \text { o } \end{aligned}$ | Generally considered to be the limit of acceptable delay. Indicative of poor progression, long cycle lengths, and high volume-to-capacity ratios. Individual cycle failures are frequent occurrences. | There are typically long queues of vehicles waiting upstream of the intersection. | $\begin{aligned} & >55.0 \\ & \text { and } \\ & \leq 80.0 \end{aligned}$ | $\begin{aligned} & >35.0 \\ & \text { and } \\ & \leq 50.0 \end{aligned}$ |
| F | $\begin{aligned} & 3 \\ & \text { 은 } \\ & \text { ㄴ } \\ & \text { D } \\ & \text { U} \\ & \text { ㄴ } \end{aligned}$ | Generally considered to be unacceptable to most drivers. Often occurs with over saturation. May also occur at high volume-to-capacity ratios. There are many individual cycle failures. Poor progression and long cycle lengths may also be major contributing factors. | Jammed conditions. Backups from other locations restrict or prevent movement. Volumes may vary widely, depending principally on the downstream back-up conditions. | >80.0 | >50.0 |

## Study Intersections

The following list of intersections make up the study intersections for this study:

1. Stony Point Road \& Railroad Avenue
2. Debbie Hill Road \& Railroad Avenue
3. US 101 Northbound (NB) Off-Ramp \& Railroad Avenue
4. Old Redwood Highway \& Railroad Avenue
5. Bodway Parkway (future) \& Railroad Avenue
6. Petaluma Hill Road \& Railroad Avenue
7. Old Redwood Highway \& Adobe Road
8. Petaluma Hill Road/Main Street \& Adobe Road
9. Davis Lane/Bannon Lane \& Adobe Road/Woodward Avenue
10. Main Street \& Woodward Avenue
11. Old Redwood Highway \& Main Street
12. Adobe Road \& Corona Road/Hardin Lane
13. Ely Road \& Corona Road
14. McDowell Boulevard \& Corona Road
15. Ely Road \& Old Redwood Highway
16. McDowell Boulevard \& Old Redwood Highway
17. US 101 NB Ramps \& Old Redwood Highway
18. US 101 Southbound (SB) Ramps \& Old Redwood Highway/Petaluma Boulevard
19. Stony Point Road \& Petaluma Boulevard
20. Stony Point Road \& Pepper Road/US 101 SB On Ramp
21. Petaluma Hill Road \& Valley House Drive
22. Petaluma Hill Road \& Roberts Road
23. Petaluma Hill Road \& Cotati Avenue
24. Old Redwood Highway \& Cotati Avenue
25. US 101 NB Off Ramp \& W Sierra Avenue
26. US 101 SB Ramps \& W Sierra Avenue
27. Old Redwood Highway \& State Route (SR) 116 (Gravenstein Highway)
28. Old Redwood Highway/US 101 NB On Ramp \& Commerce Boulevard
29. US 101 NB Off Ramp \& SR 116 (Gravenstein Highway)
30. US 101 SB Ramps \& SR 116 (Gravenstein Highway)
31. Adobe Road \& Frates Road
32. Adobe Road \& Casa Grande Road
33. Adobe Road \& Washington Street
34. Petaluma Hill Road \& Roberts Road
35. Petaluma Hill Road \& Crane Canyon Road
36. Petaluma Hill Road \& Snyder Lane
37. Golf Course Drive \& Snyder Lane
38. Rohnert Park Expressway \& Snyder Lane
39. Cotati Avenue \& Snyder Lane/Maurice Avenue


## FIGURE B. 1 STUDY INTERSECTIONS

## B2. Intersection LOS: Existing Conditions

Peak hour turning movement and bicycle/pedestrian counts for the AM and PM peak periods were collected at study intersections \#1 to \#30 on Wednesday, June 1, 2022 and Thursday, June 2, 2022. At intersections \#31 to \#37: intersection counts were conducted on Tuesday, June 6, 2023. At intersections \#38 and \#39: this study utilized counts conducted in January and March 2019 for the Somo Village Project EIR (Traffic Impact Study for Somo Village, W-Trans, December 2019).

The AM peak hour is defined as the one-hour of peak traffic flow (which is the highest total volume count over four consecutive 15-minute count periods) counted between 7:00 am and 9:00 am on a typical weekday. The PM peak hour is defined as the one hour of peak traffic flow counted between 4:00 pm and 6:00 pm on a typical weekday.

## Traffic Count Validation - Pandemic Consideration

The COVID-19 pandemic caused atypical traffic conditions to occur in many regions since March 2020, often a decrease from typical traffic volumes due to reduced frequency of travel and commuting. To ensure that the traffic volumes under Existing Conditions represent a sufficient estimate of typical traffic conditions, the 2022 traffic counts were compared against historical counts and estimates from Replica, a "big data" source that utilizes electronic device location data to estimate trends in traffic. If 2022 trip estimates were found to have decreased from 2019 levels, the 2022 traffic count volumes would have been augmented by a factor to match 2019 levels for use in the operational analysis of existing conditions.

Table B. 2 summarizes the traffic trend data gathered from Replica for the Sonoma County geography, for the weeks containing June $1^{\text {st }}$ (the date of the 2022 traffic counts) in 2019 and 2022. As shown, both total trip origins and destinations increased by about $8 \%$ from 2019 to 2022. Thus, no factor was applied to the existing count volumes.

Table B. 2 Sonoma County Trip Origins \& Destinations - 2019 and 2022

| Replica <br> Typical Weekday Estimates <br> for Sonoma County, CA | Week of <br> May 27, 2019 | Week of <br> May 30, 2022 |  |
| :--- | ---: | ---: | ---: |
| Change \% |  |  |  |
| Trip Origins | $1,727,290$ | $1,864,077$ | $8 \%$ |
| Trip Destinations | $1,727,311$ | $1,864,080$ | $8 \%$ |

## LOS Findings (Existing Conditions)

The existing LOS operations for study intersections, and applicable LOS target for each study intersection, are summarized in Table B.3. As shown, most of the 39 study intersections operated at an acceptable LOS during both the AM and PM peak hours. One signalized intersection and eight stop-sign controlled intersections fail to meet the LOS target under Existing Conditions during the AM and/or PM peak hour, while planned improvements will achieve acceptable LOS at three of the failing study intersections:

- Signalized intersections: the signalized intersection of Main Street/Petaluma Hill Boulevard \& Adobe Road (study intersection \#* operates unacceptably at LOS E during the PM peak hour, thus failing to achieve the County's LOS D threshold for intersections. All other signalized study intersections operate at an acceptable LOS during both the AM and PM
- Planned improvements at the Main Street/Petaluma Hill Boulevard \& Adobe Road intersections will include provision of a westbound right-turn lane and northbound left-turn pocket, which will allow for a more efficient signal-timing plan that will improve peak-hour operations to acceptable LOS C during both the AM and PM peak hours. peak hours.
- All-way Stop Controlled (AWSC) intersections: the all-way stop-sign controlled intersections of Adobe Road \& Corona Road, Ely Road \& Corona Road, and Old Abobe Road \& Frates Road operate unacceptably during the AM and/or PM peak hours.
- Two-way Stop Controlled (TWSC) intersections: The side-street stop-sign controlled intersections of Railroad Avenue with Old Redwood Highway and Petaluma Hill Road; Old Redwood Highway with Ely Road; US 101 Southbound Ramp with Sierra Avenue; and Adobe Road with Casa Grande Avenue operated at an unacceptable LOS based on delay to minor side-street approaches
- Planned installation of traffic signals at the intersections of Old Redwood Highway \& Railroad Avenue (study intersection \#4) and Old Redwood Highway \& Ely Avenue (study intersection \#15) will improve LOS to acceptable levels during both the AM and PM peak hours.

Table B. 3 Peak Hour Traffic LOS - Existing Conditions

| \# | Intersection | Control Type ${ }^{1}$ | Target LOS | AM Peak Hour |  | PM Peak Hour |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | Delay | LOS | Delay | LOS |
| 1 | Stony Point Rd \& Railroad Ave | TWSC |  |  |  |  |  |
|  | Overall Intersection |  |  | 4.6 |  | 3.4 |  |
|  | Worst Approach (Minor side-street) ${ }^{2}$ |  | D | 19.3 | C | 15.5 | C |
| 2 | Debbie Hill Rd \& Railroad Ave | TWSC |  |  |  |  |  |
|  | Overall Intersection |  |  | 0.4 |  | 0.4 |  |
|  | Worst Approach (Minor side-street) ${ }^{2}$ |  | D | 9.8 | A | 10.1 | B |
| 3 | US 101 NB Off-ramp \& Railroad Ave | TWSC |  |  |  |  |  |
|  | Intersection Average |  |  | 3.7 |  | 4.5 |  |
|  | Worst Approach (Side-street) ${ }^{2}$ |  | D | 10.2 | B | 10.4 | B |
| 4 | Old Redwood Hwy \& Railroad Ave | TWSC |  |  |  |  |  |
|  | Overall Intersection |  |  | 9.1 |  | 6.6 |  |
|  | Worst Approach (Minor side-street) ${ }^{2}$ |  | D | 54.0 | F | 41.1 | E |
| 5 | Bodway Pkwy \& Railroad Ave | Future Intersection |  |  |  |  |  |
| 6 | Petaluma Hill Rd \& Railroad Ave | TWSC |  |  |  |  |  |
|  | Overall Intersection |  |  | 10.9 |  | 6.5 |  |
|  | Worst Approach (Minor side-street) ${ }^{2}$ |  | D | >100 | F | $>100$ | F |
| 7 | Old Redwood Hwy \& Old Adobe Rd | TWSC |  |  |  |  |  |
|  | Overall Intersection |  |  | 15.4 |  | 3.3 |  |
|  | Worst Approach (Minor side-street) ${ }^{2}$ |  | D | 55.9 | F | 19.8 | C |
| 8 | Main St/Petaluma Hill Rd \& Old Adobe Rd | Signal | D | 42.8 | D | 75.3 | E |
| 9 | Old Adobe Rd \& Davis Ln/Woodward Ave | AWSC | D | 24.5 | C | 24.4 | C |
| 10 | Main St \& Woodward Ave | TWSC |  |  |  |  |  |
|  | Overall Intersection |  |  | 0.9 |  | 0.8 |  |
|  | Worst Approach (Minor side-street) ${ }^{2}$ |  | D | 13.6 | B | 14.4 | B |
| 11 | Old Redwood Hwy \& Main St | Signal | D | 11.2 | B | 9.3 | A |
| 12 | Old Adobe Rd \& Corona Rd | AWSC | D | 77.4 | F | 40.6 | E |
| 13 | Ely Rd \& Corona Rd | AWSC | D | 66.2 | F | 12.8 | B |
| 14 | N McDowell Blvd \& Corona Rd | Signal | D | 28.4 | C | 28.2 | C |
| 15 | Ely Rd \& /Old Redwood Hwy | TWSC |  |  |  |  |  |
|  | Overall Intersection |  |  | 27.6 |  | 19.8 |  |
|  | Worst Approach (Minor side-street) ${ }^{2}$ |  | D | $>100$ | F | $>100$ | F |
| 16 | McDowell Blvd \& Old Redwood Hwy | Signal | D | 22.9 | C | 25.7 | C |
| 17 | US 101 NB Ramps \& Old Redwood Hwy | Signal | D | 6.8 | A | 9.2 | A |
| 18 | US 101 SB Ramps\& Old Redwood Hwy | Signal | D | 27.8 | C | 15.6 | B |
| 19 | Stony Point Rd \& Petaluma Blvd | Signal | D | 20.6 | C | 19.6 | B |
| 20 | Stony Point Rd \& Pepper Rd/US 101 Ramp | Signal | D | 12.4 | B | 12.1 | B |
| 21 | Petaluma Hill Rd \& Valley House Dr | Signal | D | 45.0 | D | 19.2 | B |
| 22 | Petaluma Hill Rd \& Roberts Rd | Signal | D | 8.6 | A | 10.1 | B |
| 23 | Petaluma Hill Rd \& Cotati Ave | Signal | D | 12.2 | B | 12.0 | B |
| 24 | Old Redwood Hwy \& Cotati Ave | Signal | E | 35.9 | D | 27.8 | C |
| 25 | US 101 NB Ramp \& Sierra Ave | TWSC |  |  |  |  |  |
|  | Overall Intersection ${ }^{3}$ |  | D | 1.5 | A | 5.2 | A |
|  | Worst Approach (Minor side-street) ${ }^{3}$ |  | D | 15.7 | C | 12.8 | B |
| 26 | US 101 SB Ramp/ \& Sierra Ave | TWSC |  |  |  |  |  |
|  | Overall Intersection ${ }^{3}$ |  | D | 5.1 | A | 3.0 | A |
|  | Worst Approach (Minor side-street) ${ }^{3}$ |  | D | 41.2 | E | 15.7 | C |
| 27 | Old Redwood Hwy/Gravenstein Hwy | Signal | E | 39.9 | D | 39.5 | D |
| 28 | US 101 NB Ramp/Commerce Blvd | Signal | E | 1.3 | A | 1.7 | A |
| 29 | US 101 NB Ramp/SR 116 | Signal | E | 15.7 | B | 12.3 | B |
| 30 | US 101 SB Ramps/SR 116 | Signal | E | 34.8 | C | 24.3 | C |
| 31 | Old Adobe Rd \& Frates Dr | AWSC | D | 55.8 | F | 95.3 | F |
| 32 | Old Adobe Rd \& Casa Grande Dr | TWSC |  |  |  |  |  |
|  | Overall Intersection |  |  | 3.5 |  | 2.9 |  |
|  | Worst Approach (Minor side-street) ${ }^{2}$ |  | D | 50.8 | F | 34.2 | D |
| 33 | Old Adobe Rd \& Washington St | Signal | D | 21.8 | C | 13.2 | B |
| 34 | Petaluma Hill Rd \& Roberts Rd | Signal | D | 13.4 | B | 14.2 | B |
| 35 | Petaluma Hill Rd \& Crane Canyon Rd | Signal | D | 9.4 | A | 10.8 | B |
| 36 | Petaluma Hill Rd \& Snyder Ln | Signal | D | 11.9 | B | 13.1 | B |
| 37 | Gold Course Dr \& Snyder Ln | Signal | C | 16.8 | B | 16.5 | B |
| 38 | Rohnert Park Expy \& Snyder Ln | Signal | C | 25.2 | C | 22.7 | C |
| 39 | Cotati Ave \& Snyder Ln/Maurice Ave | Signal | C | 28.2 | C | 25.4 | C |
| Notes: |  |  |  |  |  |  |  |
| 2. LOS at TWSC intersections is based on w orst approach (minor side street approaching a stop sign). <br> 3. City of Cotati specifies that LOS at TWSC intersections shall be determined for bogh the w orst approach (minor side street approaching a stop sign) and for the overall intersection. |  |  |  |  |  |  |  |

## B3. Long-term Future Conditions

This section describes the analysis of Long-term Future Conditions based on long-term traffic growth forecasted by the Sonoma County Transportation Authority (SCTA) model and planned improvements including long-term improvements identified in the Sonoma County Comprehensive Transportation Plan (Moving Forward 2050) that was most recently updated by SCTA in 2021.

## Future Traffic Growth

The Sonoma County Travel Demand Model was utilized to forecast the Long-term Future traffic volumes at each study intersection. The model is maintained by SCTA and provides a forecast of Year 2040 traffic growth based on allowable development and past forecasts of regional growth.

The precise year of analysis is somewhat hypothetical since regional growth trends indicate that it will be many years before the forecasted level of growth occurs. In fact, traffic volumes in the Penngrove area peaked in 2006 with little to no increase in recent years, including recent decreases in the County population. Additionally, the most recent State forecasts now anticipate that Sonoma County's population will decline through 2060. Regardless, the assessment of Long-term Future conditions is intended to provide a "worst-case" evaluation of future traffic conditions.

## Planned Improvements

The analysis of Long-term Future LOS includes the planned signalization of the Old Redwood Highway intersections with Ely Road and Railroad Avenue, and planned improvements to the intersection of Main Street/Petaluma Hill Boulevard \& Adobe Road intersections that will include provision of a westbound right-turn lane and northbound leftturn pocket, which will allow for a more efficient signal-timing plan.

In addition, the analysis of Long-term Future LOS assumes the following planned improvements described in the Sonoma County Comprehensive Transportation Plan (Moving Forward 2050):

- Signalization of intersections on Railroad Avenue with Petaluma Hill Road and the planned Bodway Parkway,
- Provision of a full interchange of Railroad Avenue with US Highway 101 including provision of northbound onramp, and southbound on and off ramps and signalization of the ramp intersections.
- Signalization of the intersection of Adobe Road \& Corona Road
- Provision of a direct northbound on-ramp to US 101 from Gravenstein Highway/SR 116 in Cotati (and elimination of the current northbound on-ramp to US Highway 101 from Commerce Boulevard/Old Redwood Highway)
- Provision of an additional southbound off-ramp from US 101 to Sierra Avenue in Cotati


## Long-term Future LOS

The LOS operations for study intersections, and applicable LOS target for each study intersection, under Long-term Future Conditions with the planned improvements and increased traffic volumes described above, are summarized on Table B.4. As shown, most of the 39 study intersections are anticipated to operate at an acceptable LOS during both the AM and PM peak hours. Unacceptable LOS is anticipated at the following locations:

- Signalized intersections: most signalized intersections would operate acceptably with the exception of the Ely Road \& Old Redwood Highway, Adobe Road \& Washington Street, and Cotati Avenue \& Snyder Lane intersections.
- At the intersection of Ely Road \& Old Redwood Highway: provision of a second through lane in each direction, consistent with the Sonoma County General Plan, would achieve an acceptable LOS under Long-term Future conditions.
- All-way Stop Controlled (AWSC) intersections: the all-way stop-sign controlled intersections of Ely Road \& Corona Road and Old Abobe Road \& Frates Road would continue to operate unacceptably during the AM and/or PM peak hours, as is the case under Existing Conditions.
- The Sonoma County Local Roadway Safety Plan (LRSP) has recommended studying installation of a roundabout or signal at the intersection of Old Abobe Road \& Frates Road. Such an improvement would potentially result in increased cut-through traffic through Penngrove via Adobe Road.
- Two-way Stop Controlled (TWSC) intersections: The side-street stop-sign controlled intersections of Stony Point Road \& Railroad Avenue; Old Redwood Highway \& Adobe Road; Main Street \& Woodard Avenue; US 101 Southbound Ramp with Sierra Avenue; and Adobe Road with Casa Grande Avenue will operate at an unacceptable LOS based on delay to minor side-street approaches.
- Unacceptable LOS at the Stony Point Road \& Railroad Avenue intersection under Long-term Future conditions is attributable to increased traffic to/from the planned ramps to/from US 101 via Railroad Avenue. Therefore, based on this analysis: installation of a signal or roundabout is recommended the Stony Point Road \& Railroad Avenue intersection in conjunction with the planned US 101/Railroad Avenue interchange
- Provision of a signal or roundabout is recommended at Old Redwood Highway \& Adobe Road to improve LOS and facilitate westbound left-turns from Adobe Road to southbound Old Redwood Highway

Table B. 4 Peak Hour Traffic LOS - Long-term Future Conditions

| \# | Intersection | Control Type ${ }^{1}$ | Target LOS | AM Peak Hour |  | PM Peak Hour |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | Delay | LOS | Delay | LOS |
| 1 | Stony Point Rd \& Railroad Ave | TWSC |  |  |  |  |  |
|  | Overall Intersection |  |  | >100 |  | 22.1 |  |
|  | Worst Approach (Minor side-street) ${ }^{2}$ |  | D | >100 | F | >100 | F |
| 2 | US 101 Ramps/Debbie Hill Rd \& Railroad Ave | Signal | D | 8.7 | A | 11.2 | B |
| 3 | US 101 NB Off-ramp \& Railroad Ave | Signal | D | 12.3 | B | 14.1 | B |
| 4 | Old Redwood Hwy \& Railroad Ave | Signal | D | 17.1 | B | 15.9 | B |
| 5 | Bodway Pkwy \& Railroad Ave | Signal | D | 6.9 | A | 7.1 | A |
| 6 | Petaluma Hill Rd \& Railroad Ave | Signal | D | 49.0 | D | 32.7 | C |
| 7 | Old Redwood Hwy \& Old Adobe Rd | TWSC |  |  |  |  |  |
|  | Overall Intersection |  |  | 19.3 |  | 2.7 |  |
|  | Worst Approach (Minor side-street) ${ }^{2}$ |  | D | >100 | F | 17.3 | C |
| 8 | Main St/Petaluma Hill Rd \& Old Adobe Rd | Signal | D | 22.6 | C | 39.1 | D |
| 9 | Old Adobe Rd \& Davis Ln/Woodward Ave | AWSC | D | 30.5 | D | 24.4 | C |
| 10 | Main St \& Woodward Ave | TWSC |  |  |  |  |  |
|  | Overall Intersection |  |  | 1.8 |  | 2.3 |  |
|  | Worst Approach (Minor side-street) ${ }^{2}$ |  | D | 32.3 | D | 49.6 | E |
| 11 | Old Redwood Hwy \& Main St | Signal | D | 21.7 | C | 16.4 | B |
| 2 | Old Adobe Rd \& Corona Rd | Signal | D | 17.3 | B | 9.3 | A |
| 13 | Ely Rd \& Corona Rd | AWSC | D | 69.1 | F |  | A |
| 4 | N McDowell Blvd \& Corona Rd | Signal | D | 32.3 | C | 36.2 | D |
| 15 | Ely Rd \& Old Redwood Hwy | Signal | D | 25.5 | C | 64.7 | E |
| 6 | McDowell Blvd \& Old Redwood Hwy | Signal | D | 20.2 | C | 25.8 | C |
| 17 | US 101 NB Ramps \& Old Redwood Hwy | Signal | D | 9.0 | A | 12.4 | B |
| 8 | US 101 SB Ramps\& Old Redwood Hwy | Signal | D | 32.0 | C | 18.6 | B |
| 19 | Stony Point Rd \& Petaluma Blvd | Signal | D | 30.8 | C | 30.4 | C |
| 20 | Stony Point Rd \& Pepper Rd/US 101 Ramp | Signal | D | 14.0 | B | 13.6 | B |
| 21 | Petaluma Hill Rd \& Valley House Dr | Signal | D | 44.5 | D | 22.0 | C |
| 22 | Petaluma Hill Rd \& Roberts Rd | Signal | D | 9.5 | A | 13.4 | B |
| 23 | Petaluma Hill Rd \& Cotati Ave | Signal | D | 12.2 | B | 16.3 | B |
| 24 | Old Redwood Hwy \& Cotati Ave | Signal | E | 64.8 | E | 37.4 | D |
| 25 | US 101 NB Ramp \& Sierra Ave | TWSC |  |  |  |  |  |
|  | Overall Intersection ${ }^{3}$ |  | D | 4.4 | A | 6.0 | A |
|  | Worst Approach (Minor side-street) ${ }^{3}$ |  | D | 17.4 | C | 19.0 | C |
| 26 | US 101 SB Ramp/ \& Sierra Ave | TWSC |  |  |  |  |  |
|  | Overall Intersection ${ }^{3}$ |  | D | 40.6 | E | 38.8 | E |
|  | Worst Approach (Minor side-street) ${ }^{3}$ |  | D | >100 | F | 94.5 | F |
| 27 | Old Redwood Hwy/Gravenstein Hwy | Signal | E | 47.1 | D | 40.9 | D |
| 28 | US 101 NB On-ramp/Commerce Blvd | To be removed with planned relocation of NB on-ramp |  |  |  |  |  |
| 29 | US 101 NB On \& Off Ramsp/SR 116 | Signal | E | 26.6 | C | 26.2 | C |
| 30 | US 101 SB On \& Off Ramps/SR 116 | Signal | E | 31.6 | C | 27.2 | C |
| 31 | 1 Old Adobe Rd \& Frates Dr | AWSC | D | >100 | F | 95.3 | F |
| 32 | 2 Old Adobe Rd \& Casa Grande Dr | TWSC |  |  |  |  |  |
|  | Overall Intersection |  |  | 7.6 |  | 9.7 |  |
|  | Worst Approach (Minor side-street) ${ }^{2}$ |  | D | >100 | F | >100 | F |
| 33 | Old Adobe Rd \& Washington St | Signal | D | 56.4 | E | 27.9 | C |
| 34 | Petaluma Hill Rd \& Roberts Rd | Signal | D | 26.4 | C | 22.9 | C |
| 35 | Petaluma Hill Rd \& Crane Canyon Rd | Signal | D | 10.4 | B | 12.0 | B |
| 36 | 6 Petaluma Hill Rd \& Snyder Ln | Signal | D | 11.9 | B | 49.6 | D |
| 37 | Gold Course Dr \& Snyder Ln | Signal | C | 20.2 | C | 19.4 | B |
| 38 | 8 Rohnert Park Expy \& Snyder Ln | Signal | C | 27.3 | C | 25.7 | C |
| 39 | Cotati Ave \& Snyder Ln/Maurice Ave | Signal | C | 57.2 | E | 59.7 | E |
| Notes: |  |  |  |  |  |  |  |
| 2. LOS at TWSC intersections is based on w orst approach (minor side street approaching a stop sign). <br> 3. City of Cotati specifies that LOS at TWSC intersections shall be determined for bogh the w orst approach (minor side street approaching a stop sign) and for the overall intersection. |  |  |  |  |  |  |  |

## Appendix C. Collision Analysis

Collisions records for the study area were collected from the Statewide Integrated Traffic Records System (SWITRS) for the period from January 1, 2015 to December 31, 2021. Collisions were assigned to study intersections and roadway segments based on geographic information, and the listed primary and secondary roads in the collision records. Collisions within 200 feet of a study intersection were associated with that study intersection. Roadway segment collisions include those with the primary road listed as the major roadway of interest, but may include collisions that occurred at intersections along that roadway segment.

## Total Collisions

Table C. 1 and C. 2 summarize the history of collisions at study intersections and roadway segments respectively. The rate of collisions per year is compared for the periods of 2015-2019 and 2020-2021. As shown: the average rate of collisions per year was higher during the 2015-2019 data period, prior to the COVID-19 pandemic. Therefore, the collision trends were further examined using the collision records from the 2015-2019 data period.

## Collision Density

Figure C. 1 (Collisions Heatmap) shows the density of collisions, ranging from sparce (relatively few reported collisions) to dense (locations with a greater number of reported collisions). The highest number of collisions occurred near the following intersections where 17 or more collisions were reported over the 5 -year data period from 20152019:

- Adobe Road intersections with Main Street/Petaluma Hill Road, Washington Street, Casa Grande Road, and Frates Road
- Old Redwood Highway intersections with Railroad Avenue, Ely Road, McDowell Boulevard, and Gravenstein Highway
- Petaluma Hill Road intersections with Roberts Road, Snyder Lane and Crane Canyon Road (in addition to the intersection with Adobe Road noted above)
- McDowell Boulevard intersection with Corona Road
- Rohnert Park Expressway intersection with Snyder Lane
- Stony Point Road intersection with Petaluma Boulevard

The two intersections with the highest number of reported collisions were Adobe Road \& Frates Road ( 31 reported collisions from 2015-19), and Old Redwood Highway \& Railroad Avenue (30 reported collisions from 2015-19). This finding was consistent with the Sonoma County Local Roadway Plan (LRSP) published in 2020 that identified "collision hot spots" at the intersections of Adobe Road \& Frates Road (all-way stop-controlled), and Old Redwood Highway \& Railroad Avenue due to the high number of reported collisions.

The LRSP established a goal to reduce the number of collisions at the Adobe Road \& Frates Road and Old Redwood Highway \& Railroad Avenue intersections by 25 percent by 2030. At both intersections: the LRSP called for future studies to investigate the potential for installing a traffic signal or roundabout. At the Frates Road intersection, which is all-way stop-controlled: the vast majority of collisions are rear-end collisions that occur when traffic is queued up approaching the stop sign(s). At the Railroad Avenue intersection with Old Redwood Highway: the LRSP attributed the high rate of collisions to high travel speeds on Old Redwood Highway, and the non-perpendicular orientation of the intersection; the County has secured funding to install a signal at the Old Redwood Highway \& Railroad Avenue intersection.

Table C. 1 Intersection Collisions

| ID | Intersection | Collisions 2015-2019 |  | Collisions 2020-2021 |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Total | Avg. per Year | Total | Avg. per Year |
| 1 | Stony Point Rd \& W Railroad Ave | 7 | 1.4 | 1 | 0.5 |
| 2 | Debbie Hill Rd \& W Railroad Ave | 0 | 0.0 | 0 | 0.0 |
| 3 | US 101 NB Ramp \& W Railroad Ave | 1 | 0.2 | 2 | 1.0 |
| 4 | Old Redwood Hwy \& W Railroad Ave | 30 | 6.0 | 10 | 5.0 |
| 5 | Bodway Parkway (future) \& E Railroad Ave | 0 | 0.0 | 0 | 0.0 |
| 6 | Petaluma Hill Rd \& E Railroad Ave | 4 | 0.8 | 2 | 1.0 |
| 7 | Old Redwood Hwy \& Old Adobe Rd | 6 | 1.2 | 1 | 0.5 |
| 8 | Petaluma Hill Rd \& Old Adobe Rd | 18 | 3.6 | 4 | 2.0 |
| 9 | Davis Ln/Bannon Ln \& Old Adobe Rd/Woodward Ave | 10 | 2.0 | 1 | 0.5 |
| 10 | Petaluma Hill Rd \& Woodward Ave | 8 | 1.6 | 4 | 2.0 |
| 11 | Old Redwood Hwy \& Petaluma Hill Rd | 6 | 1.2 | 3 | 1.5 |
| 12 | Old Adobe Rd \& Corona Rd/Hardin Ln | 4 | 0.8 | 4 | 2.0 |
| 13 | Ely Rd N \& Corona Rd | 7 | 1.4 | 3 | 1.5 |
| 14 | N McDowell Blvd \& Corona Rd | 22 | 4.4 | 10 | 5.0 |
| 15 | Ely Rd N \& Old Redwood Hwy | 19 | 3.8 | 8 | 4.0 |
| 16 | N McDowell Blvd (S) \& Old Redwood Hwy | 26 | 5.2 | 5 | 2.5 |
| 17 | US 101 NB Ramps \& Old Redwood Hwy | 13 | 2.6 | 2 | 1.0 |
| 18 | US 101 SB Ramps \& Old Redwood Hwy/Petaluma Blvd N | 8 | 1.6 | 0 | 0.0 |
| 19 | Stony Point Rd \& Petaluma Blvd N | 26 | 5.2 | 2 | 1.0 |
| 20 | Stony Point Rd \& Pepper Rd/US 101 SB On Ramp | 5 | 1.0 | 3 | 1.5 |
| 21 | Petaluma Hill Rd \& Valley House Drive | 7 | 1.4 | 1 | 0.5 |
| 22 | Petaluma Hill Rd \& Roberts Rd | 4 | 0.8 | 4 | 2.0 |
| 23 | Petaluma Hill Rd \& Cotati Ave | 4 | 0.8 | 0 | 0.0 |
| 24 | Old Redwood Hwy \& Cotati Ave | 10 | 2.0 | 4 | 2.0 |
| 25 | US 101 NB Off Ramp \& W Sierra Ave | 2 | 0.4 | 0 | 0.0 |
| 26 | US 101 SB Ramps \& W Sierra Ave | 1 | 0.2 | 0 | 0.0 |
| 27 | Old Redwood Hwy \& SR 116 (Gravenstein Hwy) | 18 | 3.6 | 10 | 5.0 |
| 28 | Old Redwood Hwy/US 101 NB On Ramp \& Commerce Blvd | 8 | 1.6 | 6 | 3.0 |
| 29 | US 101 NB Off Ramp \& SR 116 (Gravenstein Hwy) | 10 | 2.0 | 4 | 2.0 |
| 30 | US 101 SB Ramps \& SR 116 (Gravenstein Hwy) | 11 | 2.2 | 6 | 3.0 |
| 31 | Old Adobe Rd \& Frates Rd | 31 | 6.2 | 13 | 6.5 |
| 32 | Old Adobe Rd \& Casa Grande Rd | 16 | 3.2 | 8 | 4.0 |
| 33 | Old Adobe Rd \& Washington St | 12 | 2.4 | 6 | 3.0 |
| 34 | Petaluma Hill Rd \& Roberts Rd | 17 | 3.4 | 5 | 2.5 |
| 35 | Petaluma Hill Rd \& Crane Canyon Rd | 22 | 4.4 | 9 | 4.5 |
| 36 | Petaluma Hill Rd \& Snyder Ln | 23 | 4.6 | 6 | 3.0 |
| 37 | Golf Course Dr \& Snyder Ln | 13 | 2.6 | 2 | 1.0 |
| 38 | Rohnert Park Expy \& Snyder Ln | 17 | 3.4 | 8 | 4.0 |
| 39 | Cotati Ave \& Snyder Ln/Maurice Ave | 9 | 1.8 | 0 | 0.0 |

Table C. 2 Segment Collisions

| Roadway | Location | Segment Length (mi) | Collisions 2015-2019 |  | Collisions 2020-2021 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Total | Avg. per Mile per Year | Total | Avg. per Mile per Year |
| SR 116 (Gravenstein Hwy) | between US 101 Ramp intersections | 0.06 | 0 | 0.0 | 0 | 0.0 |
|  | US 101 NB Off Ramp to Old Redwood Hwy | 0.07 | 0 | 0.0 | 0 | 0.0 |
| W Sierra Ave | between US 101 Ramp intersections | 0.05 | 1 | 4.0 | 0 | 0.0 |
|  | US 101 NB Off Ramp to Old Redwood Hwy | 0.54 | 4 | 1.5 | 3 | 1.5 |
| Cotati Ave | Old Redwood Hwy to Petaluma Hill Rd | 2.32 | 97 | 8.4 | 27 | 13.5 |
| W Railroad Ave | Stony Point Rd to Debbie Hill Rd | 0.29 | 0 | 0.0 | 1 | 0.5 |
|  | Debbie Hill Rd to US 101 NB Off Ramp | 0.11 | 1 | 1.8 | 0 | 0.0 |
|  | US 101 NB Off Ramp to Old Redwood Hwy | 1.03 | 11 | 2.1 | 3 | 1.5 |
| E Railroad Ave | Old Redwood Hwy to (future) Bodway Parkway | 1.00 | 6 | 1.2 | 1 | 0.5 |
|  | (future) Bodway Parkway to Petaluma Hill Rd | 0.50 | 0 | 0.0 | 0 | 0.0 |
| Old Adobe Rd | Old Redwood Hwy to Petaluma Hill Rd | 0.38 | 3 | 1.6 | 4 | 2.0 |
|  | Petaluma Hill Rd to Davis St/Bannon Ln | 0.41 | 4 | 2.0 | 2 | 1.0 |
|  | Davis St/Bannon Ln to Corona Rd | 1.33 | 33 | 5.0 | 4 | 2.0 |
| Corona Rd | N McDowell Blvd to Ely Rd N | 0.61 | 8 | 2.6 | 1 | 0.5 |
|  | Ely Rd N to Old Adobe Rd | 1.00 | 6 | 1.2 | 4 | 2.0 |
| Old Redwood Hwy | Commerce Blvd to SR 116 (Gravenstein Hwy) | 0.08 | 0 | 0.0 | 0 | 0.0 |
|  | SR 116 (Gravenstein Hwy) to W Sierra Ave/Cotati Ave | 0.37 | 26 | 14.1 | 9 | 4.5 |
|  | W Sierra Ave/Cotati Ave to Railroad Ave | 1.06 | 27 | 5.1 | 9 | 4.5 |
|  | Railroad Ave to Old Adobe Rd | 1.53 | 30 | 3.9 | 11 | 5.5 |
|  | Old Adobe Rd to Petaluma Hill Rd | 0.45 | 4 | 1.8 | 1 | 0.5 |
|  | Petaluma Hill Rd Ely Rd N | 0.78 | 12 | 3.1 | 3 | 1.5 |
|  | Ely Rd N to N McDowell Blvd | 0.56 | 36 | 12.9 | 5 | 2.5 |
|  | N McDowell Blvd to US 101 NB Ramps | 0.12 | 9 | 15.0 | 1 | 0.5 |
|  | between US 101 Ramp intersections | 0.17 | 0 | 0.0 | 0 | 0.0 |
| Petaluma Blvd N | US 101 SB Ramps to Stony Point Rd/Industrial Ave | 0.10 | 6 | 12.0 | 1 | 0.5 |
| Petaluma Hill Rd | Old Redwood Hwy to Woodward Ave | 0.13 | 2 | 3.1 | 0 | 0.0 |
|  | Woodward Ave to Old Adobe Rd | 0.17 | 5 | 5.9 | 0 | 0.0 |
|  | Old Adobe Rd to E Railroad Ave | 0.99 | 20 | 4.0 | 5 | 2.5 |
|  | E Railroad Ave to Valley House Dr | 0.48 | 5 | 2.1 | 5 | 2.5 |
|  | Valley House Dr to Roberts Rd | 0.49 | 26 | 10.6 | 6 | 3.0 |
|  | Roberts Rd to Cotati Ave | 0.49 | 17 | 6.9 | 2 | 1.0 |
| Stony Point Rd | W Railroad Ave to Pepper Rd | 1.68 | 12 | 1.4 | 1 | 0.5 |
|  | Pepper Rd to Petaluma Blvd N | 1.41 | 13 | 1.8 | 6 | 3.0 |
| N McDowell Blvd | Old Redwood Hwy to Corona Rd | 0.89 | 31 | 7.0 | 9 | 4.5 |
| Ely Rd N | Old Redwood Hwy to Corona Rd | 1.15 | 1 | 0.2 | 2 | 1.0 |
| Woodward Ave | Petaluma Hill Rd to Davis St/Bannon Ln | 0.36 | 1 | 0.6 | 0 | 0.0 |



FIGURE C. 1 COLLISION HEATMAP (2015-2022)

## Collision Severity

Tables C. 3 and C. 4 summarize the injury severity of 2015-2019 collisions at study intersections and roadway segments respectively. Note that these tables list the number of recorded collisions. Some collisions resulted in more than one injury or fatality.

More recently, during year 2022, two additional fatal injury collisions occurred within the study area on Old Redwood Highway between Ely Road and Main Street, both resulting in deaths to pedestrians, including one pedestrian struck while attempting to cross Old Redwood Highway north of Hatchery Road, and one pedestrian stuck while reportedly walking in the shoulder along Old Redwood Highway near Denman Street.

Table C. 3 Intersection Collisions (2015-2019) by Severity

| ID | Intersection | Collisions 2015-2019 by Severity |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Total | Fatal | Severe Injury | Other Visible Injury | Complaint of Pain | Property Damage Only |
| 1 | Stony Point Rd \& W Railroad Ave | 7 | - |  | 1 | 3 | 3 |
| 2 | Debbie Hill Rd \& W Railroad Ave | 0 |  |  | - | - | - |
| 3 | US 101 NB Ramp \& W Railroad Ave | 1 |  |  |  |  | 1 |
| 4 | Old Redwood Hwy \& W Railroad Ave | 30 | - |  | 2 | 10 | 18 |
| 5 | Bodway Parkway (future) \& E Railroad Ave | 0 |  |  |  |  |  |
| 6 | Petaluma Hill Rd \& E Railroad Ave | 4 |  |  | 1 | 2 | 1 |
| 7 | Old Redwood Hwy \& Old Adobe Rd | 6 |  | 1 | 1 | 1 | 3 |
| 8 | Petaluma Hill Rd \& Old Adobe Rd | 18 |  | - |  | 3 | 15 |
| 9 | Davis Ln/Bannon Ln \& Old Adobe Rd/Woodward Ave \& | 10 |  |  | 1 | 2 | 7 |
| 10 | Petaluma Hill Rd \& Woodward Ave | 8 |  | 1 | - | 1 | 6 |
| 11 | Old Redwood Hwy \& Petaluma Hill Rd | 6 |  | - | - | 1 | 5 |
| 12 | Old Adobe Rd \& Corona Rd/Hardin Ln | 4 | - | - | - | 1 | 3 |
| 13 | Ely Rd N \& Corona Rd | 7 | - | - | 2 |  | 5 |
| 14 | N McDowell Blvd \& Corona Rd | 22 | - | - | 1 | 4 | 17 |
| 15 | Ely Rd N \& Old Redwood Hwy | 19 | - | 1 | 1 | 7 | 10 |
| 16 | N McDowell Blvd (S) \& Old Redwood Hwy | 26 |  | - | 2 | 6 | 18 |
| 17 | US 101 NB Ramps \& Old Redwood Hwy | 13 | - | - | 2 | - | 11 |
| 18 | US 101 SB Ramps \& Old Redwood Hwy/Petaluma Blvd N | 8 | - | - |  | 1 | 7 |
| 19 | Stony Point Rd \& Petaluma Blvd N | 26 | - | - | 1 | 11 | 14 |
| 20 | Stony Point Rd \& Pepper Rd/US 101 SB On Ramp | 5 | - | - | - | 2 | 3 |
| 21 | Petaluma Hill Rd \& Valley House Drive | 7 | - | - |  | 3 | 4 |
| 22 | Petaluma Hill Rd \& Roberts Rd | 4 | - | - | 1 | 2 | 1 |
| 23 | Petaluma Hill Rd \& Cotati Ave | 4 | - | - | - | - | 4 |
| 24 | Old Redwood Hwy \& Cotati Ave | 10 | - | - | 2 | 5 | 3 |
| 25 | US 101 NB Off Ramp \& W Sierra Ave | 2 | - | - | - | - | 2 |
| 26 | US 101 SB Ramps \& W Sierra Ave | 1 | - | - | - | - | 1 |
| 27 | Old Redwood Hwy \& SR 116 (Gravenstein Hwy) | 18 | - | - | 2 | 3 | 13 |
| 28 | Old Redwood Hwy/US 101 NB On Ramp \& Commerce Blvd | 8 | - | - | 1 | 1 | 6 |
| 29 | US 101 NB Off Ramp \& SR 116 (Gravenstein Hwy) | 10 | - | 1 |  | 3 | 6 |
| 30 | US 101 SB Ramps \& SR 116 (Gravenstein Hwy) | 11 | - | - | 1 | 4 | 6 |
| 31 | Old Adobe Rd \& Frates Rd | 31 | 1 | - | , | 11 | 18 |
| 32 | Old Adobe Rd \& Casa Grande Rd | 16 |  | 1 | 4 | 6 | 5 |
| 33 | Old Adobe Rd \& Washington St | 12 | - | 1 | 3 | 2 | 6 |
| 34 | Petaluma Hill Rd \& Roberts Rd | 17 | - | - | 2 | 4 | 11 |
| 35 | Petaluma Hill Rd \& Crane Canyon Rd | 22 | - | 3 | 1 | 6 | 12 |
| 36 | Petaluma Hill Rd \& Snyder Ln | 23 | - | 1 | 5 | 6 | 11 |
| 37 | Golf Course Dr \& Snyder Ln | 13 | - | - | 3 | 5 | 5 |
| 38 | Rohnert Park Expy \& Snyder Ln | 17 | - | 1 | 1 | 4 | 11 |
| 39 | Cotati Ave \& Snyder Ln/Maurice Ave | 9 | - | - | 1 | 4 | 4 |

Table C. 4 Segment Collisions (2015-2019) by Severity

| Roadway | Location | Collisions 2015-2019 by Severity |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Total | Fatal | Severe Injury | Other <br> Visible Injury | Complaint of Pain | Property Damage Only |
| SR 116 (Gravenstein Hwy) | between US 101 Ramp intersections | 0 | - | Injur |  | - | - |
|  | US 101 NB Off Ramp to Old Redwood Hwy | 0 | - | - | - | - | - |
| W Sierra Ave | between US 101 Ramp intersections | 1 | - | - | 1 | - | - |
|  | US 101 NB Off Ramp to Old Redwood Hwy | 4 | - | - | - | 2 | 2 |
| Cotati Ave | Old Redwood Hwy to Petaluma Hill Rd | 97 | - | - | 12 | 39 | 46 |
| W Railroad Ave | Stony Point Rd to Debbie Hill Rd | 0 | - | - | - | - | - |
|  | Debbie Hill Rd to US 101 NB Off Ramp | 1 | - | - | - | - | 1 |
|  | US 101 NB Off Ramp to Old Redwood Hwy | 11 | - | - | 1 | 2 | 8 |
| E Railroad Ave | Old Redwood Hwy to (future) Bodway Parkway | 6 | - | - | 3 | 1 | 2 |
|  | (future) Bodway Parkway to Petaluma Hill Rd | 0 | - | - | - | - | - |
| Old Adobe Rd | Old Redwood Hwy to Petaluma Hill Rd | 3 | - | - | 1 | - | 2 |
|  | Petaluma Hill Rd to Davis St/Bannon Ln | 4 | - | - | - | 1 | 3 |
|  | Davis St/Bannon Ln to Corona Rd | 33 | 1 | - | 6 | 10 | 16 |
| Corona Rd | N McDowell Blvd to Ely Rd N | 8 | - | - | 4 | 1 | 3 |
|  | Ely Rd N to Old Adobe Rd | 6 | - | - | 2 | 1 | 3 |
| Old Redwood Hwy | Commerce Blvd to SR 116 (Gravenstein Hwy) | 0 | - | - | - | - | - |
|  | SR 116 (Gravenstein Hwy) to W Sierra Ave/Cotati Ave | 26 | - | 1 | 4 | 13 | 8 |
|  | W Sierra Ave/Cotati Ave to Railroad Ave | 27 | - | 2 | 6 | 8 | 11 |
|  | Railroad Ave to Old Adobe Rd | 30 | - | - | 7 | 7 | 16 |
|  | Old Adobe Rd to Petaluma Hill Rd | 4 | - | - | 2 | - | 2 |
|  | Petaluma Hill Rd Ely Rd N | 12 | - | - | 1 | 3 | 8 |
|  | Ely Rd N to N McDowell Blvd | 36 | - | 1 | 1 | 16 | 18 |
|  | N McDowell Blvd to US 101 NB Ramps | 9 | - | - | - | 2 | 7 |
|  | between US 101 Ramp intersections | 0 | - | - | - | - | - |
| Petaluma Blvd N | US 101 SB Ramps to Stony Point Rd/Industrial Ave | 6 | - | - | - | 2 | 4 |
| Petaluma Hill Rd | Old Redwood Hwy to Woodward Ave | 2 | - | - | - | - | 2 |
|  | Woodward Ave to Old Adobe Rd | 5 | - | - | - | 1 | 4 |
|  | Old Adobe Rd to E Railroad Ave | 20 | - | 1 | - | 4 | 15 |
|  | E Railroad Ave to Valley House Dr | 5 | - | - | - | - | 5 |
|  | Valley House Dr to Roberts Rd | 26 | - | - | 5 | 9 | 12 |
|  | Roberts Rd to Cotati Ave | 17 | 1 | - | 2 | 4 | 10 |
| Stony Point Rd | W Railroad Ave to Pepper Rd | 12 | - | 1 | 2 | 2 | 7 |
|  | Pepper Rd to Petaluma Blvd N | 13 | - | - | - | 4 | 9 |
| N McDowell Blvd | Old Redwood Hwy to Corona Rd | 31 | - | - | 2 | 12 | 17 |
| Ely Rd N | Old Redwood Hwy to Corona Rd | 1 | - | - | - | - | 1 |
| Woodward Ave | Petaluma Hill Rd to Davis St/Bannon Ln | 1 | - | - | - | - | 1 |



FIGURE C. 2 COLLISION SEVERITY (2015-2022)

## Party/Vehicle Type

Tables C. 5 and C. 6 summarize the involved party types (including pedestrian, bicycle, and object) of 2015-2019 collisions at study intersections and roadway segments respectively. As presented in Table C.5, hit-object collisions (both fixed and other object collisions combined) made up $14.7 \%$ of the recorded collisions at study intersections. Pedestrian-involved collisions made up $1.2 \%$, and bike-involved collisions made up $1.2 \%$. These trends may not be representative of the collision history of the entire surrounding area, as the selection of study intersections favors major roadway corridors. As presented in Table C.6, hit-object collisions (both fixed and other object collisions combined) made up $24.1 \%$ of the recorded collisions at roadway segments of interest. Pedestrian-involved collisions made up $1.3 \%$, and bicycle-involved collisions made up $1.5 \%$. Of the pedestrian-involved collisions two of the six were FSI collisions. Of the bicycle-involved collisions one of the seven was an FSI collision.

Table C. 5 Intersection Collisions (2015-2019) by Motor Vehicle Involved With (MVIW)

| ID | Intersection | Collisions 2015-2019 by Motor Vehicle Involved With (MNW) |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Other Motor Vehicle | Fixed Object | Other Object | Parked Motor Vehicle | Pedestrian | Bicycle | Motor Vehicle on Other Roadway | NonCollision |
| 1 | Stony Point Rd \& W Railroad Ave | 5 | - | 2 | - | - | - | - | - |
| 2 | Debbie Hill Rd \& W Railroad Ave | - | - | - | - | - | - | - | - |
| 3 | US 101 NB Ramp \& W Railroad Ave | - | 1 | - | - | - | - | - | - |
| 4 | Old Redwood Hwy \& W Railroad Ave | 23 | 4 | 1 | - | - | 2 | - | - |
| 5 | Bodway Parkway (future) \& E Railroad Ave | - | - | - | - | - | - | - | - |
| 6 | Petaluma Hill Rd \& E Railroad Ave | 4 | - | - | - | - | - | - | - |
| 7 | Old Redwood Hwy \& Old Adobe Rd | 5 | - | - | - | 1 | - | - | - |
| 8 | Petaluma Hill Rd \& Old Adobe Rd | 15 | 3 | - | - | - | - | - | - |
| 9 | Davis Ln/Bannon Ln \& Old Adobe Rd/Woodward Ave \& | 8 | 2 | - | - | - | - | - | - |
| 10 | Petaluma Hill Rd \& Woodward Ave | 3 | - | - | 4 | - | - | - | 1 |
| 11 | Old Redwood Hwy \& Petaluma Hill Rd | 3 | 2 | - | - | - | - | - | 1 |
| 12 | Old Adobe Rd \& Corona Rd/Hardin Ln | 3 | 1 | - | - | - | - | - | - |
| 13 | Ely Rd N \& Corona Rd | 5 | 2 | - | - | - | - | - | - |
| 14 | N Mc Dowell Blvd \& Corona Rd | 20 | 1 | - | - | - | - | 1 | - |
| 15 | Ely Rd N \& Old Redwood Hwy | 17 | 1 | 1 | - | - | - | - | - |
| 16 | N Mc Dowell Blvd (S) \& Old Redw ood Hwy | 20 | 3 | 1 | - | 1 | - | - | - |
| 17 | US 101 NB Ramps \& Old Redwood Hwy | 8 | 4 | - | - | - | - | - | 1 |
| 18 | US 101 SB Ramps \& Old Redwood Hwy/Petaluma Blvd N | 7 | - | - | - | - | - | - | - |
| 19 | Stony Point Rd \& Petaluma Blvd N | 22 | 1 | - | 2 | - | - | - | - |
| 20 | Stony Point Rd \& Pepper Rd/US 101 SB On Ramp | 4 | 1 | - | - | - | - | - | - |
| 21 | Petaluma Hill Rd \& Valley House Drive | 7 | - | - | - | - | - | - | - |
| 22 | Petaluma Hill Rd \& Roberts Rd | 4 | - | - | - | - | - | - | - |
| 23 | Petaluma Hill Rd \& Cotati Ave | 3 | 1 | - | - | - | - | - | - |
| 24 | Old Redwood Hwy \& Cotati Ave | 6 | - | - | 1 | 2 | - | 1 | - |
| 25 | US 101 NB Off Ramp \& W Sierra Ave | 2 | - | - | - | - | - | - | - |
| 26 | US 101 SB Ramps \& W Sierra Ave | - | 1 | - | - | - | - | - | - |
| 27 | Old Redwood Hwy \& SR 116 (Gravenstein Hwy) | 15 | 1 | - | - | 1 | - | - | 1 |
| 28 | Old Redwood Hwy/US 101 NB On Ramp \& Commerce Blvd | 5 | 2 | - | - | - | - | - | 1 |
| 29 | US 101 NB Off Ramp \& SR 116 (Gravenstein Hwy) | 10 | - | - | - | - | - | - | - |
| 30 | US 101 SB Ramps \& SR 116 (Gravenstein Hwy) | 9 | 2 | - | - | - | - | - | - |
| 31 | Old Adobe Rd \& Frates Rd | 25 | 2 | 3 | - | - | - | - | - |
| 32 | Old Adobe Rd \& Casa Grande Rd | 16 | - | - | - | - | - | - | - |
| 33 | Adobe Rd \& Washinton St | 7 | 4 | 1 | - | - | - | - | - |
| 34 | Petaluma Hill Rd \& Roberts Rd | 13 | 3 | - | - | - | - | - | - |
| 35 | Petaluma Hill Rd \& Crane Canyon Rd | 13 | 7 | 1 | - | - | 1 | - | - |
| 36 | Petaluma Hill Rd \& Snyder Ln | 11 | 10 | 1 | - | - | - | - | 1 |
| 37 | Golf Course Dr \& Snyder Ln | 11 | - | - | - | - | 2 | - | - |
| 38 | Rohnert Park Expy \& Snyder Ln | 12 | 3 | - | - | 1 | 1 | - | - |
| 39 | Cotati Ave \& Snyder Ln/Maurice Ave | 5 | 2 | 1 | - | - | - | - | - |
| TOTAL (2015-2019) |  | 346 | 64 | 12 | 7 | 6 | 6 | 2 | 6 |
|  |  | 77.1\% | 14.3\% | 2.7\% | 1.6\% | 1.3\% | 1.3\% | 0.4\% | 1.3\% |

Table C. 6 Segment Collisions (2015-2019) by Motor Vehicle Involved With (MVIW)

| Roadway | Location | Collisions 2015-2019 by Motor Vehicle Involved With (MVIW) |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Other Motor Vehicle | Fixed Object | Other <br> Object | Parked Motor Vehicle | Pedestrian | Bicycle | Motor Vehicle on Other Roadway | NonCollision | Animal |
| SR 116 <br> (Gravenstein Hwy) | between US 101 Ramp intersections | - |  | - | - | - | - | - | - | - |
|  | US 101 NB Off Ramp to Old Redwood Hwy | - | - | - | - | - | - | - | - | - |
| W Sierra Ave | between US 101 Ramp intersections | - | 1 | - | - | - | - | - | - | - |
|  | US 101 NB Off Ramp to Old Redwood Hwy | 2 | - | 1 | - | - | - | - | - | - |
| Cotati Ave | Old Redwood Hwy to Petaluma Hill Rd | 71 | 10 | 1 | 7 | 2 | 5 | - | 1 | - |
| W Railroad Ave | Stony Point Rd to Debbie Hill Rd | - | - | - | - | - | - | - | - | - |
|  | Debbie Hill Rd to US 101 NB Off Ramp | 1 | - | - | - | - | - | - | - | - |
|  | US 101 NB Off Ramp to Old Redwood Hwy | 4 | 6 | 1 | - | - | - | - | - | - |
| E Railroad Ave | Old Redwood Hwy to (future) Bodway Parkway | 2 | 4 | - | - | - | - | - | - | - |
|  | (future) Bodway Parkway to Petaluma Hill Rd | - | - | - | - | - | - | - | - | - |
| Old Adobe Rd | Old Redwood Hwy to Petaluma Hill Rd | 2 | - | - | 1 | - | - | - | - | $-$ |
|  | Petaluma Hill Rd to Davis St/Bannon Ln | 1 | 3 | - | - | - | - | - | - | - |
|  | Davis St/Bannon Ln to Corona Rd | 20 | 9 | 2 | - | - | - | - | 2 | - |
| Corona Rd | N McDowell Blvd to Ely Rd N | 6 | 2 | - | - | - | - | - | - | - |
|  | Ely Rd N to Old Adobe Rd | 2 | 4 | - | - | - | - | - | - | - |
| Old Redwood Hwy | Commerce Blvd to SR 116 (Gravenstein Hwy) | - | - | - | - | - | - | - | - | - |
|  | SR 116 (Gravenstein Hwy) to W Sierra Ave/Cotati Ave | 23 | 1 | - | - | 2 | - | - | - | - |
|  | W Sierra Ave/Cotati Ave to Railroad Ave | 16 | 9 | 1 | - | 1 | - | - | - | - |
|  | Railroad Ave to Old Adobe Rd | 16 | 11 | 2 | - | - | - | - | - | 1 |
|  | Old Adobe Rd to Petaluma Hill Rd | 2 | 1 | - | 1 | - | - | - | - | - |
|  | Petaluma Hill Rd Ely Rd N | 6 | 2 | 2 | - | - | 1 | - | - | 1 |
|  | Ely Rd N to N McDowell Blvd | 28 | 6 | 1 | - | - | 1 | - | - | - |
|  | N McDowell Blvd to US 101 NB Ramps | 9 | - | - | - | - | - | - | - | - |
|  | between US 101 Ramp intersections | - | - | - | - | - | - | - | - | - |
| Petaluma Blvd N | US 101 SB Ramps to Stony Point Rd/Industrial Ave | 5 | 1 | - | - | - | - | - | - | - |
| Petaluma Hill Rd | Old Redwood Hwy to Woodward Ave | 2 | - | - | - | - | - | - | - | - |
|  | Woodward Ave to Old Adobe Rd | 4 | - | - | 1 | - | - | - | - | - |
|  | Old Adobe Rd to E Railroad Ave | 16 | 4 | - | - | - | - | - | - | - |
|  | E Railroad Ave to Valley House Dr | 3 | 2 | - | - | - | - | - | - | - |
|  | Valley House Dr to Roberts Rd | 19 | 6 | - | - | - | - | - | 1 | - |
|  | Roberts Rd to Cotati Ave | 14 | 2 | - | - | 1 | - | - | - | - |
| Stony Point Rd | W Railroad Ave to Pepper Rd | 5 | 5 | - | - | - | - | - | - | 2 |
|  | Pepper Rd to Petaluma Blvd N | 8 | 5 | - | - | - | - | - | - | - |
| N McDowell Blvd | Old Redwood Hwy to Corona Rd | 27 | 4 | - | - | - | - | - | - | $-$ |
| Ely Rd N | Old Redwood Hwy to Corona Rd | 1 | - | - | - | - | - | - | - | - |
| Woodward Ave | Petaluma Hill Rd to Davis St/Bannon Ln | - | 1 | - | - | - | - | - | - | - |
| TOTAL (2015-2019) |  | 315 | 99 | 11 | 10 | 6 | 7 | 0 | 4 | 4 |
|  |  | 69.1\% | 21.7\% | 2.4\% | 2.2\% | 1.3\% | 1.5\% | 0.0\% | 0.9\% | 0.9\% |

*Collisions records with no 'MVI' value provided are omitted from this table.

## Collision Geometry

Table C. 7 and Table C. 8 summarize the collision geometry of 2015 to 2019 collisions at study intersections and roadway segments respectively. The 'Collision Geometry' attribute is distinct from the 'Motor Vehicle Involved With (MVIW)' attribute, so collisions with collision geometry listed as hit object may not always align with collisions with MVIW listed as fixed object or other object. Similarly, collisions with collision geometry listed as vehicle pedestrian may not always align with collisions with MVIW listed as pedestrian.

Table C. 7 Intersection Collisions (2015-2019) by Collision Geometry

| ID | Intersection | Collisions 2015-2019 by Type of Collision |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Rear End | Broadside | Sideswipe | Hit Object | Head-On | Overturned | Vehicle/ Pedestrian | Other |
| 1 | Stony Point Rd \& W Railroad Ave | 3 | 1 | 1 | 2 | - | - | - | - |
| 2 | Debbie Hill Rd \& W Railroad Ave | - | - | - | - | - | - | - | - |
| 3 | US 101 NB Ramp \& W Railroad Ave | - | - | - | 1 | - | - | - | - |
| 4 | Old Redwood Hwy \& W Railroad Ave | 1 | 21 | 1 | 5 | 2 | - | - | - |
| 5 | Bodway Parkway (future) \& E Railroad Ave | - | - | - | - | - | - | - | - |
| 6 | Petaluma Hill Rd \& E Railroad Ave | 1 | 2 | 1 | - | - | - | - | - |
| 7 | Old Redwood Hwy \& Old Adobe Rd | 1 | 2 | 2 | - | - | - | 1 | - |
| 8 | Petaluma Hill Rd \& Old Adobe Rd | 9 | 3 | 1 | 3 | 2 | - | - | - |
| 9 | Davis Ln/Bannon Ln \& Old Adobe Rd/Woodward Ave \& | 6 | 2 | - | 2 | - | - | - | - |
| 10 | Petaluma Hill Rd \& Woodward Ave | 3 | 2 | 1 | - | - | 1 | - | - |
| 11 | Old Redwood Hwy \& Petaluma Hill Rd | 1 | 1 | 1 | 2 | - | 1 | - | - |
| 12 | Old Adobe Rd \& Corona Rd/Hardin Ln | 1 | 1 | - | 1 | 1 | - | - | - |
| 13 | Ely Rd N \& Corona Rd | 1 | 3 | 1 | 2 | - | - | - | - |
| 14 | N McDowell Blvd \& Corona Rd | 4 | 7 | 9 | - | 1 | - | - | 1 |
| 15 | Ely Rd N \& Old Redwood Hwy | 3 | 11 | 2 | 1 | 1 | 1 | - | - |
| 16 | N McDowell Blvd (S) \& Old Redwood Hwy | 10 | 5 | 4 | 4 | 2 | - | 1 | - |
| 17 | US 101 NB Ramps \& Old Redwood Hwy | 6 | - | 1 | 3 | - | 2 | - | 1 |
| 18 | US 101 SB Ramps \& Old Redwood Hwy/Petaluma Blvd N | 7 | - | 1 | - | - | - | - | - |
| 19 | Stony Point Rd \& Petaluma Blvd N | 10 | 11 | 2 | 1 | 2 | - | - | - |
| 20 | Stony Point Rd \& Pepper Rd/US 101 SB On Ramp | 1 | 1 | 1 | 1 | - | - | - | - |
| 21 | Petaluma Hill Rd \& Valley House Drive | 6 | 1 | - | - | - | - | - | - |
| 22 | Petaluma Hill Rd \& Roberts Rd | 4 | - | - | - | - | - | - | - |
| 23 | Petaluma Hill Rd \& Cotati Ave | 1 | 1 | - | 1 | 1 | - | - | - |
| 24 | Old Redwood Hwy \& Cotati Ave | 7 | 1 | 1 | - | - | - | 1 | - |
| 25 | US 101 NB Off Ramp \& W Sierra Ave | 2 | - | - | - | - | - | - | - |
| 26 | US 101 SB Ramps \& W Sierra Ave | - | - | - | 1 | - | - | - | - |
| 27 | Old Redwood Hwy \& SR 116 (Gravenstein Hwy) | 8 | 4 | 2 | 1 | 1 | - | 1 | 1 |
| 28 | Old Redwood Hwy/US 101 NB On Ramp \& Commerce Blvd | 3 | - | 1 | 2 | 1 | - | - | 1 |
| 29 | US 101 NB Off Ramp \& SR 116 (Gravenstein Hwy) | 8 | 1 | 1 | - | - | - | - | - |
| 30 | US 101 SB Ramps \& SR 116 (Gravenstein Hwy) | 8 | - | 1 | 2 | - | - | - | - |
| 31 | Old Adobe Rd \& Frates Rd | 33 | 4 | 10 | 12 | - | - | - | 2 |
| 32 | Old Adobe Rd \& Casa Grande Rd | 18 | 6 | 5 | 1 | 1 | - | - | - |
| 33 | Adobe Rd \& Washinton St | 13 | - | 2 | 7 | - | 1 | - | - |
| 34 | Petaluma Hill Rd \& Roberts Rd | 8 | 3 | 2 | 4 | - | - | - | - |
| 35 | Petaluma Hill Rd \& Crane Canyon Rd | 9 | 2 | 2 | 8 | 1 | - | - | - |
| 36 | Petaluma Hill Rd \& Snyder Ln | 7 | 1 | 2 | 11 | 1 | 1 | - | - |
| 37 | Golf Course Dr \& Snyder Ln | 1 | 5 | 2 | - | 2 | - | 1 | 1 |
| 38 | Rohnert Park Expy \& Snyder Ln | 4 | 5 | 2 | 2 | 2 | - | 1 | 1 |
| 39 | Cotati Ave \& Snyder Ln/Maurice Ave | 3 | 2 | - | 3 | 1 | - | - | - |
| TOTAL (2015-2019) |  | 211 | 109 | 62 | 83 | 22 | 7 | 6 | 8 |
|  |  | 41.5\% | 21.5\% | 12.2\% | 16.3\% | 4.3\% | 1.4\% | 1.2\% | 1.6\% |

As presented in Table C.7, the most frequent type of collision at study intersections was rear-end collisions, making up $41.5 \%$ of collisions recorded at study intersections, followed by broadside (a.k.a. "T-bone") collisions making up 21.5\%.

Table C. 8 Segment Collisions (2015-2019) by Collision Geometry

| Roadway | Location | Collisions 2015-2019 by Type of Collision |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Rear End | Broadside | Sideswipe | Hit Object | Head-On | Overturned | Vehicle/ Pedestrian | Other |
| SR 116 (Gravenstein Hwy) | between US 101 Ramp intersections | - | - | - | - | - | - | - | - |
|  | US 101 NB Off Ramp to Old Redwood Hwy | - | - | - | - | - | - | - | - |
| W Sierra Ave | between US 101 Ramp intersections | - | - | - | 1 | - | - | - | - |
|  | US 101 NB Off Ramp to Old Redwood Hwy | 1 | 1 | - | 2 | - | - | - | - |
| Cotati Ave | Old Redwood Hwy to Petaluma Hill Rd | 32 | 32 | 12 | 12 | 5 | - | 1 | 3 |
| W Railroad Ave | Stony Point Rd to Debbie Hill Rd | - | - | - | - | - | - | - | - |
|  | Debbie Hill Rd to US 101 NB Off Ramp | - | - | 1 | - | - | - | - | - |
|  | US 101 NB Off Ramp to Old Redwood Hwy | 1 | 1 | 1 | 7 | - | 1 | - | - |
| E Railroad Ave | Old Redwood Hwy to (future) Bodway Parkway | - | 2 | - | 4 | - | - | - | - |
|  | (future) Bodway Parkway to Petaluma Hill Rd | - | - | - | - | - | - | - | - |
| Old Adobe Rd | Old Redwood Hwy to Petaluma Hill Rd | 1 | 1 | - | 1 | - | - | - | - |
|  | Petaluma Hill Rd to Davis St/Bannon Ln | 1 | - | - | 3 | - | - | - | - |
|  | Davis St/Bannon Ln to Corona Rd | 14 | 5 | 1 | 7 | - | 6 | - | - |
| Corona Rd | N McDowell Blvd to Ely Rd N | 2 | 3 | - | 2 | - | 1 | - | - |
|  | Ely Rd N to Old Adobe Rd | 1 | - | 1 | 4 | - | - | - | - |
| Old Redwood Hwy | Commerce Blvd to SR 116 (Gravenstein Hwy) | - | - | - | - | - | - | - | - |
|  | SR 116 (Gravenstein Hwy) to W Sierra Ave/Cotati Ave | 11 | 8 | 4 | 1 | 1 | - | 1 | - |
|  | W Sierra Ave/Cotati Ave to Railroad Ave | 10 | 4 | 3 | 9 | - | - | 1 | - |
|  | Railroad Ave to Old Adobe Rd | 8 | 4 | 4 | 12 | - | 2 | - | - |
|  | Old Adobe Rd to Petaluma Hill Rd | 2 | 1 | - | - | - | 1 | - | - |
|  | Petaluma Hill Rd Ely Rd N | 4 | 1 | - | 3 | 2 | 1 | - | 1 |
|  | Ely Rd N to N McDowell Blvd | 16 | 10 | 2 | 7 | 1 | - | - | - |
|  | N McDowell Blvd to US 101 NB Ramps | 5 | 3 | 1 | - | - | - | - | - |
|  | between US 101 Ramp intersections | - | - | - | - | - | - | - | - |
| Petaluma Blvd N | US 101 SB Ramps to Stony Point Rd/Industrial Ave | 4 | - | 1 | 1 | - | - | - | - |
| Petaluma Hill Rd | Old Redwood Hwy to Woodward Ave | 1 | 1 | - | - | - | - | - | - |
|  | Woodward Ave to Old Adobe Rd | 3 | 1 | 1 | - | - | - | - | - |
|  | Old Adobe Rd to E Railroad Ave | 13 | 2 | 1 | 4 | - | - | - | - |
|  | E Railroad Ave to Valley House Dr | 1 | 1 | 1 | 2 | - | - | - | - |
|  | Valley House Dr to Roberts Rd | 15 | 3 | - | 5 | - | 2 | - | 1 |
|  | Roberts Rd to Cotati Ave | 11 | 1 | 1 | 2 | 1 | - | 1 | - |
| Stony Point Rd | W Railroad Ave to Pepper Rd | 1 | 3 | - | 6 | 1 | - | - | 1 |
|  | Pepper Rd to Petaluma Blvd N | 4 | 2 | 2 | 5 | - | - | - | - |
| N McDowell Blvd | Old Redwood Hwy to Corona Rd | 12 | 13 | 2 | 4 | - | - | - | - |
| Ely Rd N | Old Redwood Hwy to Corona Rd | 1 | - | - | - | - | - | - | - |
| Woodward Ave | Petaluma Hill Rd to Davis St/Bannon Ln | - | - | - | 1 | - | - | - | - |
| TOTAL (2015-2019) |  | 175 | 103 | 39 | 105 | 11 | 14 | 4 | 6 |
|  |  | 38.3\% | 22.5\% | 8.5\% | 23.0\% | 2.4\% | 3.1\% | 0.9\% | 1.3\% |

*Collisions records with no 'Type of Collision' value provided are omitted from this table.
As presented in Table C. 8 the most frequent type of collision on roadway segments of interest was rear-end collisions, making up $38.3 \%$ of collisions recorded, followed by hit object collisions making up $23.0 \%$, and broadside (a.k.a. "Tbone") collisions making up 22.5\%.

## Appendix D. Traffic Level of Service Reports

LOS reports relevant to the Traffic Operations Analysis described in Appendix B are provided on the following pages.

## Existing AM Peak Hour

| Intersection |  |
| :--- | ---: |
| Intersection Delay, s/veh $\quad 24.5$ |  |
| Intersection LOS | C |


| Movement | EBL | EBT | EBR | WBL | WBT | WBR | SBL | SBR | NEL | NER |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Lane Configurations |  | $\uparrow$ |  |  | $\uparrow$ |  |  | ${ }_{\text {K }}$ | * |  |
| Traffic Vol, veh/h | 1 | 570 | 5 | 10 | 356 | 8 | 83 | 5 | 2 | 27 |
| Future Vol, veh/h | 1 | 570 | 5 | 10 | 356 | 8 | 83 | 5 | 2 | 27 |
| Peak Hour Factor | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Heavy Vehicles, \% | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mumt Flow | 1 | 633 | 6 | 11 | 396 | 9 | 92 | 6 | 2 | 30 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 0 |
| Approach | EB |  |  | WB |  |  | SB |  |  |  |
| Opposing Approach | WB |  |  | EB |  |  |  |  |  |  |
| Opposing Lanes | 1 |  |  | 1 |  |  | 0 |  |  |  |
| Conflicting Approach Left | SB |  |  | NE |  |  | WB |  |  |  |
| Conflicting Lanes Left | 1 |  |  | 1 |  |  | 1 |  |  |  |
| Conflicting Approach Right | NE |  |  | SB |  |  | NE |  |  |  |
| Conflicting Lanes Right | 1 |  |  | 1 |  |  | 1 |  |  |  |
| HCM Control Delay | 33.1 |  |  | 15.9 |  |  | 11.3 |  |  |  |
| HCM LOS | D |  |  | C |  |  | B |  |  |  |


| Lane | NELn1 | EBLn1 | WBLn1 | SBLn1 |
| :--- | ---: | ---: | ---: | ---: |
| Vol Left, \% | $13 \%$ | $0 \%$ | $3 \%$ | $89 \%$ |
| Vol Thu, \% | $0 \%$ | $99 \%$ | $95 \%$ | $0 \%$ |
| Vol Right, \% | $87 \%$ | $1 \%$ | $2 \%$ | $11 \%$ |
| Sign Control | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 31 | 576 | 374 | 93 |
| LT Vol | 4 | 1 | 10 | 83 |
| Through Vol | 0 | 570 | 356 | 0 |
| RT Vol | 27 | 5 | 8 | 10 |
| Lane Flow Rate | 34 | 640 | 416 | 103 |
| Geometry Grp | 1 | 1 | 1 | 1 |
| Degree of Util (X) | 0.06 | 0.881 | 0.602 | 0.191 |
| Departure Headway (Hd) | 6.28 | 4.958 | 5.216 | 6.657 |
| Convergence, Y/N | Yes | Yes | Yes | Yes |
| Cap | 568 | 730 | 690 | 538 |
| Service Time | 4.345 | 2.987 | 3.251 | 4.712 |
| HCM Lane V/C Ratio | 0.06 | 0.877 | 0.603 | 0.191 |
| HCM Control Delay | 9.7 | 33.1 | 15.9 | 11.3 |
| HCM Lane LOS | A | D | C | B |
| HCM 95th-tile Q | 0.2 | 11 | 4.1 | 0.7 |


| Intersection |  |
| :--- | ---: |
| Intersection Delay, s/veh $\quad 77.4$ |  |
| Intersection LOS | F |


| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Lane Configurations |  | $\uparrow$ |  |  | ¢ |  | ${ }^{7}$ | $\hat{1}$ |  | ${ }^{7}$ | $\uparrow$ |  |
| Traffic Vol, veh/h | 88 | 5 | 174 | 1 | 5 | 5 | 118 | 326 | 4 | 2 | 541 | 100 |
| Future Vol, veh/h | 88 | 5 | 174 | 1 | 5 | 5 | 118 | 326 | 4 | 2 | 541 | 100 |
| Peak Hour Factor | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Heavy Vehicles, \% | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mumt Flow | 98 | 6 | 193 | 1 | 6 | 6 | 131 | 362 | 4 | 2 | 601 | 111 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 |
| Approach | EB |  |  | WB |  |  | NB |  |  | SB |  |  |
| Opposing Approach | WB |  |  | EB |  |  | SB |  |  | NB |  |  |
| Opposing Lanes | 1 |  |  | 1 |  |  | 2 |  |  | 2 |  |  |
| Conflicting Approach Left | SB |  |  | NB |  |  | EB |  |  | WB |  |  |
| Conflicting Lanes Left | 2 |  |  | 2 |  |  | 1 |  |  | 1 |  |  |
| Conflicting Approach Right | NB |  |  | SB |  |  | WB |  |  | EB |  |  |
| Conflicting Lanes Right | 2 |  |  | 2 |  |  | 1 |  |  | 1 |  |  |
| HCM Control Delay | 17.4 |  |  | 11.5 |  |  | 19.1 |  |  | 144.1 |  |  |
| HCM LOS | C |  |  | B |  |  | C |  |  | F |  |  |


| Lane | NBLn1 | NBLn2 | EBLn1 | WBLn1 | SBLn1 | SBLn2 |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: |
| Vol Left, \% | $100 \%$ | $0 \%$ | $33 \%$ | $9 \%$ | $100 \%$ | $0 \%$ |
| Vol Thu, \% | $0 \%$ | $99 \%$ | $2 \%$ | $45 \%$ | $0 \%$ | $84 \%$ |
| Vol Right, \% | $0 \%$ | $1 \%$ | $65 \%$ | $45 \%$ | $0 \%$ | $16 \%$ |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 118 | 330 | 267 | 11 | 2 | 641 |
| LT Vol | 118 | 0 | 88 | 1 | 2 | 0 |
| Through Vol | 0 | 326 | 5 | 5 | 0 | 541 |
| RT Vol | 0 | 4 | 174 | 5 | 0 | 100 |
| Lane Flow Rate | 131 | 367 | 297 | 12 | 2 | 712 |
| Geometry Grp | 7 | 7 | 2 | 2 | 7 | 7 |
| Degree of Util (X) | 0.253 | 0.656 | 0.531 | 0.026 | 0.004 | 1.243 |
| Departure Headway (Hd) | 7.325 | 6.803 | 6.899 | 8.291 | 6.905 | 6.284 |
| Convergence, Y/N | Yes | Yes | Yes | Yes | Yes | Yes |
| Cap | 493 | 535 | 525 | 434 | 518 | 577 |
| Service Time | 5.025 | 4.503 | 4.899 | 6.291 | 4.654 | 4.032 |
| HCM Lane V/C Ratio | 0.266 | 0.686 | 0.566 | 0.028 | 0.004 | 1.234 |
| HCM Control Delay | 12.5 | 21.5 | 17.4 | 11.5 | 9.7 | 144.5 |
| HCM Lane LOS | B | C | C | B | A | F |
| HCM 95th-tile Q | 1 | 4.7 | 3.1 | 0.1 | 0 | 27.1 |


| Intersection |  |
| :--- | :---: |
| Intersection Delay, s/veh | 66.2 |
| Intersection LOS | F |


| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Lane Configurations |  | \$ |  |  | \$ |  |  | \$ |  |  | * |  |
| Traffic Vol, veh/h | 23 | 90 | 67 | 95 | 137 | 8 | 127 | 119 | 141 | 38 | 269 | 30 |
| Future Vol, veh/h | 23 | 90 | 67 | 95 | 137 | 8 | 127 | 119 | 141 | 38 | 269 | 30 |
| Peak Hour Factor | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 |
| Heavy Vehicles, \% | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 31 | 120 | 89 | 127 | 183 | 11 | 169 | 159 | 188 | 51 | 359 | 40 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |
| Approach | EB |  |  | WB |  |  | NB |  |  | SB |  |  |
| Opposing Approach | WB |  |  | EB |  |  | SB |  |  | NB |  |  |
| Opposing Lanes | 1 |  |  | 1 |  |  | 1 |  |  | 1 |  |  |
| Conflicting Approach Left | SB |  |  | NB |  |  | EB |  |  | WB |  |  |
| Conflicting Lanes Left | 1 |  |  | 1 |  |  | 1 |  |  | 1 |  |  |
| Conflicting Approach Right | NB |  |  | SB |  |  | WB |  |  | EB |  |  |
| Conflicting Lanes Right | 1 |  |  | 1 |  |  | 1 |  |  | 1 |  |  |
| HCM Control Delay | 24 |  |  | 34.7 |  |  | 104.7 |  |  | 67 |  |  |
| HCM LOS | C |  |  | D |  |  | F |  |  | F |  |  |


| Lane | NBLn1 | EBLn1 | WBLn1 | SBLn1 |
| :--- | ---: | ---: | ---: | ---: |
| Vol Left, \% | $33 \%$ | $13 \%$ | $40 \%$ | $11 \%$ |
| Vol Thru, \% | $31 \%$ | $50 \%$ | $57 \%$ | $80 \%$ |
| Vol Right, \% | $36 \%$ | $37 \%$ | $3 \%$ | $9 \%$ |
| Sign Control | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 387 | 180 | 240 | 337 |
| LT Vol | 127 | 23 | 95 | 38 |
| Through Vol | 119 | 90 | 137 | 269 |
| RT Vol | 141 | 67 | 8 | 30 |
| Lane Flow Rate | 516 | 240 | 320 | 449 |
| Geometry Grp | 1 | 1 | 1 | 1 |
| Degree of Util (X) | 1.115 | 0.578 | 0.754 | 0.979 |
| Departure Headway (Hd) | 7.779 | 9.183 | 8.961 | 8.255 |
| Convergence, Y/N | Yes | Yes | Yes | Yes |
| Cap | 464 | 396 | 406 | 445 |
| Service Time | 5.879 | 7.183 | 6.961 | 6.255 |
| HCM Lane V/C Ratio | 1.112 | 0.606 | 0.788 | 1.009 |
| HCM Control Delay | 104.7 | 24 | 34.7 | 67 |
| HCM Lane LOS | F | C | D | F |
| HCM 95th-tile Q | 17.5 | 3.5 | 6.1 | 12.1 |


| Intersection |  |
| :--- | ---: |
| Intersection Delay, s/veh | 55.8 |
| Intersection LOS | F |


| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Lane Configurations | ${ }^{7}$ | F' |  | $\uparrow$ | $\uparrow$ | F' |
| Traffic Vol, veh/h | 463 | 53 | 60 | 264 | 314 | 469 |
| Future Vol, veh/h | 463 | 53 | 60 | 264 | 314 | 469 |
| Peak Hour Factor | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 |
| Heavy Vehicles, \% | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 498 | 57 | 65 | 284 | 338 | 504 |
| Number of Lanes | 1 | 1 | 0 | 1 | 1 | 1 |
| Approach | EB |  | NB |  | SB |  |
| Opposing Approach |  |  | SB |  | NB |  |
| Opposing Lanes | 0 |  | 2 |  | 1 |  |
| Conflicting Approach Left | SB |  | EB |  |  |  |
| Conflicting Lanes Left | 2 |  | 2 |  | 0 |  |
| Conflicting Approach Right | NB |  |  |  | EB |  |
| Conflicting Lanes Right | 1 |  | 0 |  | 2 |  |
| HCM Control Delay | 96.7 |  | 28.5 |  | 40.1 |  |
| HCM LOS | F |  | D |  | E |  |


| Lane | NBLn1 | EBLn1 | EBLn2 | SBLn1 | SBLn2 |
| :--- | ---: | ---: | ---: | ---: | ---: |
| Vol Left, \% | $19 \%$ | $100 \%$ | $0 \%$ | $0 \%$ | $0 \%$ |
| Vol Thru, \% | $81 \%$ | $0 \%$ | $0 \%$ | $100 \%$ | $0 \%$ |
| Vol Right, \% | $0 \%$ | $0 \%$ | $100 \%$ | $0 \%$ | $100 \%$ |
| Sign Control | Stop | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 324 | 463 | 53 | 314 | 469 |
| LT Vol | 60 | 463 | 0 | 0 | 0 |
| Through Vol | 064 | 0 | 0 | 314 | 0 |
| RT Vol | 0 | 0 | 53 | 0 | 469 |
| Lane Flow Rate | 448 | 498 | 57 | 338 | 504 |
| Geometry Grp | 4 | 7 | 7 | 7 | 7 |
| Degree of Util (X) | 0.719 | 1.118 | 0.109 | 0.686 | 0.927 |
| Departure Headway (Hd) | 7.858 | 8.087 | 6.857 | 7.732 | 7.01 |
| Convergence, Y/N | Yes | Yes | Yes | Yes | Yes |
| Cap | 463 | 453 | 523 | 469 | 519 |
| Service Time | 5.858 | 5.824 | 4.593 | 5.432 | 4.71 |
| HCM Lane V/C Ratio | 0.752 | 1.099 | 0.109 | 0.721 | 0.971 |
| HCM Control Delay | 28.5 | 106.6 | 10.4 | 25.7 | 49.8 |
| HCM Lane LOS | D | F | B | $D$ | E |
| HCM 95th-tile Q | 5.7 | 17.3 | 0.4 | 5.1 | 11.2 |


|  | 4 |  |  | $\dagger$ | $\leftarrow$ |  | 4 | 4 | $p$ |  | $\dagger$ | $\downarrow$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  | $\dagger$ |  |  | $\dagger$ |  |  | $\uparrow$ | F | ${ }^{4}$ | $\uparrow$ |  |
| Traffic Volume (veh/h) | 38 | 173 | 29 | 11 | 123 | 294 | 34 | 250 | 6 | 357 | 405 | 113 |
| Future Volume (veh/h) | 38 | 173 | 29 | 11 | 123 | 294 | 34 | 250 | 6 | 357 | 405 | 113 |
| Initial $Q(Q b)$, veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 |  | 0.99 | 0.99 |  | 0.99 | 1.00 |  | 0.94 | 1.00 |  | 0.96 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach |  | No |  |  | No |  |  | No |  |  | No |  |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 43 | 194 | 33 | 12 | 138 | 330 | 38 | 281 | 7 | 401 | 455 | 127 |
| Peak Hour Factor | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 |
| Percent Heavy Veh, \% | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 87 | 362 | 57 | 43 | 160 | 364 | 43 | 319 | 291 | 615 | 481 | 134 |
| Arrive On Green | 0.32 | 0.32 | 0.32 | 0.32 | 0.32 | 0.32 | 0.19 | 0.19 | 0.19 | 0.35 | 0.35 | 0.35 |
| Sat Flow, veh/h | 138 | 1121 | 175 | 17 | 495 | 1126 | 221 | 1638 | 1496 | 1781 | 1393 | 389 |
| Grp Volume(v), veh/h | 270 | 0 | 0 | 480 | 0 | 0 | 319 | 0 | 7 | 401 | 0 | 582 |
| Grp Sat Flow(s),veh/h/n | 1435 | 0 | 0 | 1638 | 0 | 0 | 1859 | 0 | 1496 | 1781 | 0 | 1782 |
| Q Serve(g_s), s | 0.0 | 0.0 | 0.0 | 8.8 | 0.0 | 0.0 | 16.4 | 0.0 | 0.4 | 18.7 | 0.0 | 31.2 |
| Cycle Q Clear(g_c), s | 12.7 | 0.0 | 0.0 | 27.5 | 0.0 | 0.0 | 16.4 | 0.0 | 0.4 | 18.7 | 0.0 | 31.2 |
| Prop In Lane | 0.16 |  | 0.12 | 0.02 |  | 0.69 | 0.12 |  | 1.00 | 1.00 |  | 0.22 |
| Lane Grp Cap(c), veh/h | 506 | 0 | 0 | 566 | 0 | 0 | 362 | 0 | 291 | 615 | 0 | 615 |
| V/C Ratio(X) | 0.53 | 0.00 | 0.00 | 0.85 | 0.00 | 0.00 | 0.88 | 0.00 | 0.02 | 0.65 | 0.00 | 0.95 |
| Avail Cap(c_a), veh/h | 631 | 0 | 0 | 696 | 0 | 0 | 426 | 0 | 343 | 626 | 0 | 626 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 26.5 | 0.0 | 0.0 | 31.8 | 0.0 | 0.0 | 38.5 | 0.0 | 32.0 | 27.2 | 0.0 | 31.3 |
| Incr Delay (d2), s/veh | 0.9 | 0.0 | 0.0 | 8.1 | 0.0 | 0.0 | 17.1 | 0.0 | 0.0 | 2.4 | 0.0 | 23.4 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| \%ile BackOfQ(50\%),veh/ln | 5.0 | 0.0 | 0.0 | 11.5 | 0.0 | 0.0 | 9.1 | 0.0 | 0.1 | 7.9 | 0.0 | 16.6 |
| Unsig. Movement Delay, s/veh |  |  |  |  |  |  |  |  |  |  |  |  |
| LnGrp Delay (d),s/veh | 27.4 | 0.0 | 0.0 | 39.9 | 0.0 | 0.0 | 55.5 | 0.0 | 32.0 | 29.5 | 0.0 | 54.6 |
| LnGrp LOS | C | A | A | D | A | A | E | A | C | C | A | D |
| Approach Vol, veh/h |  | 270 |  |  | 480 |  |  | 326 |  |  | 983 |  |
| Approach Delay, s/veh |  | 27.4 |  |  | 39.9 |  |  | 55.0 |  |  | 44.4 |  |
| Approach LOS |  | C |  |  | D |  |  | E |  |  | D |  |
| Timer - Assigned Phs |  | 2 |  | 4 |  | 6 |  | 8 |  |  |  |  |
| Phs Duration ( $G+Y+R \mathrm{c}$ ), $s$ |  | 23.6 |  | 36.2 |  | 38.4 |  | 36.2 |  |  |  |  |
| Change Period ( $\mathrm{Y}+\mathrm{Rc}$ ), s |  | 4.5 |  | 4.5 |  | 4.5 |  | 4.5 |  |  |  |  |
| Max Green Setting (Gmax), s |  | 22.5 |  | 39.5 |  | 34.5 |  | 39.5 |  |  |  |  |
| Max Q Clear Time (g_c+11), s |  | 18.4 |  | 14.7 |  | 33.2 |  | 29.5 |  |  |  |  |
| Green Ext Time (p_c), s |  | 0.7 |  | 1.7 |  | 0.7 |  | 2.2 |  |  |  |  |
| Intersection Summary |  |  |  |  |  |  |  |  |  |  |  |  |
| HCM 6th Ctrr Delay |  |  | 42.8 |  |  |  |  |  |  |  |  |  |
| HCM 6th LOS |  |  | D |  |  |  |  |  |  |  |  |  |


| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Lane Configurations | 7 | 「 | $\uparrow$ | F' | ${ }^{7}$ | $\uparrow$ |
| Traffic Volume (veh/h) | 496 | 17 | 206 | 320 | 51 | 495 |
| Future Volume (veh/h) | 496 | 17 | 206 | 320 | 51 | 495 |
| Initial $Q(Q b)$, veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | 1.00 |  | 0.97 | 1.00 |  |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No |  | No |  |  | No |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 533 | 18 | 222 | 344 | 55 | 532 |
| Peak Hour Factor | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 |
| Percent Heavy Veh, \% | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 652 | 580 | 480 | 976 | 82 | 757 |
| Arrive On Green | 0.37 | 0.37 | 0.26 | 0.26 | 0.05 | 0.40 |
| Sat Flow, veh/h | 1781 | 1585 | 1870 | 1541 | 1781 | 1870 |
| Grp Volume(v), veh/h | 533 | 18 | 222 | 344 | 55 | 532 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1585 | 1870 | 1541 | 1781 | 1870 |
| Q Serve(g_s), s | 10.6 | 0.3 | 3.9 | 4.3 | 1.2 | 9.3 |
| Cycle Q Clear(g_c), s | 10.6 | 0.3 | 3.9 | 4.3 | 1.2 | 9.3 |
| Prop In Lane | 1.00 | 1.00 |  | 1.00 | 1.00 |  |
| Lane Grp Cap(c), veh/h | 652 | 580 | 480 | 976 | 82 | 757 |
| V/C Ratio(X) | 0.82 | 0.03 | 0.46 | 0.35 | 0.67 | 0.70 |
| Avail Cap(c_a), veh/h | 1361 | 1211 | 1287 | 1640 | 454 | 1954 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(l) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 11.3 | 8.0 | 12.3 | 3.6 | 18.4 | 9.7 |
| Incr Delay (d2), s/veh | 2.6 | 0.0 | 0.7 | 0.2 | 9.2 | 1.2 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| \%ile BackOfQ(50\%),veh/ln | 3.7 | 0.1 | 1.2 | 2.0 | 0.6 | 2.2 |
| Unsig. Movement Delay, s/veh |  |  |  |  |  |  |
| LnGrp Delay(d),s/veh | 13.8 | 8.0 | 13.0 | 3.8 | 27.6 | 10.9 |
| LnGrp LOS | B | A | B | A | C | B |
| Approach Vol, veh/h | 551 |  | 566 |  |  | 587 |
| Approach Delay, s/veh | 13.7 |  | 7.4 |  |  | 12.5 |
| Approach LOS | B |  | A |  |  | B |


| Timer - Assigned Phs | 1 | 2 | 6 | 8 |
| :--- | ---: | ---: | ---: | ---: |
| Phs Duration (G+Y+Rc), s | 5.8 | 14.6 | 20.4 | 18.9 |
| Change Period (Y+Rc), s | 4.0 | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 10.0 | 27.0 | 41.0 | 30.0 |
| Max Q Clear Time (g_c+11), s | 3.2 | 6.3 | 11.3 | 12.6 |
| Green Ext Time (p_c), s | 0.0 | 2.2 | 3.1 | 1.8 |
| Intersection Summary |  |  |  |  |
| HCM 6th Ctrl Delay |  |  | 11.2 |  |
| HCM 6th LOS | B |  |  |  |


|  | $\Rightarrow$ | $\rightarrow$ | \％ | 7 | $\longleftarrow$ | 4 | 4 | $\dagger$ | $p$ | ＊ | $\downarrow$ | $\downarrow$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | \％ | 个的 |  | \％ | 个的 |  | ${ }^{4}$ | 4 | 「 | ${ }^{*}$ | 4 | F |
| Traffic Volume（veh／h） | 127 | 456 | 46 | 145 | 314 | 23 | 131 | 199 | 204 | 48 | 300 | 320 |
| Future Volume（veh／h） | 127 | 456 | 46 | 145 | 314 | 23 | 131 | 199 | 204 | 48 | 300 | 320 |
| Initial $Q(Q b)$ ，veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped－Bike Adj（A＿pbT） | 1.00 |  | 0.97 | 1.00 |  | 0.98 | 1.00 |  | 0.99 | 1.00 |  | 1.00 |
| Parking Bus，Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach |  | No |  |  | No |  |  | No |  |  | No |  |
| Adj Sat Flow，veh／h／ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate，veh／h | 141 | 507 | 51 | 161 | 349 | 26 | 146 | 221 | 227 | 53 | 333 | 356 |
| Peak Hour Factor | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Percent Heavy Veh，\％ | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap，veh／h | 245 | 681 | 68 | 250 | 684 | 51 | 246 | 546 | 679 | 211 | 509 | 431 |
| Arrive On Green | 0.14 | 0.21 | 0.21 | 0.14 | 0.20 | 0.20 | 0.14 | 0.29 | 0.29 | 0.12 | 0.27 | 0.27 |
| Sat Flow，veh／h | 1781 | 3252 | 326 | 1781 | 3348 | 248 | 1781 | 1870 | 1565 | 1781 | 1870 | 1585 |
| Grp Volume（v），veh／h | 141 | 276 | 282 | 161 | 184 | 191 | 146 | 221 | 227 | 53 | 333 | 356 |
| Grp Sat Flow（s），veh／h／n | 1781 | 1777 | 1801 | 1781 | 1777 | 1819 | 1781 | 1870 | 1565 | 1781 | 1870 | 1585 |
| Q Serve（g＿s），s | 5.6 | 11.0 | 11.1 | 6.5 | 7.0 | 7.1 | 5.8 | 7.2 | 7.3 | 2.1 | 12.0 | 16.0 |
| Cycle Q Clear（g＿c），s | 5.6 | 11.0 | 11.1 | 6.5 | 7.0 | 7.1 | 5.8 | 7.2 | 7.3 | 2.1 | 12.0 | 16.0 |
| Prop In Lane | 1.00 |  | 0.18 | 1.00 |  | 0.14 | 1.00 |  | 1.00 | 1.00 |  | 1.00 |
| Lane Grp Cap（c），veh／h | 245 | 372 | 377 | 250 | 363 | 371 | 246 | 546 | 679 | 211 | 509 | 431 |
| VIC Ratio（X） | 0.58 | 0.74 | 0.75 | 0.64 | 0.51 | 0.51 | 0.59 | 0.40 | 0.33 | 0.25 | 0.65 | 0.83 |
| Avail Cap（c＿a），veh／h | 258 | 586 | 593 | 282 | 600 | 614 | 258 | 747 | 847 | 232 | 727 | 616 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter（l） | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay（d），s／veh | 30.6 | 28.1 | 28.1 | 30.8 | 26.8 | 26.8 | 30.7 | 21.6 | 14.3 | 30.4 | 24.4 | 25.9 |
| Incr Delay（d2），s／veh | 2.8 | 2.9 | 3.0 | 4.2 | 1.1 | 1.1 | 3.3 | 0.5 | 0.3 | 0.6 | 1.4 | 6.2 |
| Initial Q Delay（d3），s／veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| \％ile BackOfQ（50\％），veh／ln | 2.5 | 4.8 | 4.9 | 3.0 | 3.0 | 3.1 | 2.6 | 3.0 | 2.5 | 0.9 | 5.3 | 6.4 |
| Unsig．Movement Delay，s／veh |  |  |  |  |  |  |  |  |  |  |  |  |
| LnGrp Delay（d），s／veh | 33.5 | 31.0 | 31.1 | 35.0 | 27.9 | 27.9 | 34.0 | 22.1 | 14.6 | 31.0 | 25.9 | 32.1 |
| LnGrp LOS | C | C | C | D | C | C | C | C | B | C | C | C |
| Approach Vol，veh／h |  | 699 |  |  | 536 |  |  | 594 |  |  | 742 |  |
| Approach Delay，s／veh |  | 31.5 |  |  | 30.1 |  |  | 22.1 |  |  | 29.2 |  |
| Approach LOS |  | C |  |  | C |  |  | C |  |  | C |  |
| Timer－Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |  |  |  |  |
| Phs Duration（ $\mathrm{G}+\mathrm{Y}+\mathrm{Rc}$ ）， s | 13.0 | 27.0 | 14.6 | 21.2 | 14.5 | 25.5 | 15.0 | 20.8 |  |  |  |  |
| Change Period（ $\mathrm{Y}+\mathrm{Rc}$ ），s | 4.0 | 4.9 | 4.0 | ＊5．3 | 4.0 | ＊4．9 | 4.6 | 5.3 |  |  |  |  |
| Max Green Setting（Gmax），s | 9.9 | 30.3 | 12.0 | ＊ 25 | 11.0 | ＊ 30 | 11.0 | 25.6 |  |  |  |  |
| Max Q Clear Time（g＿c＋11），s | 4.1 | 9.3 | 8.5 | 13.1 | 7.8 | 18.0 | 7.6 | 9.1 |  |  |  |  |
| Green Ext Time（p＿c），s | 0.0 | 1.9 | 0.1 | 2.7 | 0.1 | 2.6 | 0.1 | 2.0 |  |  |  |  |
| Intersection Summary |  |  |  |  |  |  |  |  |  |  |  |  |
| HCM 6th Ctrl Delay |  |  | 28.4 |  |  |  |  |  |  |  |  |  |
| HCM 6th LOS |  |  | C |  |  |  |  |  |  |  |  |  |
| Notes |  |  |  |  |  |  |  |  |  |  |  |  |

＊HCM 6th computational engine requires equal clearance times for the phases crossing the barrier．

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Lane Configurations | \% | $\uparrow$ | F | ${ }^{7}$ | $\uparrow$ | F | \% | 个4 | F | \% | 中 ${ }^{\text {c }}$ |  |
| Traffic Volume (veh/h) | , | 19 | 33 | 419 | 31 | 58 | 103 | 526 | 578 | 121 | 578 | 8 |
| Future Volume (veh/h) | 4 | 19 | 33 | 419 | 31 | 58 | 103 | 526 | 578 | 121 | 578 | 8 |
| Initial $Q(Q b)$, veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 |  | 0.98 | 1.00 |  | 0.99 | 1.00 |  | 1.00 | 1.00 |  | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach |  | No |  |  | No |  |  | No |  |  | No |  |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 4 | 20 | 35 | 470 | 0 | 62 | 110 | 560 | 615 | 129 | 615 | 9 |
| Peak Hour Factor | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 |
| Percent Heavy Veh, \% | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 161 | 169 | 141 | 623 | 0 | 275 | 199 | 1358 | 883 | 206 | 1382 | 20 |
| Arrive On Green | 0.09 | 0.09 | 0.09 | 0.17 | 0.00 | 0.17 | 0.11 | 0.38 | 0.38 | 0.12 | 0.39 | 0.39 |
| Sat Flow, veh/h | 1781 | 1870 | 1560 | 3563 | 0 | 1571 | 1781 | 3554 | 1585 | 1781 | 3584 | 52 |
| Grp Volume(v), veh/h | 4 | 20 | 35 | 470 | 0 | 62 | 110 | 560 | 615 | 129 | 305 | 319 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1870 | 1560 | 1781 | 0 | 1571 | 1781 | 1777 | 1585 | 1781 | 1777 | 1859 |
| Q Serve(g_s), s | 0.2 | 0.8 | 1.7 | 10.3 | 0.0 | 2.8 | 4.8 | 9.5 | 23.1 | 5.7 | 10.4 | 10.4 |
| Cycle Q Clear(g_c), s | 0.2 | 0.8 | 1.7 | 10.3 | 0.0 | 2.8 | 4.8 | 9.5 | 23.1 | 5.7 | 10.4 | 10.4 |
| Prop In Lane | 1.00 |  | 1.00 | 1.00 |  | 1.00 | 1.00 |  | 1.00 | 1.00 |  | 0.03 |
| Lane Grp Cap(c), veh/h | 161 | 169 | 141 | 623 | 0 | 275 | 199 | 1358 | 883 | 206 | 685 | 717 |
| V/C Ratio(X) | 0.02 | 0.12 | 0.25 | 0.75 | 0.00 | 0.23 | 0.55 | 0.41 | 0.70 | 0.63 | 0.44 | 0.45 |
| Avail Cap(c_a), veh/h | 673 | 707 | 589 | 1737 | 0 | 766 | 434 | 1516 | 953 | 434 | 758 | 793 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(l) | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 34.0 | 34.3 | 34.7 | 32.2 | 0.0 | 29.1 | 34.5 | 18.6 | 13.2 | 34.6 | 18.7 | 18.7 |
| Incr Delay (d2), s/veh | 0.0 | 0.1 | 0.3 | 0.7 | 0.0 | 0.2 | 0.9 | 0.3 | 2.5 | 1.2 | 0.8 | 0.7 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| \%ile BackOfQ(50\%),veh/In | 0.1 | 0.4 | 0.6 | 4.2 | 0.0 | 1.0 | 2.1 | 3.7 | 11.7 | 2.4 | 4.1 | 4.3 |
| Unsig. Movement Delay, s/veh |  |  |  |  |  |  |  |  |  |  |  |  |
| LnGrp Delay(d),s/veh | 34.1 | 34.5 | 35.1 | 32.9 | 0.0 | 29.2 | 35.4 | 18.9 | 15.7 | 35.8 | 19.5 | 19.4 |
| LnGrp LOS | C | C | D | C | A | C | D | B | B | D | B | B |
| Approach Vol, veh/h |  | 59 |  |  | 532 |  |  | 1285 |  |  | 753 |  |
| Approach Delay, s/veh |  | 34.8 |  |  | 32.5 |  |  | 18.8 |  |  | 22.3 |  |
| Approach LOS |  | C |  |  | C |  |  | B |  |  | C |  |


| Timer - Assigned Phs | 1 | 2 | 4 | 5 | 6 | 8 |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: |
| Phs Duration $(G+Y+R c), s$ | 13.7 | 36.4 | 12.2 | 13.4 | 36.7 | 19.7 |
| Change Period $(\mathrm{Y}+\mathrm{Rc}), \mathrm{s}$ | ${ }^{*} 4.2$ | 5.1 | ${ }^{*} 4.8$ | ${ }^{*} 4.2$ | 5.1 | 5.4 |
| Max Green Setting (Gmax), s | ${ }^{*} 20$ | 35.0 | $* 31$ | $* 20$ | 35.0 | 40.0 |
| Max Q Clear Time (g_c+11), s | 7.7 | 25.1 | 3.7 | 6.8 | 12.4 | 12.3 |
| Green Ext Time (p_c), s | 0.1 | 6.3 | 0.1 | 0.1 | 5.9 | 1.0 |

Intersection Summary

| HCM 6th Ctrl Delay | 22.9 |
| :--- | ---: |
| HCM 6th LOS | C |

## Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Lane Configurations | \％＊ | 「「「 | 个 $\uparrow$ | 「 |  | 个 $\uparrow$ |
| Traffic Volume（veh／h） | 122 | 284 | 918 | 374 | 0 | 1056 |
| Future Volume（veh／h） | 122 | 284 | 918 | 374 | 0 | 1056 |
| Initial $Q(Q b)$ ，veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped－Bike Adj（A＿pbT） | 1.00 | 1.00 |  | 1.00 | 1.00 |  |
| Parking Bus，Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No |  | No |  |  | No |
| Adj Sat Flow，veh／h／ln | 1870 | 1870 | 1870 | 1870 | 0 | 1870 |
| Adj Flow Rate，veh／h | 127 | 296 | 956 | 0 | 0 | 1100 |
| Peak Hour Factor | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 |
| Percent Heavy Veh，\％ | 2 | 2 | 2 | 2 | 0 | 2 |
| Cap，veh／h | 510 | 411 | 2472 |  | 0 | 2472 |
| Arrive On Green | 0.15 | 0.15 | 1.00 | 0.00 | 0.00 | 0.70 |
| Sat Flow，veh／h | 3456 | 2790 | 3647 | 1585 | 0 | 3741 |
| Grp Volume（v），veh／h | 127 | 296 | 956 | 0 | 0 | 1100 |
| Grp Sat Flow（s），veh／h／ln | 1728 | 1395 | 1777 | 1585 | 0 | 1777 |
| Q Serve（g＿s），s | 2.1 | 6.6 | 0.0 | 0.0 | 0.0 | 8.9 |
| Cycle Q Clear（g＿c），s | 2.1 | 6.6 | 0.0 | 0.0 | 0.0 | 8.9 |
| Prop In Lane | 1.00 | 1.00 |  | 1.00 | 0.00 |  |
| Lane Grp Cap（c），veh／h | 510 | 411 | 2472 |  | 0 | 2472 |
| V／C Ratio（X） | 0.25 | 0.72 | 0.39 |  | 0.00 | 0.44 |
| Avail Cap（c＿a），veh／h | 898 | 725 | 2472 |  | 0 | 2472 |
| HCM Platoon Ratio | 1.00 | 1.00 | 2.00 | 2.00 | 1.00 | 1.00 |
| Upstream Filter（l） | 1.00 | 1.00 | 0.84 | 0.00 | 0.00 | 0.86 |
| Uniform Delay（d），s／veh | 24.5 | 26.4 | 0.0 | 0.0 | 0.0 | 4.4 |
| Incr Delay（d2），s／veh | 0.3 | 2.4 | 0.4 | 0.0 | 0.0 | 0.1 |
| Initial Q Delay（d3），s／veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| \％ile BackOfQ（50\％），veh／ln | 0.8 | 2.0 | 0.1 | 0.0 | 0.0 | 1.9 |
| Unsig．Movement Delay，s／veh |  |  |  |  |  |  |
| LnGrp Delay（d），s／veh | 24.8 | 28.8 | 0.4 | 0.0 | 0.0 | 4.5 |
| LnGrp LOS | C | C | A |  | A | A |
| Approach Vol，veh／h | 423 |  | 956 |  |  | 1100 |
| Approach Delay，s／veh | 27.6 |  | 0.4 |  |  | 4.5 |
| Approach LOS | C |  | A |  |  | A |


| Timer－Assigned Phs | 2 | 6 | 8 |
| :--- | ---: | ---: | ---: |
| Phs Duration（G＋Y＋Rc），s | 50.3 | 50.3 | 14.7 |
| Change Period（Y＋Rc），s | 5.1 | 5.1 | 5.1 |
| Max Green Setting（Gmax），s | 37.9 | 37.9 | 16.9 |
| Max Q Clear Time（g＿c＋11），s | 2.0 | 10.9 | 8.6 |
| Green Ext Time（p＿c），s | 8.0 | 8.9 | 1.0 |

## Intersection Summary

HCM 6th Ctrl Delay 6.8

HCM 6th LOS A
Notes
Unsignalized Delay for［NBR］is excluded from calculations of the approach delay and intersection delay．


## Notes

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

|  | 4 | $\rightarrow$ | \％ | $\dagger$ |  | 4 | 4 | $\dagger$ | $p$ |  | $\downarrow$ | $\downarrow$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | \％ | $\uparrow$ | 「 | \％ | $\uparrow$ | 「 | ${ }^{7} 1$ | 性 |  | ${ }^{7}$ | 个个 | F |
| Traffic Volume（veh／h） | 175 | 121 | 197 | ， | 81 | 45 | 122 | 514 | 4 | 77 | 879 | 168 |
| Future Volume（veh／h） | 175 | 121 | 197 | 2 | 81 | 45 | 122 | 514 | 4 | 77 | 879 | 168 |
| Initial Q（Qb），veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | － | 0 |
| Ped－Bike Adj（A＿pbT） | 1.00 |  | 1.00 | 1.00 |  | 1.00 | 1.00 |  | 1.00 | 1.00 |  | 1.00 |
| Parking Bus，Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach |  | No |  |  | No |  |  | No |  |  | No |  |
| Adj Sat Flow，veh／h／n | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate，veh／h | 194 | 134 | 219 | ， | 90 | 50 | 136 | 571 | ， | 86 | 977 | 187 |
| Peak Hour Factor | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Percent Heavy Veh，\％ | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap，veh／h | 238 | 472 | 501 | 4 | 232 | 196 | 220 | 1531 | 11 | 112 | 1481 | 872 |
| Arrive On Green | 0.13 | 0.25 | 0.25 | 0.00 | 0.12 | 0.12 | 0.06 | 0.42 | 0.42 | 0.06 | 0.42 | 0.42 |
| Sat Flow，veh／h | 1781 | 1870 | 1585 | 1781 | 1870 | 1581 | 3456 | 3617 | 25 | 1781 | 3554 | 1585 |
| Grp Volume（v），veh／h | 194 | 134 | 219 | 2 | 90 | 50 | 136 | 280 | 295 | 86 | 977 | 187 |
| Grp Sat Flow（s），veh／h／ln | 1781 | 1870 | 1585 | 1781 | 1870 | 1581 | 1728 | 1777 | 1866 | 1781 | 1777 | 1585 |
| Q Serve（g＿s），s | 7.9 | 4.3 | 8.2 | 0.1 | 3.3 | 2.1 | 2.9 | 8.0 | 8.0 | 3.5 | 16.5 | 4.5 |
| Cycle Q Clear（g＿c），s | 7.9 | 4.3 | 8.2 | 0.1 | 3.3 | 2.1 | 2.9 | 8.0 | 8.0 | 3.5 | 16.5 | 4.5 |
| Prop In Lane | 1.00 |  | 1.00 | 1.00 |  | 1.00 | 1.00 |  | 0.01 | 1.00 |  | 1.00 |
| Lane Grp Cap（c），veh／h | 238 | 472 | 501 | 4 | 232 | 196 | 220 | 752 | 790 | 112 | 1481 | 872 |
| V／C Ratio（X） | 0.82 | 0.28 | 0.44 | 0.52 | 0.39 | 0.26 | 0.62 | 0.37 | 0.37 | 0.77 | 0.66 | 0.21 |
| Avail Cap（c＿a），veh／h | 718 | 880 | 847 | 718 | 905 | 765 | 1161 | 1314 | 1379 | 479 | 2627 | 1383 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter（l） | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay（d），s／veh | 31.4 | 22.4 | 20.2 | 37.1 | 30.0 | 29.5 | 33.9 | 14.7 | 14.7 | 34.3 | 17.4 | 8.5 |
| Incr Delay（d2），s／veh | 2.6 | 0.2 | 0.4 | 34.3 | 0.8 | 0.5 | 1.1 | 0.4 | 0.4 | 4.2 | 0.7 | 0.2 |
| Initial Q Delay（d3），s／veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| \％ile BackOfQ（50\％），veh／ln | 3.3 | 1.8 | 2.9 | 0.1 | 1.5 | 0.8 | 1.2 | 2.9 | 3.0 | 1.6 | 5.9 | 1.3 |
| Unsig．Movement Delay，s／veh |  |  |  |  |  |  |  |  |  |  |  |  |
| LnGrp Delay（d），s／veh | 34.0 | 22.6 | 20.6 | 71.4 | 30.8 | 30.0 | 35.0 | 15.1 | 15.1 | 38.5 | 18.2 | 8.7 |
| LnGrp LOS | C | C | C | E | C | C | C | B | B | D | B | A |
| Approach Vol，veh／h |  | 547 |  |  | 142 |  |  | 711 |  |  | 1250 |  |
| Approach Delay，s／veh |  | 25.9 |  |  | 31.1 |  |  | 18.9 |  |  | 18.2 |  |
| Approach LOS |  | C |  |  | C |  |  | B |  |  | B |  |
| Timer－Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |  |  |  |  |
| Phs Duration（ $\mathrm{G}+\mathrm{Y}+\mathrm{Rc}$ ），$s$ | 8.9 | 37.0 | 4.4 | 24.2 | 9.3 | 36.5 | 13.9 | 14.6 |  |  |  |  |
| Change Period（ $\mathrm{Y}+\mathrm{Rc}$ ），s | ＊ 4.2 | 5.5 | ＊4．2 | 5.4 | 4.6 | ＊ 5.5 | 4.0 | ＊5．4 |  |  |  |  |
| Max Green Setting（Gmax），s | ＊ 20 | 55.0 | ＊ 30 | 35.0 | 25.0 | ＊55 | 30.0 | ＊ 36 |  |  |  |  |
| Max Q Clear Time（g＿c＋1），s | 5.5 | 10.0 | 2.1 | 10.2 | 4.9 | 18.5 | 9.9 | 5.3 |  |  |  |  |
| Green Ext Time（p＿c），s | 0.1 | 5.1 | 0.0 | 1.0 | 0.2 | 12.6 | 0.2 | 0.5 |  |  |  |  |
| Intersection Summary |  |  |  |  |  |  |  |  |  |  |  |  |
| HCM 6th Ctrr Delay |  |  | 20.6 |  |  |  |  |  |  |  |  |  |
| HCM 6th LOS |  |  | C |  |  |  |  |  |  |  |  |  |
| Notes |  |  |  |  |  |  |  |  |  |  |  |  |

＊HCM 6th computational engine requires equal clearance times for the phases crossing the barrier．

|  | $\stackrel{ }{*}$ |  |  |  |  |  | 4 | $\dagger$ |  | - | $\downarrow$ | $\checkmark$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  | $\uparrow$ |  |  |  |  | 7 | F |  | ${ }^{*}$ | F |  |
| Traffic Volume (veh/h) | 4 | 61 | 59 | 0 | 0 | 0 | 89 | 198 | 5 | 129 | 328 | 2 |
| Future Volume (veh/h) | 4 | 61 | 59 | 0 | 0 | 0 | 89 | 198 | 5 | 129 | 328 | 2 |
| Initial $Q(Q b)$, veh | 0 | 0 | 0 |  |  |  | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 |  | 1.00 |  |  |  | 1.00 |  | 1.00 | 1.00 |  | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 |  |  |  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach |  | No |  |  |  |  |  | No |  |  | No |  |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 |  |  |  | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 5 | 71 | 69 |  |  |  | 103 | 230 | 6 | 150 | 381 | 0 |
| Peak Hour Factor | 0.86 | 0.86 | 0.86 |  |  |  | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 |
| Percent Heavy Veh, \% | 2 | 2 | 2 |  |  |  | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 7 | 100 | 97 |  |  |  | 173 | 512 | 13 | 215 | 571 |  |
| Arrive On Green | 0.12 | 0.12 | 0.12 |  |  |  | 0.10 | 0.28 | 0.28 | 0.12 | 0.31 | 0.00 |
| Sat Flow, veh/h | 59 | 842 | 819 |  |  |  | 1781 | 1814 | 47 | 1781 | 1870 | 0 |
| Grp Volume(v), veh/h | 145 | 0 | 0 |  |  |  | 103 | 0 | 236 | 150 | 381 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1720 | 0 | 0 |  |  |  | 1781 | 0 | 1862 | 1781 | 1870 | 0 |
| Q Serve(g_s), s | 2.4 | 0.0 | 0.0 |  |  |  | 1.6 | 0.0 | 3.0 | 2.4 | 5.2 | 0.0 |
| Cycle Q Clear(g_c), s | 2.4 | 0.0 | 0.0 |  |  |  | 1.6 | 0.0 | 3.0 | 2.4 | 5.2 | 0.0 |
| Prop In Lane | 0.03 |  | 0.48 |  |  |  | 1.00 |  | 0.03 | 1.00 |  | 0.00 |
| Lane Grp Cap(c), veh/h | 204 | 0 | 0 |  |  |  | 173 | 0 | 525 | 215 | 571 |  |
| V/C Ratio(X) | 0.71 | 0.00 | 0.00 |  |  |  | 0.60 | 0.00 | 0.45 | 0.70 | 0.67 |  |
| Avail Cap(c_a), veh/h | 1030 | 0 | 0 |  |  |  | 549 | 0 | 1370 | 732 | 1568 |  |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 |  |  |  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(l) | 1.00 | 0.00 | 0.00 |  |  |  | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 0.00 |
| Uniform Delay (d), s/veh | 12.4 | 0.0 | 0.0 |  |  |  | 12.6 | 0.0 | 8.6 | 12.3 | 8.8 | 0.0 |
| Incr Delay (d2), s/veh | 4.6 | 0.0 | 0.0 |  |  |  | 3.3 | 0.0 | 0.6 | 4.1 | 1.3 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 |  |  |  | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| \%ile BackOfQ(50\%),veh/ln | 0.8 | 0.0 | 0.0 |  |  |  | 0.5 | 0.0 | 0.6 | 0.8 | 1.0 | 0.0 |
| Unsig. Movement Delay, s/veh |  |  |  |  |  |  |  |  |  |  |  |  |
| LnGrp Delay(d),s/veh | 17.0 | 0.0 | 0.0 |  |  |  | 15.9 | 0.0 | 9.2 | 16.4 | 10.2 | 0.0 |
| LnGrp LOS | B | A | A |  |  |  | B | A | A | B | B |  |
| Approach Vol, veh/h |  | 145 |  |  |  |  |  | 339 |  |  | 531 |  |
| Approach Delay, s/veh |  | 17.0 |  |  |  |  |  | 11.3 |  |  | 12.0 |  |
| Approach LOS |  | B |  |  |  |  |  | B |  |  | B |  |


| Timer - Assigned Phs | 1 | 2 | 4 | 5 | 6 |
| :--- | ---: | ---: | ---: | ---: | ---: |
| Phs Duration $(G+Y+R c)$, s | 7.5 | 13.2 | 8.5 | 6.8 | 13.9 |
| Change Period (Y+Rc), s | 4.0 | 5.0 | 5.0 | 4.0 | 5.0 |
| Max Green Setting (Gmax), s | 12.0 | 21.5 | 17.5 | 9.0 | 24.5 |
| Max Q Clear Time (g_c+11), s | 4.4 | 5.0 | 4.4 | 3.6 | 7.2 |
| Green Ext Time (p_c), s | 0.2 | 0.9 | 0.5 | 0.1 | 1.7 |

Intersection Summary

| HCM 6th Ctrl Delay | 12.4 |
| :--- | ---: |
| HCM 6th LOS | $B$ |

## Notes

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

|  | $\rangle$ |  |  | 7 |  |  | 4 | 4 | $p$ |  | $\downarrow$ | $\downarrow$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  | $\uparrow$ | 「 |  | ¢ |  | \% | $\uparrow$ |  | ${ }_{7}$ | 4 | F |
| Traffic Volume (veh/h) | 46 | 4 | 331 | 2 | , | 0 | 167 | 444 | 4 | , | 659 | 67 |
| Future Volume (veh/h) | 46 | 4 | 331 | 2 | 0 | 0 | 167 | 444 | 4 | 2 | 659 | 67 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 |  | 1.00 | 1.00 |  | 1.00 | 1.00 |  | 0.98 | 1.00 |  | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach |  | No |  |  | No |  |  | No |  |  | No |  |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 52 | 5 | 376 | 2 | 0 | 0 | 190 | 505 | 5 | 2 | 749 | 76 |
| Peak Hour Factor | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 |
| Percent Heavy Veh, \% | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 414 | 40 | 402 | 4 | 0 | 0 | 228 | 967 | 10 | 4 | 743 | 630 |
| Arrive On Green | 0.25 | 0.25 | 0.25 | 0.00 | 0.00 | 0.00 | 0.13 | 0.52 | 0.52 | 0.00 | 0.40 | 0.40 |
| Sat Flow, veh/h | 1632 | 157 | 1585 | 1781 | 0 | 0 | 1781 | 1848 | 18 | 1781 | 1870 | 1585 |
| Grp Volume(v), veh/h | 57 | 0 | 376 | 2 | 0 | 0 | 190 | 0 | 510 | 2 | 749 | 76 |
| Grp Sat Flow(s),veh/h/ln | 1789 | 0 | 1585 | 1781 | 0 | 0 | 1781 | 0 | 1867 | 1781 | 1870 | 1585 |
| Q Serve(g_s), s | 2.1 | 0.0 | 20.2 | 0.1 | 0.0 | 0.0 | 9.0 | 0.0 | 15.6 | 0.1 | 34.5 | 2.6 |
| Cycle Q Clear (g_c), s | 2.1 | 0.0 | 20.2 | 0.1 | 0.0 | 0.0 | 9.0 | 0.0 | 15.6 | 0.1 | 34.5 | 2.6 |
| Prop In Lane | 0.91 |  | 1.00 | 1.00 |  | 0.00 | 1.00 |  | 0.01 | 1.00 |  | 1.00 |
| Lane Grp Cap (c), veh/h | 453 | 0 | 402 | 4 | 0 | 0 | 228 | 0 | 977 | 4 | 743 | 630 |
| V/C Ratio(X) | 0.13 | 0.00 | 0.94 | 0.52 | 0.00 | 0.00 | 0.83 | 0.00 | 0.52 | 0.52 | 1.01 | 0.12 |
| Avail Cap(c_a), veh/h | 453 | 0 | 402 | 215 | 0 | 0 | 328 | 0 | 1000 | 82 | 743 | 630 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(l) | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 25.0 | 0.0 | 31.7 | 43.3 | 0.0 | 0.0 | 36.9 | 0.0 | 13.6 | 43.3 | 26.2 | 16.6 |
| Incr Delay (d2), s/veh | 0.1 | 0.0 | 29.3 | 79.1 | 0.0 | 0.0 | 11.5 | 0.0 | 0.5 | 79.1 | 34.9 | 0.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| \%ile BackOfQ(50\%),veh/ln | 0.9 | 0.0 | 10.7 | 0.1 | 0.0 | 0.0 | 4.4 | 0.0 | 5.7 | 0.1 | 20.8 | 0.9 |
| Unsig. Movement Delay, s/veh |  |  |  |  |  |  |  |  |  |  |  |  |
| LnGrp Delay(d),s/veh | 25.1 | 0.0 | 61.0 | 122.4 | 0.0 | 0.0 | 48.4 | 0.0 | 14.0 | 122.4 | 61.1 | 16.6 |
| LnGrp LOS | C | A | E | F | A | A | D | A | B | F | F | B |
| Approach Vol, veh/h |  | 433 |  |  | 2 |  |  | 700 |  |  | 827 |  |
| Approach Delay, s/veh |  | 56.3 |  |  | 122.4 |  |  | 23.4 |  |  | 57.1 |  |
| Approach LOS |  | E |  |  | F |  |  | C |  |  | E |  |
| Timer - Assigned Phs | 1 | 2 |  | 4 | 5 | 6 |  | 8 |  |  |  |  |
| Phs Duration ( $\mathrm{G}+\mathrm{Y}+\mathrm{Rc}$ ), s | 4.2 | 50.9 |  | 26.0 | 15.1 | 40.0 |  | 5.7 |  |  |  |  |
| Change Period ( $\mathrm{Y}+\mathrm{Rc}$ ), s | 4.0 | 5.5 |  | 4.0 | 4.0 | 5.5 |  | 5.5 |  |  |  |  |
| Max Green Setting (Gmax), s | 4.0 | 46.5 |  | 22.0 | 16.0 | 34.5 |  | 10.5 |  |  |  |  |
| Max Q Clear Time (g_c+1), s | 2.1 | 17.6 |  | 22.2 | 11.0 | 36.5 |  | 2.1 |  |  |  |  |
| Green Ext Time (p_c), s | 0.0 | 3.1 |  | 0.0 | 0.2 | 0.0 |  | 0.0 |  |  |  |  |
| Intersection Summary |  |  |  |  |  |  |  |  |  |  |  |  |
| HCM 6th Ctrr DelayHCM 6th LOS |  |  | 45.0 |  |  |  |  |  |  |  |  |  |
|  |  |  | D |  |  |  |  |  |  |  |  |  |


| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Lane Configurations | ${ }^{1}$ | 「' | 4 | 「 | ${ }^{1}$ | 4 |
| Traffic Volume (veh/h) | 70 | 48 | 418 | 46 | 39 | 701 |
| Future Volume (veh/h) | 70 | 48 | 418 | 46 | 39 | 701 |
| Initial Q $(Q b)$, veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | 1.00 |  | 1.00 | 1.00 |  |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No |  | No |  |  | No |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 76 | 52 | 454 | 50 | 42 | 762 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, \% | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 151 | 135 | 672 | 569 | 69 | 1067 |
| Arrive On Green | 0.09 | 0.09 | 0.36 | 0.36 | 0.04 | 0.57 |
| Sat Flow, veh/h | 1781 | 1585 | 1870 | 1585 | 1781 | 1870 |
| Grp Volume(v), veh/h | 76 | 52 | 454 | 50 | 42 | 762 |
| Grp Sat Flow(s), veh/h/ln | 1781 | 1585 | 1870 | 1585 | 1781 | 1870 |
| Q Serve(g_s), s | 1.3 | 1.0 | 6.6 | 0.7 | 0.7 | 9.4 |
| Cycle Q Clear(g_c), s | 1.3 | 1.0 | 6.6 | 0.7 | 0.7 | 9.4 |
| Prop In Lane | 1.00 | 1.00 |  | 1.00 | 1.00 |  |
| Lane Grp Cap(c), veh/h | 151 | 135 | 672 | 569 | 69 | 1067 |
| V/C Ratio(X) | 0.50 | 0.39 | 0.68 | 0.09 | 0.61 | 0.71 |
| Avail Cap(c_a), veh/h | 1702 | 1515 | 2725 | 2309 | 558 | 3545 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(l) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 14.0 | 13.8 | 8.7 | 6.8 | 15.1 | 5.0 |
| Incr Delay (d2), s/veh | 2.6 | 1.8 | 1.2 | 0.1 | 8.2 | 0.9 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| \%ile BackOfQ(50\%),veh/ln | 0.5 | 0.3 | 1.5 | 0.1 | 0.4 | 0.6 |
| Unsig. Movement Delay, s/veh |  |  |  |  |  |  |
| LnGrp Delay(d),s/veh | 16.5 | 15.6 | 9.9 | 6.8 | 23.3 | 5.9 |
| LnGrp LOS | B | B | A | A | C | A |
| Approach Vol, veh/h | 128 |  | 504 |  |  | 804 |
| Approach Delay, s/veh | 16.1 |  | 9.6 |  |  | 6.8 |
| Approach LOS | B |  | A |  |  | A |


| Timer - Assigned Phs | 1 | 2 | 6 | 8 |
| :--- | ---: | ---: | ---: | ---: |
| Phs Duration (G+Y+Rc), s | 6.7 | 17.0 | 23.7 | 8.2 |
| Change Period (Y+Rc), s | 5.5 | ${ }^{*} 5.5$ | 5.5 | 5.5 |
| Max Green Setting (Gmax), s | 10.0 | ${ }^{*} 47$ | 60.5 | 30.5 |
| Max Q Clear Time (g_c+11), s | 2.7 | 8.6 | 11.4 | 3.3 |
| Green Ext Time (p_c), s | 0.0 | 2.9 | 5.8 | 0.3 |

## Intersection Summary

HCM 6th Ctrl Delay 8.6

HCM 6th LOS A
Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.


|  | 4 | $\rightarrow$ |  | 7 |  |  | 4 | 4 | 7 |  | $\downarrow$ | $\downarrow$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | \％ | 4 | 「 |  | 4 | 「 | \％ | $\uparrow{ }^{\text {个 }}$ |  | ${ }^{\text {\％}}$ | $\dagger$ |  |
| Traffic Volume（veh／h） | 67 | 209 | 2 | 0 | 340 | 437 | 6 | 321 | 6 | 344 | 241 | 30 |
| Future Volume（veh／h） | 67 | 209 | 2 | 0 | 340 | 437 | 6 | 321 | 6 | 344 | 241 | 30 |
| Initial Q（Qb），veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped－Bike Adj（A＿pbT） | 1.00 |  | 0.98 | 1.00 |  | 1.00 | 1.00 |  | 0.98 | 1.00 |  | 1.00 |
| Parking Bus，Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach |  | No |  |  | No |  |  | No |  |  | No |  |
| Adj Sat Flow，veh／h／ln | 1870 | 1870 | 1870 | 0 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate，veh／h | 72 | 225 | 2 | 0 | 366 | 470 | 6 | 345 | 6 | 370 | 259 | 32 |
| Peak Hour Factor | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 |
| Percent Heavy Veh，\％ | 2 | 2 | 2 | 0 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap，veh／h | 91 | 930 | 771 | 0 | 689 | 582 | 11 | 622 | 11 | 329 | 429 | 53 |
| Arrive On Green | 0.05 | 0.50 | 0.50 | 0.00 | 0.37 | 0.37 | 0.01 | 0.17 | 0.17 | 0.10 | 0.26 | 0.26 |
| Sat Flow，veh／h | 1781 | 1870 | 1549 | 0 | 1870 | 1580 | 1781 | 3572 | 62 | 3456 | 1632 | 202 |
| Grp Volume（v），veh／h | 72 | 225 | 2 | 0 | 366 | 470 | 6 | 171 | 180 | 370 | 0 | 291 |
| Grp Sat Flow（s），veh／h／ln | 1781 | 1870 | 1549 | 0 | 1870 | 1580 | 1781 | 1777 | 1858 | 1728 | 0 | 1834 |
| Q Serve（g＿s），s | 2.3 | 4.0 | 0.0 | 0.0 | 8.9 | 15.5 | 0.2 | 5.1 | 5.1 | 5.5 | 0.0 | 8.0 |
| Cycle Q Clear（g＿c），s | 2.3 | 4.0 | 0.0 | 0.0 | 8.9 | 15.5 | 0.2 | 5.1 | 5.1 | 5.5 | 0.0 | 8.0 |
| Prop In Lane | 1.00 |  | 1.00 | 0.00 |  | 1.00 | 1.00 |  | 0.03 | 1.00 |  | 0.11 |
| Lane Grp Cap（c），veh／h | 91 | 930 | 771 | 0 | 689 | 582 | 11 | 310 | 324 | 329 | 0 | 482 |
| VIC Ratio（X） | 0.79 | 0.24 | 0.00 | 0.00 | 0.53 | 0.81 | 0.53 | 0.55 | 0.56 | 1.13 | 0.00 | 0.60 |
| Avail Cap（c＿a），veh／h | 123 | 1241 | 1028 | 0 | 967 | 817 | 123 | 1001 | 1047 | 329 | 0 | 1081 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter（l） | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay（d），s／veh | 27.1 | 8.3 | 7.3 | 0.0 | 14.3 | 16.4 | 28.7 | 21.8 | 21.8 | 26.2 | 0.0 | 18.7 |
| Incr Delay（d2），s／veh | 21.3 | 0.1 | 0.0 | 0.0 | 0.6 | 4.1 | 33.4 | 1.5 | 1.5 | 88.3 | 0.0 | 1.2 |
| Initial Q Delay（d3），s／veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| \％ile BackOfQ（50\％），veh／ln | 1.5 | 1.4 | 0.0 | 0.0 | 3.5 | 13.0 | 0.2 | 2.1 | 2.2 | 6.1 | 0.0 | 3.3 |
| Unsig．Movement Delay，s／veh |  |  |  |  |  |  |  |  |  |  |  |  |
| LnGrp Delay（d），s／veh | 48.4 | 8.4 | 7.3 | 0.0 | 15.0 | 20.6 | 62.1 | 23.4 | 23.3 | 114.4 | 0.0 | 19.9 |
| LnGrp LOS | D | A | A | A | B | C | E | C | C | F | A | B |
| Approach Vol，veh／h |  | 299 |  |  | 836 |  |  | 357 |  |  | 661 |  |
| Approach Delay，s／veh |  | 18.1 |  |  | 18.1 |  |  | 24.0 |  |  | 72.8 |  |
| Approach LOS |  | B |  |  | B |  |  | C |  |  | E |  |
| Timer－Assigned Phs | 1 | 2 |  | 4 | 5 | 6 | 7 | 8 |  |  |  |  |
| Phs Duration（ $G+Y+R \mathrm{c}$ ），$s$ | 10.0 | 14.6 |  | 33.3 | 4.9 | 19.7 | 7.5 | 25.8 |  |  |  |  |
| Change Period（ $Y+R \mathrm{c}$ ）， s | 4.5 | 4.5 |  | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |  |  |  |  |
| Max Green Setting（Gmax），s | 5.5 | 32.6 |  | 38.4 | 4.0 | 34.1 | 4.0 | 29.9 |  |  |  |  |
| Max Q Clear Time（g＿c＋1），s | 7.5 | 7.1 |  | 6.0 | 2.2 | 10.0 | 4.3 | 17.5 |  |  |  |  |
| Green Ext Time（p＿c），s | 0.0 | 2.1 |  | 1.4 | 0.0 | 1.7 | 0.0 | 3.5 |  |  |  |  |
| Intersection Summary |  |  |  |  |  |  |  |  |  |  |  |  |
| HCM 6th Ctrr Delay |  |  | 35.9 |  |  |  |  |  |  |  |  |  |
| HCM 6th LOS |  |  | D |  |  |  |  |  |  |  |  |  |



Notes
Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.


## Notes

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.


|  | 4 |  |  | 7 |  |  |  | $\dagger$ |  |  | $\downarrow$ | $\downarrow$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  | 性 | F | \％ | 个个 |  |  |  |  | \％${ }^{*}$ | $\dagger$ |  |
| Traffic Volume（veh／h） | 0 | 481 | 257 | 227 | 665 | 0 | 0 | 0 | 0 | 437 |  | 253 |
| Future Volume（veh／h） | 0 | 481 | 257 | 227 | 665 | 0 | 0 | 0 | 0 | 437 | 2 | 253 |
| Initial $Q(Q b)$ ，veh | 0 | 0 | 0 | ， | 0 | 0 |  |  |  | 0 | 0 | 0 |
| Ped－Bike Adj（A＿pbT） | 1.00 |  | 0.97 | 1.00 |  | 1.00 |  |  |  | 1.00 |  | 1.00 |
| Parking Bus，Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |  |  |  | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach |  | No |  |  | No |  |  |  |  |  | No |  |
| Adj Sat Flow，veh／h／ln | 0 | 1870 | 1870 | 1870 | 1870 | 0 |  |  |  | 1870 | 1870 | 1870 |
| Adj Flow Rate，veh／h | 0 | 523 | 279 | 247 | 723 | 0 |  |  |  | 475 | 2 | 275 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |  |  |  | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh，\％ | 0 | 2 | 2 | 2 | 2 | 0 |  |  |  | 2 | 2 | 2 |
| Cap，veh／h | 0 | 797 | 344 | 277 | 1479 | 0 |  |  |  | 1735 | 6 | 791 |
| Arrive On Green | 0.00 | 0.22 | 0.22 | 0.31 | 0.83 | 0.00 |  |  |  | 0.50 | 0.50 | 0.50 |
| Sat Flow，veh／h |  | 3647 | 1535 | 1781 | 3647 | 0 |  |  |  | 3456 | 11 | 1575 |
| Grp Volume（v），veh／h | 0 | 523 | 279 | 247 | 723 | 0 |  |  |  | 475 | 0 | 277 |
| Grp Sat Flow（s），veh／h／n | 0 | 1777 | 1535 | 1781 | 1777 | 0 |  |  |  | 1728 | 0 | 1587 |
| Q Serve（g＿s），s | 0.0 | 14.7 | 19.0 | 14.5 | 6.3 | 0.0 |  |  |  | 8.7 | 0.0 | 11.6 |
| Cycle Q Clear（g＿c），s | 0.0 | 14.7 | 19.0 | 14.5 | 6.3 | 0.0 |  |  |  | 8.7 | 0.0 | 11.6 |
| Prop In Lane | 0.00 |  | 1.00 | 1.00 |  | 0.00 |  |  |  | 1.00 |  | 0.99 |
| Lane Grp Cap（c），veh／h | 0 | 797 | 344 | 277 | 1479 | 0 |  |  |  | 1735 | 0 | 796 |
| V／C Ratio（X） | 0.00 | 0.66 | 0.81 | 0.89 | 0.49 | 0.00 |  |  |  | 0.27 | 0.00 | 0.35 |
| Avail Cap（c＿a），veh／h | 0 | 1082 | 468 | 502 | 2213 | 0 |  |  |  | 1735 | 0 | 796 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 2.00 | 2.00 | 1.00 |  |  |  | 1.00 | 1.00 | 1.00 |
| Upstream Filter（I） | 0.00 | 1.00 | 1.00 | 0.96 | 0.96 | 0.00 |  |  |  | 1.00 | 0.00 | 1.00 |
| Uniform Delay（d），s／veh | 0.0 | 38.8 | 40.4 | 37.0 | 5.9 | 0.0 |  |  |  | 15.8 | 0.0 | 16.5 |
| Incr Delay（d2），s／veh | 0.0 | 0.9 | 7.6 | 9.3 | 0.2 | 0.0 |  |  |  | 0.4 | 0.0 | 1.2 |
| Initial Q Delay（d3），s／veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |  |  |  | 0.0 | 0.0 | 0.0 |
| \％ile BackOfQ（50\％），veh／ln | 0.0 | 6.4 | 7.7 | 5.9 | 1.7 | 0.0 |  |  |  | 3.2 | 0.0 | 4.0 |
| Unsig．Movement Delay，s／veh |  |  |  |  |  |  |  |  |  |  |  |  |
| LnGrp Delay（d），s／veh | 0.0 | 39.7 | 48.0 | 46.3 | 6.1 | 0.0 |  |  |  | 16.2 | 0.0 | 17.7 |
| LnGrp LOS | A | D | D | D | A | A |  |  |  | B | A | B |
| Approach Vol，veh／h |  | 802 |  |  | 970 |  |  |  |  |  | 752 |  |
| Approach Delay，s／veh |  | 42.6 |  |  | 16.4 |  |  |  |  |  | 16.8 |  |
| Approach LOS |  | D |  |  | B |  |  |  |  |  | B |  |
| Timer－Assigned Phs |  |  | 3 | 4 |  | 6 |  | 8 |  |  |  |  |
| Phs Duration（ $G+Y+R \mathrm{c}$ ），$s$ |  |  | 21.1 | 29.2 |  | 59.7 |  | 50.3 |  |  |  |  |
| Change Period（ $Y+\mathrm{Rc}$ ），s |  |  | 4.0 | 4.5 |  | 4.5 |  | 4.5 |  |  |  |  |
| Max Green Setting（Gmax），s |  |  | 31.0 | 33.5 |  | 32.5 |  | 68.5 |  |  |  |  |
| Max Q Clear Time（g＿c＋11），s |  |  | 16.5 | 21.0 |  | 13.6 |  | 8.3 |  |  |  |  |
| Green Ext Time（p＿c），s |  |  | 0.6 | 3.6 |  | 3.1 |  | 5.7 |  |  |  |  |
| Intersection Summary |  |  |  |  |  |  |  |  |  |  |  |  |
| HCM 6th Ctrl DelayHCM 6th LOS |  |  | 24.8 |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |


|  | $\rangle$ |  |  | 7 | $\leftarrow$ |  | 4 | 4 | P |  | $\downarrow$ | $\downarrow$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | \% | $\uparrow$ | $\stackrel{7}{ }$ | \% | $\uparrow$ |  |  | $\uparrow$ | 「 |  | \$ |  |
| Traffic Volume (veh/h) | 0 | 544 | 140 | 199 | 320 | 0 | 101 | 0 | 254 | 0 | 0 | 0 |
| Future Volume (veh/h) | 0 | 544 | 140 | 199 | 320 | 0 | 101 | 0 | 254 | 0 | 0 | 0 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 |  | 1.00 | 1.00 |  | 1.00 | 1.00 |  | 1.00 | 1.00 |  | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach |  | No |  |  | No |  |  | No |  |  | No |  |
| Adj Sat Flow, veh/h/n | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 0 | 625 | 161 | 229 | 368 | 0 | 116 | 0 | 292 | 0 | 0 | 0 |
| Peak Hour Factor | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 |
| Percent Heavy Veh, \% | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 3 | 702 | 595 | 291 | 1133 | 0 | 443 | 0 | 360 | 0 | 425 | 0 |
| Arrive On Green | 0.00 | 0.38 | 0.38 | 0.16 | 0.61 | 0.00 | 0.23 | 0.00 | 0.23 | 0.00 | 0.00 | 0.00 |
| Sat Flow, veh/h | 1781 | 1870 | 1585 | 1781 | 1870 | 0 | 1418 | 0 | 1585 | 0 | 1870 | 0 |
| Grp Volume(v), veh/h | 0 | 625 | 161 | 229 | 368 | 0 | 116 | 0 | 292 | 0 | 0 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1870 | 1585 | 1781 | 1870 | 0 | 1418 | 0 | 1585 | 0 | 1870 | 0 |
| Q Serve(g_s), s | 0.0 | 18.8 | 4.2 | 7.4 | 5.8 | 0.0 | 4.1 | 0.0 | 10.4 | 0.0 | 0.0 | 0.0 |
| Cycle Q Clear(g_c), s | 0.0 | 18.8 | 4.2 | 7.4 | 5.8 | 0.0 | 4.1 | 0.0 | 10.4 | 0.0 | 0.0 | 0.0 |
| Prop In Lane | 1.00 |  | 1.00 | 1.00 |  | 0.00 | 1.00 |  | 1.00 | 0.00 |  | 0.00 |
| Lane Grp Cap(c), veh/h | 3 | 702 | 595 | 291 | 1133 | 0 | 443 | 0 | 360 | 0 | 425 | 0 |
| V/C Ratio(X) | 0.00 | 0.89 | 0.27 | 0.79 | 0.32 | 0.00 | 0.26 | 0.00 | 0.81 | 0.00 | 0.00 | 0.00 |
| Avail Cap(c_a), veh/h | 149 | 781 | 662 | 536 | 1187 | 0 | 665 | 0 | 609 | 0 | 750 | 0 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(l) | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 0.00 | 1.00 | 0.00 | 0.00 | 0.00 |
| Uniform Delay (d), s/veh | 0.0 | 17.5 | 13.0 | 24.0 | 5.8 | 0.0 | 19.5 | 0.0 | 21.9 | 0.0 | 0.0 | 0.0 |
| Incr Delay (d2), s/veh | 0.0 | 11.6 | 0.2 | 4.7 | 0.2 | 0.0 | 0.3 | 0.0 | 4.4 | 0.0 | 0.0 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| \%ile BackOfQ( $50 \%$ ),veh/ln | 0.0 | 8.7 | 1.3 | 3.1 | 1.4 | 0.0 | 1.2 | 0.0 | 4.0 | 0.0 | 0.0 | 0.0 |
| Unsig. Movement Delay, s/veh |  |  |  |  |  |  |  |  |  |  |  |  |
| LnGrp Delay(d),s/veh | 0.0 | 29.1 | 13.2 | 28.7 | 6.0 | 0.0 | 19.8 | 0.0 | 26.3 | 0.0 | 0.0 | 0.0 |
| LnGrp LOS | A | C | B | C | A | A | B | A | C | A | A | A |
| Approach Vol, veh/h |  | 786 |  |  | 597 |  |  | 408 |  |  | 0 |  |
| Approach Delay, s/veh |  | 25.9 |  |  | 14.7 |  |  | 24.4 |  |  | 0.0 |  |
| Approach LOS |  | C |  |  | B |  |  | C |  |  |  |  |
| Timer - Assigned Phs | 1 | 2 |  | 4 | 5 | 6 |  | 8 |  |  |  |  |
| Phs Duration ( $\mathrm{G}+\mathrm{Y}+\mathrm{Rc}$ ), $s$ | 0.0 | 41.3 |  | 18.6 | 13.8 | 27.5 |  | 18.6 |  |  |  |  |
| Change Period ( $Y+R \mathrm{Cc}$ ), $s$ | 4.0 | 5.0 |  | 5.0 | 4.0 | 5.0 |  | * 5 |  |  |  |  |
| Max Green Setting (Gmax), s | 5.0 | 38.0 |  | 23.0 | 18.0 | 25.0 |  | * 24 |  |  |  |  |
| Max Q Clear Time (g_c+11), s | 0.0 | 7.8 |  | 12.4 | 9.4 | 20.8 |  | 0.0 |  |  |  |  |
| Green Ext Time (p_c), s | 0.0 | 2.1 |  | 1.2 | 0.4 | 1.7 |  | 0.0 |  |  |  |  |
| Intersection Summary |  |  |  |  |  |  |  |  |  |  |  |  |
| HCM 6th Ctrl Delay |  |  | 21.8 |  |  |  |  |  |  |  |  |  |
| HCM 6th LOS |  |  | C |  |  |  |  |  |  |  |  |  |
| Notes |  |  |  |  |  |  |  |  |  |  |  |  |

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



|  |  |  |  |  | 4 |  |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: |


|  | $\rangle$ | $\rightarrow$ |  | 7 | $\checkmark$ |  | 4 | 4 | $p$ |  | $\downarrow$ | $\downarrow$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | \％ | 中t |  | ${ }^{*}$ | 中t |  | ${ }^{7}$ | 中t |  | \％ | 性 |  |
| Traffic Volume（veh／h） | 95 | 65 | 143 | 94 | 158 | 53 | 132 | 234 | 54 | 10 | 190 | 73 |
| Future Volume（veh／h） | 95 | 65 | 143 | 94 | 158 | 53 | 132 | 234 | 54 | 10 | 190 | 73 |
| Initial $Q(Q b)$ ，veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped－Bike Adj（A＿pbT） | 1.00 |  | 1.00 | 1.00 |  | 1.00 | 1.00 |  | 1.00 | 1.00 |  | 1.00 |
| Parking Bus，Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach |  | No |  |  | No |  |  | No |  |  | No |  |
| Adj Sat Flow，veh／h／ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate，veh／h | 106 | 72 | 159 | 104 | 176 | 59 | 147 | 260 | 60 | 11 | 211 | 81 |
| Peak Hour Factor | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Percent Heavy Veh，\％ | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap，veh／h | 155 | 318 | 283 | 153 | 469 | 152 | 192 | 768 | 174 | 26 | 440 | 164 |
| Arrive On Green | 0.09 | 0.18 | 0.18 | 0.09 | 0.18 | 0.18 | 0.11 | 0.27 | 0.27 | 0.01 | 0.17 | 0.17 |
| Sat Flow，veh／h | 1781 | 1777 | 1585 | 1781 | 2637 | 856 | 1781 | 2877 | 652 | 1781 | 2535 | 943 |
| Grp Volume（v），veh／h | 106 | 72 | 159 | 104 | 117 | 118 | 147 | 159 | 161 | 11 | 146 | 146 |
| Grp Sat Flow（s），veh／h／n | 1781 | 1777 | 1585 | 1781 | 1777 | 1716 | 1781 | 1777 | 1753 | 1781 | 1777 | 1701 |
| Q Serve（g＿s），s | 2.3 | 1.4 | 3.6 | 2.2 | 2.3 | 2.4 | 3.2 | 2.9 | 2.9 | 0.2 | 2.9 | 3.1 |
| Cycle Q Clear（g＿c），s | 2.3 | 1.4 | 3.6 | 2.2 | 2.3 | 2.4 | 3.2 | 2.9 | 2.9 | 0.2 | 2.9 | 3.1 |
| Prop In Lane | 1.00 |  | 1.00 | 1.00 |  | 0.50 | 1.00 |  | 0.37 | 1.00 |  | 0.55 |
| Lane Grp Cap（c），veh／h | 155 | 318 | 283 | 153 | 316 | 305 | 192 | 474 | 468 | 26 | 308 | 295 |
| V／C Ratio（X） | 0.69 | 0.23 | 0.56 | 0.68 | 0.37 | 0.39 | 0.77 | 0.33 | 0.34 | 0.43 | 0.47 | 0.50 |
| Avail Cap（c＿a），veh／h | 494 | 1613 | 1439 | 494 | 1613 | 1558 | 449 | 1568 | 1547 | 449 | 1568 | 1501 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter（l） | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay（d），s／veh | 17.6 | 13.9 | 14.9 | 17.6 | 14.3 | 14.4 | 17.2 | 11.7 | 11.7 | 19.4 | 14.8 | 14.8 |
| Incr Delay（d2），s／veh | 5.3 | 0.4 | 1.7 | 5.2 | 0.7 | 0.8 | 6.3 | 0.4 | 0.4 | 10.9 | 1.1 | 1.3 |
| Initial Q Delay（d3），s／veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| \％ile BackOfQ（50\％），veh／ln | 1.0 | 0.5 | 1.2 | 1.0 | 0.8 | 0.9 | 1.4 | 1.0 | 1.0 | 0.2 | 1.1 | 1.1 |
| Unsig．Movement Delay，s／veh |  |  |  |  |  |  |  |  |  |  |  |  |
| LnGrp Delay（d），s／veh | 22.8 | 14.3 | 16.6 | 22.8 | 15.1 | 15.2 | 23.5 | 12.1 | 12.2 | 30.3 | 15.9 | 16.1 |
| LnGrp LOS | C | B | B | C | B | B | C | B | B | C | B | B |
| Approach Vol，veh／h |  | 337 |  |  | 339 |  |  | 467 |  |  | 303 |  |
| Approach Delay，s／veh |  | 18.1 |  |  | 17.5 |  |  | 15.7 |  |  | 16.5 |  |
| Approach LOS |  | B |  |  | B |  |  | B |  |  | B |  |
| Timer－Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |  |  |  |  |
| Phs Duration（ $\mathrm{G}+\mathrm{Y}+\mathrm{Rc}$ ）， s | 4.6 | 15.6 | 7.4 | 12.1 | 8.3 | 11.9 | 7.4 | 12.1 |  |  |  |  |
| Change Period（ $Y+R \mathrm{Rc}$ ），s | 4.0 | 5.0 | 4.0 | 5.0 | 4.0 | 5.0 | 4.0 | 5.0 |  |  |  |  |
| Max Green Setting（Gmax），s | 10.0 | 35.0 | 11.0 | 36.0 | 10.0 | 35.0 | 11.0 | 36.0 |  |  |  |  |
| Max Q Clear Time（g＿c +11 ），s | 2.2 | 4.9 | 4.2 | 5.6 | 5.2 | 5.1 | 4.3 | 4.4 |  |  |  |  |
| Green Ext Time（p＿c），s | 0.0 | 2.0 | 0.1 | 1.5 | 0.1 | 1.8 | 0.1 | 1.4 |  |  |  |  |
| Intersection Summary |  |  |  |  |  |  |  |  |  |  |  |  |
| HCM 6th Ctrl DelayHCM 6th LOS |  |  | 16.8 |  |  |  |  |  |  |  |  |  |
|  |  |  | B |  |  |  |  |  |  |  |  |  |


| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Lane Configurations | \％${ }^{1+1}$ | 个个 | F | ${ }^{7}$ | ¢ $\uparrow$ | F | \％${ }^{1+1}$ | 性 | F | \％${ }^{1 / 1}$ | 个4 | 「 |
| Traffic Volume（veh／h） | 274 | 300 | 238 | 39 | 166 | 85 | 208 | 339 | 59 | 160 | 391 | 245 |
| Future Volume（veh／h） | 274 | 300 | 238 | 39 | 166 | 85 | 208 | 339 | 59 | 160 | 391 | 245 |
| Initial $Q(Q b)$ ，veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped－Bike Adj（A＿pbT） | 1.00 |  | 0.98 | 1.00 |  | 0.97 | 1.00 |  | 0.98 | 1.00 |  | 0.98 |
| Parking Bus，Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach |  | No |  |  | No |  |  | No |  |  | No |  |
| Adj Sat Flow，veh／h／ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate，veh／h | 315 | 345 | 274 | 45 | 191 | 98 | 239 | 390 | 68 | 184 | 449 | 282 |
| Peak Hour Factor | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 |
| Percent Heavy Veh，\％ | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap，veh／h | 416 | 1111 | 641 | 70 | 824 | 485 | 337 | 1146 | 564 | 276 | 1084 | 665 |
| Arrive On Green | 0.12 | 0.31 | 0.31 | 0.04 | 0.23 | 0.23 | 0.10 | 0.32 | 0.32 | 0.08 | 0.31 | 0.31 |
| Sat Flow，veh／h | 3456 | 3554 | 1555 | 1781 | 3554 | 1544 | 3456 | 3554 | 1556 | 3456 | 3554 | 1554 |
| Grp Volume（v），veh／h | 315 | 345 | 274 | 45 | 191 | 98 | 239 | 390 | 68 | 184 | 449 | 282 |
| Grp Sat Flow（s），veh／h／n | 1728 | 1777 | 1555 | 1781 | 1777 | 1544 | 1728 | 1777 | 1556 | 1728 | 1777 | 1554 |
| Q Serve（g＿s），s | 7.1 | 5.9 | 10.1 | 2.0 | 3.5 | 3.7 | 5.4 | 6.7 | 2.3 | 4.1 | 8.0 | 10.2 |
| Cycle Q Clear（g＿c），s | 7.1 | 5.9 | 10.1 | 2.0 | 3.5 | 3.7 | 5.4 | 6.7 | 2.3 | 4.1 | 8.0 | 10.2 |
| Prop In Lane | 1.00 |  | 1.00 | 1.00 |  | 1.00 | 1.00 |  | 1.00 | 1.00 |  | 1.00 |
| Lane Grp Cap（c），veh／h | 416 | 1111 | 641 | 70 | 824 | 485 | 337 | 1146 | 564 | 276 | 1084 | 665 |
| V／C Ratio（X） | 0.76 | 0.31 | 0.43 | 0.64 | 0.23 | 0.20 | 0.71 | 0.34 | 0.12 | 0.67 | 0.41 | 0.42 |
| Avail Cap（c＿a），veh／h | 649 | 2010 | 1034 | 334 | 2010 | 1000 | 649 | 2010 | 943 | 649 | 2010 | 1070 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter（l） | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay（d），s／veh | 34.0 | 20.9 | 16.9 | 37.8 | 24.9 | 20.2 | 35.0 | 20.6 | 17.0 | 35.7 | 22.1 | 16.1 |
| Incr Delay（d2），s／veh | 2.8 | 0.2 | 0.5 | 9.3 | 0.1 | 0.2 | 2.8 | 0.2 | 0.1 | 2.7 | 0.3 | 0.4 |
| Initial Q Delay（d3），s／veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| \％ile BackOfQ（50\％），veh／ln | 3.0 | 2.4 | 3.5 | 1.0 | 1.4 | 1.3 | 2.3 | 2.7 | 0.8 | 1.8 | 3.3 | 3.5 |

Unsig．Movement Delay，s／veh

| LnGrp Delay（d），s／veh | 36.9 | 21.1 | 17.3 | 47.1 | 25.1 | 20.4 | 37.7 | 20.8 | 17.1 | 38.5 | 22.3 | 16.5 |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| LnGrp LOS | D | C | B | D | C | C | D | C | B | D | C | B |
| Approach Vol，veh／h |  | 934 |  |  | 334 |  |  | 697 |  | 915 |  |  |
| Approach Delay，s／veh |  | 25.3 |  |  | 26.7 |  |  | 26.2 |  | 23.8 |  |  |
| Approach LOS | C |  |  | C |  |  | C |  | C |  |  |  |


| Timer－Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| Phs Duration $(G+Y+R c)$ ，s | 10.4 | 31.6 | 7.2 | 30.8 | 11.8 | 30.2 | 13.6 | 24.3 |
| Change Period $(\mathrm{Y}+\mathrm{Rc})$ ，s | 4.0 | 5.8 | 4.0 | 5.8 | 4.0 | 5.8 | 4.0 | 5.8 |
| Max Green Setting（Gmax），s | 15.0 | 45.2 | 15.0 | 45.2 | 15.0 | 45.2 | 15.0 | 45.2 |
| Max Q Clear Time（g＿c＋11），s | 6.1 | 8.7 | 4.0 | 12.1 | 7.4 | 12.2 | 9.1 | 5.7 |
| Green Ext Time（p＿C），s | 0.4 | 3.1 | 0.0 | 3.5 | 0.5 | 4.4 | 0.6 | 1.6 |

## Intersection Summary

| HCM 6th Ctrl Delay | 25.2 |
| :--- | ---: |
| HCM 6th LOS | C |


| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Lane Configurations | \% | ¢4 | F | \% | 性 | 「 | ${ }^{7}$ | F |  | ${ }^{7}$ | 4 | $\overline{7}$ |
| Traffic Volume (veh/h) | 177 | 506 | 37 | , | 148 | 137 | 76 | 182 | 21 | 308 | 160 | 211 |
| Future Volume (veh/h) | 177 | 506 | 37 | 9 | 148 | 137 | 76 | 182 | 21 | 308 | 160 | 211 |
| Initial $Q(Q b)$, veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 |  | 0.96 | 1.00 |  | 0.97 | 1.00 |  | 0.95 | 1.00 |  | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach |  | No |  |  | No |  |  | No |  |  | No |  |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 203 | 582 | 43 | 10 | 170 | 157 | 87 | 209 | 24 | 354 | 184 | 243 |
| Peak Hour Factor | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 |
| Percent Heavy Veh, \% | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 252 | 1114 | 580 | 22 | 656 | 617 | 114 | 352 | 40 | 374 | 674 | 783 |
| Arrive On Green | 0.14 | 0.31 | 0.31 | 0.01 | 0.18 | 0.18 | 0.06 | 0.21 | 0.21 | 0.21 | 0.36 | 0.36 |
| Sat Flow, veh/h | 1781 | 3554 | 1526 | 1781 | 3554 | 1538 | 1781 | 1638 | 188 | 1781 | 1870 | 1552 |
| Grp Volume(v), veh/h | 203 | 582 | 43 | 10 | 170 | 157 | 87 | 0 | 233 | 354 | 184 | 243 |
| Grp Sat Flow(s),veh/h/n | 1781 | 1777 | 1526 | 1781 | 1777 | 1538 | 1781 | 0 | 1826 | 1781 | 1870 | 1552 |
| Q Serve(g_s), s | 7.9 | 9.6 | 1.3 | 0.4 | 2.9 | 4.9 | 3.4 | 0.0 | 8.2 | 14.0 | 5.0 | 6.6 |
| Cycle Q Clear(g_c), s | 7.9 | 9.6 | 1.3 | 0.4 | 2.9 | 4.9 | 3.4 | 0.0 | 8.2 | 14.0 | 5.0 | 6.6 |
| Prop In Lane | 1.00 |  | 1.00 | 1.00 |  | 1.00 | 1.00 |  | 0.10 | 1.00 |  | 1.00 |
| Lane Grp Cap(c), veh/h | 252 | 1114 | 580 | 22 | 656 | 617 | 114 | 0 | 392 | 374 | 674 | 783 |
| V/C Ratio(X) | 0.81 | 0.52 | 0.07 | 0.45 | 0.26 | 0.25 | 0.76 | 0.00 | 0.59 | 0.95 | 0.27 | 0.31 |
| Avail Cap(c_a), veh/h | 499 | 1448 | 724 | 499 | 1448 | 960 | 499 | 0 | 974 | 374 | 867 | 943 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(l) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 29.7 | 20.1 | 14.2 | 35.0 | 24.9 | 14.6 | 32.9 | 0.0 | 25.2 | 27.8 | 16.2 | 10.5 |
| Incr Delay (d2), s/veh | 6.0 | 0.4 | 0.1 | 13.2 | 0.2 | 0.2 | 9.9 | 0.0 | 1.4 | 32.8 | 0.2 | 0.2 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| \%ile BackOfQ(50\%),veh/ln | 3.7 | 3.8 | 0.4 | 0.3 | 1.2 | 1.6 | 1.7 | 0.0 | 3.5 | 9.1 | 2.0 | 2.1 |

Unsig. Movement Delay, s/veh

| LnGrp Delay(d),s/veh | 35.7 | 20.5 | 14.3 | 48.2 | 25.1 | 14.8 | 42.7 | 0.0 | 26.7 | 60.6 | 16.4 | 10.7 |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| LnGrp LOS | D | C | B | D | C | B | D | A | C | E | B | B |
| Approach Vol, veh/h |  | 828 |  |  | 337 |  |  | 320 |  | 781 |  |  |
| Approach Delay, s/veh |  | 23.9 |  |  | 21.0 |  |  | 31.0 |  | 34.7 |  |  |
| Approach LOS | C |  |  | C |  |  | C |  | C |  |  |  |


| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| Phs Duration $(G+Y+R c)$, s | 19.0 | 20.2 | 4.9 | 27.3 | 8.6 | 30.6 | 14.1 | 18.1 |
| Change Period $(\mathrm{Y}+\mathrm{Rc})$, s | 4.0 | 4.9 | 4.0 | 4.9 | 4.0 | 4.9 | 4.0 | 4.9 |
| Max Green Setting (Gmax), s | 15.0 | 38.1 | 20.0 | 29.1 | 20.0 | 33.1 | 20.0 | 29.1 |
| Max Q Clear Time (g_c+11), s | 16.0 | 10.2 | 2.4 | 11.6 | 5.4 | 8.6 | 9.9 | 6.9 |
| Green Ext Time (p_C), s | 0.0 | 1.4 | 0.0 | 3.8 | 0.2 | 1.9 | 0.4 | 1.6 |

Intersection Summary

| HCM 6th Ctrl Delay | 28.2 |
| :--- | ---: |
| HCM 6th LOS | C |

Notes
User approved pedestrian interval to be less than phase max green.



| Intersection |  |  |  |  |  |  |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: |
| Int Delay, s/veh | 0.4 |  |  |  |  |  |
| Movement | EBL | EBT | WBT | WBR | SBL | SBR |
| Lane Configurations |  | -1 | 1 |  | 4 |  |
| Traffic Vol, veh/h | 4 | 76 | 211 | 4 | 1 | 9 |
| Future Vol, veh/h | 4 | 76 | 211 | 4 | 1 | 9 |
| Conflicting Peds, \#/hr | 2 | 0 | 0 | 2 | 2 | 2 |
| Sign Control | Free | Free | Free | Free | Stop | Stop |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | - | - | - | - | 0 | - |
| Veh in Median Storage, \# | - | 0 | 0 | - | 0 | - |
| Grade, \% | - | 0 | 0 | - | 0 | - |
| Peak Hour Factor | 86 | 86 | 86 | 86 | 86 | 86 |
| Heavy Vehicles, \% | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 5 | 88 | 245 | 5 | 1 | 10 |


| Major/Minor | Major1 | Major2 |  | Minor2 |  |  |
| :--- | ---: | :--- | ---: | :--- | ---: | ---: |
| Conflicting Flow All | 252 | 0 | - | 0 | 350 | 252 |
| $\quad$ Stage 1 | - | - | - | - | 250 | - |
| Stage 2 | - | - | - | - | 100 | - |
| Critical Hdwy | 4.12 | - | - | -6.42 | 6.22 |  |
| Critical Hdwy Stg 1 | - | - | - | - | 5.42 | - |
| Critical Hdwy Stg 2 | - | - | - | -5.42 | - |  |
| Follow-up Hdwy | 2.218 | - | - | -3.518 | 3.318 |  |
| Pot Cap-1 Maneuver | 1313 | - | - | - | 647 | 787 |
| $\quad$ Stage 1 | - | - | - | - | 792 | - |
| $\quad$ Stage 2 | - | - | - | - | 924 | - |
| Platoon blocked, \% |  | - | - | - |  |  |
| Mov Cap-1 Maneuver | 1310 | - | - | - | 642 | 784 |
| Mov Cap-2 Maneuver | - | - | - | - | 642 | - |
| Stage 1 | - | - | - | - | 787 | - |
| Stage 2 | - | - | - | - | 922 | - |


| Approach | EB | WB | SB |
| :--- | ---: | ---: | ---: |
| HCM Control Delay, s | 0.4 | 0 | 9.8 |
| HCM LOS |  |  | A |


| Minor Lane/Major Mvmt | EBL | EBT | WBT | WBR SBLn1 |
| :--- | ---: | ---: | ---: | ---: |
| Capacity (veh/h) | 1310 | - | - | -767 |
| HCM Lane V/C Ratio | 0.004 | - | - | -0.015 |
| HCM Control Delay (s) | 7.8 | 0 | - | - |
| HCM Lane LOS | A | A | - | - |
| HCM 95th \%tile Q(veh) | 0 | - | - | - |
| H | 0 |  |  |  |


| Intersection |  |  |  |  |  |  |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: |
| Int Delay, s/veh | 3.7 |  |  |  |  |  |
| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
| Lane Configurations | 4 |  |  | 4 | 1 | $\mathbf{T}$ |
| Traffic Vol, veh/h | 76 | 0 | 0 | 118 | 97 | 12 |
| Future Vol, veh/h | 76 | 0 | 0 | 118 | 97 | 12 |
| Conflicting Peds, \#/hr | 0 | 2 | 3 | 0 | 2 | 3 |
| Sign Control | Free | Free | Free | Free | Stop | Stop |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | - | - | - | - | 0 | 25 |
| Veh in Median Storage, \# | 0 | - | - | 0 | 0 | - |
| Grade, \% | 0 | - | - | 0 | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, \% | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 83 | 0 | 0 | 128 | 105 | 13 |


| Major/Minor M | Major1 |  | Major2 |  | Minor1 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Conflicting Flow All | 0 | - | - | - | 213 | 86 |
| Stage 1 | - | - | - | - | 83 | - |
| Stage 2 | - | - | - | - | 130 | - |
| Critical Hdwy | - | - | - | - | 6.42 | 6.22 |
| Critical Hdwy Stg 1 | - | - | - | - | 5.42 | - |
| Critical Hdwy Stg 2 | - | - | - | - | 5.42 | - |
| Follow-up Hdwy | - | - | - | - | 3.518 | 3.318 |
| Pot Cap-1 Maneuver | - | 0 | 0 | - | 775 | 973 |
| Stage 1 | - | 0 | 0 | - | 940 | - |
| Stage 2 | - | 0 | 0 | - | 896 | - |
| Platoon blocked, \% | - |  |  | - |  |  |
| Mov Cap-1 Maneuver | - | - | - | - | 773 | 970 |
| Mov Cap-2 Maneuver | - | - | - | - | 773 | - |
| Stage 1 | - | - | - | - | 940 | - |
| Stage 2 | - | - | - | - | 894 | - |
|  |  |  |  |  |  |  |
| Approach | EB |  | WB |  | NB |  |
| HCM Control Delay, s | 0 |  | 0 |  | 10.2 |  |
| HCM LOS |  |  |  |  | B |  |
|  |  |  |  |  |  |  |
| Minor Lane/Major Mvmt |  | NBLn1 NBLn2 EBT WBT |  |  |  |  |
| Capacity (veh/h) |  | 773970 |  | - | - |  |
| HCM Lane V/C Ratio |  | 0.1360 .013 |  | - | - |  |
| HCM Control Delay (s) |  | 10.4 | 8.8 | - | - |  |
| HCM Lane LOS |  | B | A | - | - |  |
| HCM 95th \%tile Q(veh) |  | 0.5 | 0 | - | - |  |


| Intersection |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Int Delay, s/veh | 9.1 |  |  |  |  |  |  |  |  |  |  |  |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  | \$ |  |  | $\ddagger$ |  | ${ }^{1}$ | F |  | ${ }^{1}$ | 4 | 「 |
| Traffic Vol, veh/h | 33 | 33 | 45 | 29 | 33 | 33 | 28 | 336 | 16 | 18 | 597 | 46 |
| Future Vol, veh/h | 33 | 33 | 45 | 29 | 33 | 33 | 28 | 336 | 16 | 18 | 597 | 46 |
| Conflicting Peds, \#/hr | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 1 | 0 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | - | 60 | - | - | 60 | - | 50 |
| Veh in Median Storage, \# | \# | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, \% | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 87 | 87 | 87 | 87 | 87 | 87 | 87 | 87 | 87 | 87 | 87 | 87 |
| Heavy Vehicles, \% | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 38 | 38 | 52 | 33 | 38 | 38 | 32 | 386 | 18 | 21 | 686 | 53 |




| Major/Minor $\quad$ N | Minor2 |  |  | Minor1 |  |  | Major1 |  |  | Major2 |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Conflicting Flow All | 1833 | 1828 | 1026 | 1880 | 1906 | 660 | 1106 | 0 | 0 | 662 | 0 | 0 |
| Stage 1 | 1132 | 1132 | - | 694 | 694 | - | - | - |  | - - | - | - |
| Stage 2 | 701 | 696 | - | 1186 | 1212 | - | - | - |  | - - | - | - |
| Critical Hdwy | 7.12 | 6.52 | 6.22 | 7.12 | 6.52 | 6.22 | 4.12 | - | - | - 4.12 | - | - |
| Critical Hdwy Stg 1 | 6.12 | 5.52 | - | 6.12 | 5.52 | - | - | - | - | - - | - | - |
| Critical Hdwy Stg 2 | 6.12 | 5.52 | - | 6.12 | 5.52 | - | - | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 4.018 | 3.318 | 3.518 | 4.018 | 3.318 | 2.218 | - |  | 2.218 | - | - |
| Pot Cap-1 Maneuver | 59 | 77 | 285 | 54 | 69 | 463 | 631 | - |  | 927 | - | - |
| Stage 1 | 247 | 278 | - | 433 | 444 | - | - | - | - | - - | - | - |
| Stage 2 | 429 | 443 | - | 230 | 255 | - | - | - |  | - - | - | - |
| Platoon blocked, \% |  |  |  |  |  |  |  | - |  | - | - | - |
| Mov Cap-1 Maneuver | $\sim 53$ | 71 | 285 | 45 | 63 | 463 | 631 | - |  | 927 | - | - |
| Mov Cap-2 Maneuver | $\sim 53$ | 71 | - | 45 | 63 | - | - | - | - | - - | - | - |
| Stage 1 | 240 | 262 | - | 421 | 432 | - | - | - |  | - - | - | - |
| Stage 2 | 407 | 431 | - | 197 | 240 | - | - | - |  | - - | - | - |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
| Approach | EB |  |  | WB |  |  | NB |  |  | SB |  |  |
| HCM Control Delay, s | 246.5 |  |  | 23.7 |  |  | 0.3 |  |  | 0.4 |  |  |
| HCM LOS | F |  |  | C |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
| Minor Lane/Major Mvmt |  | NBL | NBT | NBR | EBLn1V | VBLn1 | SBL | SBT | SBR |  |  |  |
| Capacity (veh/h) |  | 631 | - | - | 72 | 204 | 927 | - |  | - |  |  |
| HCM Lane V/C Ratio |  | 0.028 | - | - | 1.13 | 0.057 | 0.058 | - |  | - |  |  |
| HCM Control Delay (s) |  | 10.9 | - |  | 246.5 | 23.7 | 9.1 | - |  |  |  |  |
| HCM Lane LOS |  | B | - | - | F | C | A | - |  | - |  |  |
| HCM 95th \%tile Q(veh) |  | 0.1 | - | - | 6.1 | 0.2 | 0.2 | - |  |  |  |  |
| Notes |  |  |  |  |  |  |  |  |  |  |  |  |
| $\sim$ : Volume exceeds capacity |  | \$: Delay exceeds 300s |  |  |  | +: Computation Not Defined |  |  |  | *: All major volume in platoon |  |  |


| Intersection |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Int Delay, s/veh 15.4 |  |  |  |  |  |  |
| Movement W | WBL | WBR | NBT | NBR | SBL | SBT |
| Lane Configurations | ${ }^{*}$ | 「 | 4 | FT | * | 4 |
| Traffic Vol, veh/h | 74 | 233 | 157 | 39 | 270 | 497 |
| Future Vol, veh/h | 74 | 233 | 157 | 39 | 270 | 497 |
| Conflicting Peds, \#/hr | 0 | 1 | 0 | 0 | 1 | 0 |
| Sign Control S | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | 25 | - | 25 | 75 | - |
| Veh in Median Storage, \# | \# 0 | - | 0 | - | - | 0 |
| Grade, \% | 0 | - | 0 | - | - | 0 |
| Peak Hour Factor | 77 | 77 | 77 | 77 | 77 | 77 |
| Heavy Vehicles, \% | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 96 | 303 | 204 | 51 | 351 | 645 |



| Intersection |  |  |  |  |  |  |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: |
| Int Delay, s/veh | 0.9 |  |  |  |  |  |
| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
| Lane Configurations | M |  | b |  |  | 4 |
| Traffic Vol, veh/h | 46 | 8 | 326 | 41 | 6 | 463 |
| Future Vol, veh/h | 46 | 8 | 326 | 41 | 6 | 463 |
| Conflicting Peds, \#/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | - | - | - | - | - |
| Veh in Median Storage, \# | 0 | - | 0 | - | - | 0 |
| Grade, \% | 0 | - | 0 | - | - | 0 |
| Peak Hour Factor | 98 | 98 | 98 | 98 | 98 | 98 |
| Heavy Vehicles, \% | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 47 | 8 | 333 | 42 | 6 | 472 |







| Intersection |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Int Delay, s/veh | 5.1 |  |  |  |  |  |  |  |  |  |  |  |  |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |  |
| Lane Configurations |  | $\uparrow$ | 「 |  | \$ |  |  |  |  |  | $\uparrow$ | F |  |
| Traffic Vol, veh/h | 0 | 166 | 34 | 325 | 229 |  | 0 | 0 | 0 | 15 | 14 | 1 |  |
| Future Vol, veh/h | 0 | 166 | 34 | 325 | 229 | 4 | 0 | 0 | 0 | 15 | 14 | 1 |  |
| Conflicting Peds, \#/hr | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |  |
| Sign Control | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |  |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |  |
| Storage Length | - | - | 25 | - | - | - | - | - | - | - | - | 25 |  |
| Veh in Median Storage, \# | \# | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |  |
| Grade, \% | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |  |
| Peak Hour Factor | 87 | 87 | 87 | 87 | 87 | 87 | 87 | 87 | 87 | 87 | 87 | 87 |  |
| Heavy Vehicles, \% | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |  |
| Mvmt Flow | 0 | 191 | 39 | 374 | 263 | 5 | 0 | 0 | 0 | 17 | 16 | 1 |  |



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



## Existing PM Peak Hour

| Intersection |  |
| :--- | ---: |
| Intersection Delay, s/veh | 24.4 |
| Intersection LOS | C |


| Movement | EBL | EBT | EBR | WBL | WBT | WBR | SBL | SBR | NEL | NER |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Lane Configurations |  | \& |  |  | $\stackrel{1}{*}$ |  |  | F | * |  |
| Traffic Vol, veh/h | 6 | 429 | 0 | 13 | 601 | 29 | 16 | 4 | 7 | 15 |
| Future Vol, veh/h | 6 | 429 | 0 | 13 | 601 | 29 | 16 | 4 | 7 | 15 |
| Peak Hour Factor | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 |
| Heavy Vehicles, \% | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 6 | 461 | 0 | 14 | 646 | 31 | 17 | 4 | 8 | 16 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 0 |
| Approach | EB |  |  | WB |  |  | SB |  | NE |  |
| Opposing Approach | WB |  |  | EB |  |  |  |  |  |  |
| Opposing Lanes | 1 |  |  | 1 |  |  | 0 |  | 0 |  |
| Conflicting Approach Left | SB |  |  | NE |  |  | WB |  | EB |  |
| Conflicting Lanes Left | 1 |  |  | 1 |  |  | 1 |  | 1 |  |
| Conflicting Approach Right | NE |  |  | SB |  |  | NE |  | WB |  |
| Conflicting Lanes Right | 1 |  |  | 1 |  |  | 1 |  | 1 |  |
| HCM Control Delay | 15.7 |  |  | 31.3 |  |  | 9.8 |  | 9.5 |  |
| HCM LOS | C |  |  | D |  |  | A |  | A |  |


| Lane | NELn1 | EBLn1 | WBLn1 | SBLn1 |
| :--- | ---: | ---: | ---: | ---: |
| Vol Left, \% | $32 \%$ | $1 \%$ | $2 \%$ | $62 \%$ |
| Vol Thru, \% | $0 \%$ | $99 \%$ | $93 \%$ | $0 \%$ |
| Vol Right, \% | $68 \%$ | $0 \%$ | $5 \%$ | $38 \%$ |
| Sign Control | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 22 | 435 | 643 | 26 |
| LT Vol | 7 | 6 | 13 | 16 |
| Through Vol | 0 | 429 | 601 | 0 |
| RT Vol | 15 | 0 | 29 | 10 |
| Lane Flow Rate | 24 | 468 | 691 | 28 |
| Geometry Grp | 1 | 1 | 1 | 1 |
| Degree of Util (X) | 0.041 | 0.626 | 0.88 | 0.05 |
| Departure Headway (Hd) | 6.251 | 4.82 | 4.58 | 6.477 |
| Convergence, Y/N | Yes | Yes | Yes | Yes |
| Cap | 576 | 744 | 788 | 556 |
| Service Time | 4.253 | 2.883 | 2.635 | 4.479 |
| HCM Lane V/C Ratio | 0.042 | 0.629 | 0.877 | 0.05 |
| HCM Control Delay | 9.5 | 15.7 | 31.3 | 9.8 |
| HCM Lane LOS | A | C | D | A |
| HCM 95th-tile Q | 0.1 | 4.4 | 11.2 | 0.2 |


| Intersection |  |
| :--- | ---: | :--- |
| Intersection Delay, s/veh | 40.6 |
| Intersection LOS | E |


| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Lane Configurations |  | \$ |  |  | $\ddagger$ |  | ${ }^{1}$ | $\uparrow$ |  | ${ }^{*}$ | 4 |  |
| Traffic Vol, veh/h | 74 | 5 | 112 | 6 | 5 | 8 | 90 | 553 | 3 | 1 | 371 | 72 |
| Future Vol, veh/h | 74 | 5 | 112 | 6 | 5 | 8 | 90 | 553 | 3 | 1 | 371 | 72 |
| 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 |
| Heavy Vehicles, \% | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 80 | 5 | 122 | 7 | 5 | 9 | 98 | 601 | 3 | 1 | 403 | 78 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 |
| Approach | EB |  |  | WB |  |  | NB |  |  | SB |  |  |
| Opposing Approach | WB |  |  | EB |  |  | SB |  |  | NB |  |  |
| Opposing Lanes | 1 |  |  | 1 |  |  | 2 |  |  | 2 |  |  |
| Conflicting Approach Left | SB |  |  | NB |  |  | EB |  |  | WB |  |  |
| Conflicting Lanes Left | 2 |  |  | 2 |  |  | 1 |  |  | 1 |  |  |
| Conflicting Approach Right | NB |  |  | SB |  |  | WB |  |  | EB |  |  |
| Conflicting Lanes Right | 2 |  |  | 2 |  |  | 1 |  |  | 1 |  |  |
| HCM Control Delay | 13.9 |  |  | 11 |  |  | 55.5 |  |  | 31.8 |  |  |
| HCM LOS | B |  |  | B |  |  | F |  |  | D |  |  |


| Lane | NBLn1 | NBLn2 | EBLn1 | WBLn1 | SBLn1 | SBLn2 |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: |
| Vol Left, \% | $100 \%$ | $0 \%$ | $39 \%$ | $32 \%$ | $100 \%$ | $0 \%$ |
| Vol Thru, \% | $0 \%$ | $99 \%$ | $3 \%$ | $26 \%$ | $0 \%$ | $84 \%$ |
| Vol Right, \% | $0 \%$ | $1 \%$ | $59 \%$ | $42 \%$ | $0 \%$ | $16 \%$ |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 90 | 556 | 191 | 19 | 1 | 443 |
| LT Vol | 90 | 0 | 74 | 6 | 1 | 0 |
| Through Vol | 0 | 553 | 5 | 5 | 0 | 371 |
| RT Vol | 0 | 3 | 112 | 8 | 0 | 72 |
| Lane Flow Rate | 98 | 604 | 208 | 21 | 1 | 482 |
| Geometry Grp | 7 | 7 | 2 | 2 | 7 | 7 |
| Degree of Util (X) | 0.177 | 1.007 | 0.384 | 0.043 | 0.002 | 0.825 |
| Departure Headway (Hd) | 6.511 | 5.999 | 6.657 | 7.676 | 6.795 | 6.17 |
| Convergence, Y/N | Yes | Yes | Yes | Yes | Yes | Yes |
| Cap | 549 | 604 | 536 | 469 | 524 | 583 |
| Service Time | 4.282 | 3.769 | 4.752 | 5.676 | 4.575 | 3.949 |
| HCM Lane V/C Ratio | 0.179 | 1 | 0.388 | 0.045 | 0.002 | 0.827 |
| HCM Control Delay | 10.7 | 62.8 | 13.9 | 11 | 9.6 | 31.8 |
| HCM Lane LOS | B | F | B | B | A | D |
| HCM 95th-tile Q | 0.6 | 15.2 | 1.8 | 0.1 | 0 | 8.5 |


| Intersection |  |
| :--- | ---: | :--- |
| Intersection Delay, s/veh | 12.8 |
| Intersection LOS | B |


| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Lane Configurations |  | \& |  |  | \& |  |  | \& |  |  | \& |  |
| Traffic Vol, veh/h | 37 | 121 | 32 | 53 | 107 | 11 | 40 | 144 | 51 | 49 | 190 | 28 |
| Future Vol, veh/h | 37 | 121 | 32 | 53 | 107 | 11 | 40 | 144 | 51 | 49 | 190 | 28 |
| Peak Hour Factor | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 |
| Heavy Vehicles, \% | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 43 | 139 | 37 | 61 | 123 | 13 | 46 | 166 | 59 | 56 | 218 | 32 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |
| Approach | EB |  |  | WB |  |  | NB |  |  | SB |  |  |
| Opposing Approach | WB |  |  | EB |  |  | SB |  |  | NB |  |  |
| Opposing Lanes | 1 |  |  | 1 |  |  | 1 |  |  | 1 |  |  |
| Conflicting Approach Left | SB |  |  | NB |  |  | EB |  |  | WB |  |  |
| Conflicting Lanes Left | 1 |  |  | 1 |  |  | 1 |  |  | 1 |  |  |
| Conflicting Approach Right | NB |  |  | SB |  |  | WB |  |  | EB |  |  |
| Conflicting Lanes Right | 1 |  |  | 1 |  |  | 1 |  |  | 1 |  |  |
| HCM Control Delay | 12.2 |  |  | 12 |  |  | 12.8 |  |  | 13.8 |  |  |
| HCM LOS | B |  |  | B |  |  | B |  |  | B |  |  |


| Lane | NBLn1 | EBLn1 | WBLn1 | SBLn1 |
| :--- | ---: | ---: | ---: | ---: |
| Vol Left, \% | $17 \%$ | $19 \%$ | $31 \%$ | $18 \%$ |
| Vol Thru, \% | $61 \%$ | $64 \%$ | $63 \%$ | $71 \%$ |
| Vol Right, \% | $22 \%$ | $17 \%$ | $6 \%$ | $10 \%$ |
| Sign Control | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 235 | 190 | 171 | 267 |
| LT Vol | 40 | 37 | 53 | 49 |
| Through Vol | 144 | 121 | 107 | 190 |
| RT Vol | 51 | 32 | 11 | 28 |
| Lane Flow Rate | 270 | 218 | 197 | 307 |
| Geometry Grp | 1 | 1 | 1 | 1 |
| Degree of Util (X) | 0.421 | 0.357 | 0.328 | 0.479 |
| Departure Headway (Hd) | 5.617 | 5.881 | 6.007 | 5.62 |
| Convergence, Y/N | Yes | Yes | Yes | Yes |
| Cap | 637 | 607 | 594 | 638 |
| Service Time | 3.694 | 3.961 | 4.09 | 3.693 |
| HCM Lane V/C Ratio | 0.424 | 0.359 | 0.332 | 0.481 |
| HCM Control Delay | 12.8 | 12.2 | 12 | 13.8 |
| HCM Lane LOS | B | B | B | B |
| HCM 95th-tile Q | 2.1 | 1.6 | 1.4 | 2.6 |


| Intersection |  |
| :--- | ---: |
| Intersection Delay, s/veh $\quad 95.3$ |  |
| Intersection LOS | F |


| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Lane Configurations | ${ }^{7}$ | 「 |  | $\uparrow$ | $\uparrow$ | F' |
| Traffic Vol, veh/h | 470 | 17 | 63 | 426 | 276 | 605 |
| Future Vol, veh/h | 470 | 17 | 63 | 426 | 276 | 605 |
| Peak Hour Factor | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 |
| Heavy Vehicles, \% | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 485 | 18 | 65 | 439 | 285 | 624 |
| Number of Lanes | 1 | 1 | 0 | 1 | 1 | 1 |
| Approach | EB |  | NB |  | SB |  |
| Opposing Approach |  |  | SB |  | NB |  |
| Opposing Lanes | 0 |  | 2 |  | 1 |  |
| Conflicting Approach Left | SB |  | EB |  |  |  |
| Conflicting Lanes Left | 2 |  | 2 |  | 0 |  |
| Conflicting Approach Right | NB |  |  |  | EB |  |
| Conflicting Lanes Right | 1 |  | 0 |  | 2 |  |
| HCM Control Delay | 102.7 |  | 81.8 |  | 98.7 |  |
| HCM LOS | F |  | F |  | F |  |


| Lane | NBLn1 | EBLn1 | EBLn2 | SBLn1 | SBLn2 |
| :--- | ---: | ---: | ---: | ---: | ---: |
| Vol Left, \% | $13 \%$ | $100 \%$ | $0 \%$ | $0 \%$ | $0 \%$ |
| Vol Thru, \% | $87 \%$ | $0 \%$ | $0 \%$ | $100 \%$ | $0 \%$ |
| Vol Right, \% | $0 \%$ | $0 \%$ | $100 \%$ | $0 \%$ | $100 \%$ |
| Sign Control | Stop | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 489 | 470 | 17 | 276 | 605 |
| LT Vol | 63 | 470 | 0 | 0 | 0 |
| Through Vol | 426 | 0 | 0 | 276 | 0 |
| RT Vol | 0 | 0 | 17 | 0 | 605 |
| Lane Flow Rate | 504 | 485 | 18 | 285 | 624 |
| Geometry Grp | 4 | 7 | 7 | 7 | 7 |
| Degree of Util (X) | 1.04 | 1.11 | 0.034 | 0.603 | 1.202 |
| Departure Headway (Hd) | 7.988 | 8.58 | 7.339 | 8.14 | 7.414 |
| Convergence, Y/N | Yes | Yes | Yes | Yes | Yes |
| Cap | 459 | 426 | 491 | 447 | 493 |
| Service Time | 5.988 | 6.18 | 5.039 | 5.84 | 5.114 |
| HCM Lane V/C Ratio | 1.098 | 1.138 | 0.037 | 0.638 | 1.266 |
| HCM Control Delay | 81.8 | 106 | 10.3 | 22.4 | 133.5 |
| HCM Lane LOS | F | F | B | C | F |
| HCM 95th-tile Q | 14.4 | 16.4 | 0.1 | 3.9 | 22.1 |


|  | 4 | $\rightarrow$ | $\checkmark$ | $\bigcirc$ | $4$ | 4 | 4 | 4 | 7 | ( | $\ddagger$ | 4 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  | \& |  |  | 4 |  |  | ${ }_{4}{ }^{\text {d }}$ | 「' | ${ }^{1}$ | $\uparrow$ |  |
| Traffic Volume (veh/h) | 19 | 99 | 13 | 5 | 144 | 463 | 10 | 546 | 9 | 285 | 302 | 13 |
| Future Volume (veh/h) | 19 | 99 | 13 | 5 | 144 | 463 | 10 | 546 | 9 | 285 | 302 | 13 |
| Initial $Q(Q b)$, veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 |  | 1.00 | 1.00 |  | 1.00 | 1.00 |  | 0.98 | 1.00 |  | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach |  | No |  |  | No |  |  | No |  |  | No |  |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 19 | 101 | 13 | 5 | 147 | 472 | 10 | 557 | 9 | 291 | 308 | 13 |
| Peak Hour Factor | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 |
| Percent Heavy Veh, \% | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 89 | 443 | 53 | 40 | 159 | 500 | 8 | 443 | 373 | 379 | 378 | 16 |
| Arrive On Green | 0.40 | 0.40 | 0.40 | 0.40 | 0.40 | 0.40 | 0.24 | 0.24 | 0.24 | 0.21 | 0.21 | 0.21 |
| Sat Flow, veh/h | 113 | 1103 | 132 | 3 | 397 | 1244 | 33 | 1836 | 1546 | 1781 | 1780 | 75 |
| Grp Volume(v), veh/h | 133 | 0 | 0 | 624 | 0 | 0 | 567 | 0 | 9 | 291 | 0 | 321 |
| Grp Sat Flow(s), veh/h/ln | 1347 | 0 | 0 | 1645 | 0 | 0 | 1869 | 0 | 1546 | 1781 | 0 | 1855 |
| Q Serve(g_s), s | 0.0 | 0.0 | 0.0 | 6.6 | 0.0 | 0.0 | 22.5 | 0.0 | 0.4 | 14.3 | 0.0 | 15.4 |
| Cycle Q Clear(g_c), s | 4.4 | 0.0 | 0.0 | 34.1 | 0.0 | 0.0 | 22.5 | 0.0 | 0.4 | 14.3 | 0.0 | 15.4 |
| Prop In Lane | 0.14 |  | 0.10 | 0.01 |  | 0.76 | 0.02 |  | 1.00 | 1.00 |  | 0.04 |
| Lane Grp Cap(c), veh/h | 585 | 0 | 0 | 699 | 0 | 0 | 451 | 0 | 373 | 379 | 0 | 394 |
| V/C Ratio(X) | 0.23 | 0.00 | 0.00 | 0.89 | 0.00 | 0.00 | 1.26 | 0.00 | 0.02 | 0.77 | 0.00 | 0.81 |
| Avail Cap(c_a), veh/h | 619 | 0 | 0 | 735 | 0 | 0 | 451 | 0 | 373 | 659 | 0 | 686 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 18.0 | 0.0 | 0.0 | 26.9 | 0.0 | 0.0 | 35.4 | 0.0 | 27.0 | 34.6 | 0.0 | 35.0 |
| Incr Delay (d2), s/veh | 0.2 | 0.0 | 0.0 | 12.9 | 0.0 | 0.0 | 133.0 | 0.0 | 0.0 | 3.3 | 0.0 | 4.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| \%ile BackOfQ(50\%),veh/In | 1.8 | 0.0 | 0.0 | 14.7 | 0.0 | 0.0 | 26.7 | 0.0 | 0.2 | 6.3 | 0.0 | 7.1 |
| Unsig. Movement Delay, s/veh |  |  |  |  |  |  |  |  |  |  |  |  |
| LnGrp Delay(d),s/veh | 18.2 | 0.0 | 0.0 | 39.8 | 0.0 | 0.0 | 168.4 | 0.0 | 27.0 | 37.9 | 0.0 | 39.1 |
| LnGrp LOS | B | A | A | D | A | A | F | A | C | D | A | D |
| Approach Vol, veh/h |  | 133 |  |  | 624 |  |  | 576 |  |  | 612 |  |
| Approach Delay, s/veh |  | 18.2 |  |  | 39.8 |  |  | 166.2 |  |  | 38.5 |  |
| Approach LOS |  | B |  |  | D |  |  | F |  |  | D |  |
| Timer - Assigned Phs |  | 2 |  | 4 |  | 6 |  | 8 |  |  |  |  |
| Phs Duration (G+Y+Rc), s |  | 27.0 |  | 41.9 |  | 24.3 |  | 41.9 |  |  |  |  |
| Change Period ( $\mathrm{Y}+\mathrm{Rc}$ ), s |  | 4.5 |  | 4.5 |  | 4.5 |  | 4.5 |  |  |  |  |
| Max Green Setting (Gmax), s |  | 22.5 |  | 39.5 |  | 34.5 |  | 39.5 |  |  |  |  |
| Max Q Clear Time (g_c+11), s |  | 24.5 |  | 6.4 |  | 17.4 |  | 36.1 |  |  |  |  |
| Green Ext Time (p_c), s |  | 0.0 |  | 0.8 |  | 2.5 |  | 1.3 |  |  |  |  |
| Intersection Summary |  |  |  |  |  |  |  |  |  |  |  |  |
| HCM 6th Ctrl Delay |  |  | 75.3 |  |  |  |  |  |  |  |  |  |
| HCM 6th LOS |  |  | E |  |  |  |  |  |  |  |  |  |


| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Lane Configurations | ${ }^{7}$ | F | 4 | 「 | ${ }^{7}$ | 4 |
| Traffic Volume (veh/h) | 335 | 27 | 458 | 571 | 25 | 233 |
| Future Volume (veh/h) | 335 | 27 | 458 | 571 | 25 | 233 |
| Initial $Q(Q b)$, veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | 1.00 |  | 0.98 | 1.00 |  |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No |  | No |  |  | No |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 349 | 28 | 477 | 595 | 26 | 243 |
| Peak Hour Factor | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 |
| Percent Heavy Veh, \% | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 457 | 407 | 728 | 1009 | 45 | 964 |
| Arrive On Green | 0.26 | 0.26 | 0.39 | 0.39 | 0.03 | 0.52 |
| Sat Flow, veh/h | 1781 | 1585 | 1870 | 1547 | 1781 | 1870 |
| Grp Volume(v), veh/h | 349 | 28 | 477 | 595 | 26 | 243 |
| Grp Sat Flow(s), veh/h/ln | 1781 | 1585 | 1870 | 1547 | 1781 | 1870 |
| Q Serve(g_s), s | 7.2 | 0.5 | 8.3 | 8.7 | 0.6 | 2.9 |
| Cycle Q Clear(g_c), s | 7.2 | 0.5 | 8.3 | 8.7 | 0.6 | 2.9 |
| Prop In Lane | 1.00 | 1.00 |  | 1.00 | 1.00 |  |
| Lane Grp Cap(c), veh/h | 457 | 407 | 728 | 1009 | 45 | 964 |
| V/C Ratio(X) | 0.76 | 0.07 | 0.66 | 0.59 | 0.58 | 0.25 |
| Avail Cap(c_a), veh/h | 1353 | 1204 | 1278 | 1465 | 451 | 1941 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(l) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 13.6 | 11.1 | 9.9 | 4.0 | 19.1 | 5.3 |
| Incr Delay (d2), s/veh | 2.7 | 0.1 | 1.0 | 0.6 | 11.4 | 0.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| \%ile BackOfQ(50\%),veh/ln | 2.7 | 0.2 | 2.1 | 3.0 | 0.3 | 0.5 |
| Unsig. Movement Delay, s/veh |  |  |  |  |  |  |
| LnGrp Delay(d),s/veh | 16.2 | 11.2 | 10.9 | 4.6 | 30.4 | 5.5 |
| LnGrp LOS | B | B | B | A | C | A |
| Approach Vol, veh/h | 377 |  | 1072 |  |  | 269 |
| Approach Delay, s/veh | 15.9 |  | 7.4 |  |  | 7.9 |
| Approach LOS | B |  | A |  |  | A |


| Timer - Assigned Phs | 1 | 2 | 6 | 8 |
| :--- | ---: | ---: | ---: | ---: |
| Phs Duration (G+Y+Rc), s | 5.0 | 19.9 | 24.9 | 14.6 |
| Change Period (Y+Rc), s | 4.0 | 4.5 | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 10.0 | 27.0 | 41.0 | 30.0 |
| Max Q Clear Time (g_c+11), s | 2.6 | 10.7 | 4.9 | 9.2 |
| Green Ext Time (p_c), s | 0.0 | 4.6 | 1.3 | 1.2 |

## Intersection Summary

HCM 6th Ctrl Delay 9.3

HCM 6th LOS A

|  | $y$ | $\rightarrow$ |  | 7 | $\downarrow$ |  | 4 | $\dagger$ | $p$ |  | $\downarrow$ | $\downarrow$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | ${ }^{7}$ | 中t |  | ${ }^{7}$ | 性 |  | \％ | 个 | F | ${ }^{*}$ | 4 | F |
| Traffic Volume（veh／h） | 246 | 545 | 149 | 189 | 504 | 51 | 97 | 271 | 201 | 24 | 206 | 176 |
| Future Volume（veh／h） | 246 | 545 | 149 | 189 | 504 | 51 | 97 | 271 | 201 | 24 | 206 | 176 |
| Initial $Q(Q b)$ ，veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped－Bike Adj（A＿pbT） | 1.00 |  | 0.97 | 1.00 |  | 0.98 | 1.00 |  | 0.99 | 1.00 |  | 1.00 |
| Parking Bus，Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach |  | No |  |  | No |  |  | No |  |  | No |  |
| Adj Sat Flow，veh／h／ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate，veh／h | 276 | 612 | 167 | 212 | 566 | 57 | 109 | 304 | 226 | 27 | 231 | 198 |
| Peak Hour Factor | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 |
| Percent Heavy Veh，\％ | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap，veh／h | 317 | 807 | 220 | 266 | 837 | 84 | 240 | 475 | 633 | 93 | 320 | 554 |
| Arrive On Green | 0.18 | 0.29 | 0.29 | 0.15 | 0.26 | 0.26 | 0.13 | 0.25 | 0.25 | 0.05 | 0.17 | 0.17 |
| Sat Flow，veh／h | 1781 | 2742 | 747 | 1781 | 3253 | 327 | 1781 | 1870 | 1563 | 1781 | 1870 | 1585 |
| Grp Volume（v），veh／h | 276 | 396 | 383 | 212 | 308 | 315 | 109 | 304 | 226 | 27 | 231 | 198 |
| Grp Sat Flow（s），veh／h／ln | 1781 | 1777 | 1711 | 1781 | 1777 | 1803 | 1781 | 1870 | 1563 | 1781 | 1870 | 1585 |
| Q Serve（g＿s），s | 10.9 | 14.7 | 14.8 | 8.3 | 11.3 | 11.4 | 4.1 | 10.5 | 7.3 | 1.1 | 8.5 | 6.7 |
| Cycle Q Clear（g＿c），s | 10.9 | 14.7 | 14.8 | 8.3 | 11.3 | 11.4 | 4.1 | 10.5 | 7.3 | 1.1 | 8.5 | 6.7 |
| Prop In Lane | 1.00 |  | 0.44 | 1.00 |  | 0.18 | 1.00 |  | 1.00 | 1.00 |  | 1.00 |
| Lane Grp Cap（c），veh／h | 317 | 523 | 504 | 266 | 457 | 464 | 240 | 475 | 633 | 93 | 320 | 554 |
| V／C Ratio（X） | 0.87 | 0.76 | 0.76 | 0.80 | 0.67 | 0.68 | 0.45 | 0.64 | 0.36 | 0.29 | 0.72 | 0.36 |
| Avail Cap（c＿a），veh／h | 329 | 775 | 747 | 392 | 814 | 826 | 319 | 785 | 893 | 221 | 690 | 867 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter（l） | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay（d），s／veh | 29.0 | 23.3 | 23.3 | 29.8 | 24.2 | 24.3 | 29.0 | 24.2 | 15.1 | 33.1 | 28.5 | 17.6 |
| Incr Delay（d2），s／veh | 20.9 | 2.4 | 2.6 | 6.9 | 1.7 | 1.7 | 1.3 | 1.4 | 0.3 | 1.7 | 3.1 | 0.4 |
| Initial Q Delay（d3），s／veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| \％ile BackOfQ（50\％），veh／ln | 6.3 | 6.1 | 6.0 | 3.9 | 4.7 | 4.8 | 1.8 | 4.5 | 2.5 | 0.5 | 3.9 | 0.1 |
| Unsig．Movement Delay，s／veh |  |  |  |  |  |  |  |  |  |  |  |  |
| LnGrp Delay（d），s／veh | 50.0 | 25.7 | 25.9 | 36.7 | 26.0 | 26.0 | 30.3 | 25.6 | 15.5 | 34.9 | 31.6 | 18.0 |
| LnGrp LOS | D | C | C | D | C | C | C | C | B | C | C | B |
| Approach Vol，veh／h |  | 1055 |  |  | 835 |  |  | 639 |  |  | 456 |  |
| Approach Delay，s／veh |  | 32.1 |  |  | 28.7 |  |  | 22.8 |  |  | 25.8 |  |
| Approach LOS |  | C |  |  | C |  |  | C |  |  | C |  |
| Timer－Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |  |  |  |  |
| Phs Duration（ $\mathrm{G}+\mathrm{Y}+\mathrm{Rc}$ ），$s$ | 7.8 | 23.3 | 14.8 | 26.7 | 13.8 | 17.3 | 17.5 | 24.0 |  |  |  |  |
| Change Period（ $Y+R \mathrm{c}$ ）， s | 4.0 | 4.9 | 4.0 | ＊5．3 | 4.0 | ＊4．9 | 4.6 | 5.3 |  |  |  |  |
| Max Green Setting（Gmax），s | 9.0 | 30.5 | 16.0 | ＊32 | 13.0 | ＊27 | 13.4 | 33.3 |  |  |  |  |
| Max Q Clear Time（g＿c＋11），s | 3.1 | 12.5 | 10.3 | 16.8 | 6.1 | 10.5 | 12.9 | 13.4 |  |  |  |  |
| Green Ext Time（p＿c），s | 0.0 | 2.4 | 0.3 | 4.5 | 0.1 | 1.8 | 0.0 | 3.8 |  |  |  |  |
| Intersection Summary |  |  |  |  |  |  |  |  |  |  |  |  |
| HCM 6th Ctrr Delay |  |  | 28.2 |  |  |  |  |  |  |  |  |  |
| HCM 6th LOS |  |  | C |  |  |  |  |  |  |  |  |  |
| Notes |  |  |  |  |  |  |  |  |  |  |  |  |

＊HCM 6th computational engine requires equal clearance times for the phases crossing the barrier．

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Lane Configurations | \％ | $\uparrow$ | F | ${ }^{7}$ | $\uparrow$ | F | ${ }^{7}$ | 个个 | F | \％ | 性 |  |
| Traffic Volume（veh／h） | 14 | 38 | 115 | 630 | 23 | 158 | 61 | 591 | 440 | 92 | 466 | 7 |
| Future Volume（veh／h） | 14 | 38 | 115 | 630 | 23 | 158 | 61 | 591 | 440 | 92 | 466 | 7 |
| Initial $Q(Q b)$ ，veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped－Bike Adj（A＿pbT） | 1.00 |  | 0.98 | 1.00 |  | 1.00 | 1.00 |  | 1.00 | 1.00 |  | 0.98 |
| Parking Bus，Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach |  | No |  |  | No |  |  | No |  |  | No |  |
| Adj Sat Flow，veh／h／ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate，veh／h | 15 | 40 | 121 | 680 | 0 | 166 | 64 | 622 | 463 | 97 | 491 | 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 |
| Percent Heavy Veh，\％ | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap，veh／h | 208 | 219 | 182 | 819 | 0 | 363 | 164 | 1120 | 864 | 190 | 1181 | 17 |
| Arrive On Green | 0.12 | 0.12 | 0.12 | 0.23 | 0.00 | 0.23 | 0.09 | 0.32 | 0.32 | 0.11 | 0.33 | 0.33 |
| Sat Flow，veh／h | 1781 | 1870 | 1560 | 3563 | 0 | 1579 | 1781 | 3554 | 1585 | 1781 | 3585 | 51 |
| Grp Volume（v），veh／h | 15 | 40 | 121 | 680 | 0 | 166 | 64 | 622 | 463 | 97 | 243 | 255 |
| Grp Sat Flow（s），veh／h／ln | 1781 | 1870 | 1560 | 1781 | 0 | 1579 | 1781 | 1777 | 1585 | 1781 | 1777 | 1860 |
| Q Serve（g＿s），s | 0.6 | 1.6 | 6.3 | 15.3 | 0.0 | 7.6 | 2.8 | 12.2 | 15.8 | 4.3 | 8.9 | 9.0 |
| Cycle Q Clear（g＿c），s | 0.6 | 1.6 | 6.3 | 15.3 | 0.0 | 7.6 | 2.8 | 12.2 | 15.8 | 4.3 | 8.9 | 9.0 |
| Prop In Lane | 1.00 |  | 1.00 | 1.00 |  | 1.00 | 1.00 |  | 1.00 | 1.00 |  | 0.03 |
| Lane Grp Cap（c），veh／h | 208 | 219 | 182 | 819 | 0 | 363 | 164 | 1120 | 864 | 190 | 585 | 613 |
| V／C Ratio（X） | 0.07 | 0.18 | 0.66 | 0.83 | 0.00 | 0.46 | 0.39 | 0.56 | 0.54 | 0.51 | 0.42 | 0.42 |
| Avail Cap（c＿a），veh／h | 656 | 689 | 574 | 1693 | 0 | 750 | 423 | 1477 | 1023 | 423 | 739 | 773 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter（l） | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay（d），s／veh | 33.1 | 33.5 | 35.6 | 30.9 | 0.0 | 27.9 | 36.0 | 23.9 | 12.3 | 35.5 | 21.9 | 21.9 |
| Incr Delay（d2），s／veh | 0.1 | 0.1 | 1.5 | 0.9 | 0.0 | 0.3 | 0.6 | 0.7 | 0.9 | 0.8 | 0.8 | 0.8 |
| Initial Q Delay（d3），s／veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| \％ile BackOfQ（50\％），veh／In | 0.3 | 0.7 | 2.3 | 6.3 | 0.0 | 2.8 | 1.2 | 5.0 | 8.7 | 1.8 | 3.6 | 3.8 |
| Unsig．Movement Delay，s／veh |  |  |  |  |  |  |  |  |  |  |  |  |
| LnGrp Delay（d），s／veh | 33.2 | 33.7 | 37.1 | 31.7 | 0.0 | 28.2 | 36.5 | 24.7 | 13.2 | 36.3 | 22.7 | 22.7 |
| LnGrp LOS | C | C | D | C | A | C | D | C | B | D | C | C |
| Approach Vol，veh／h |  | 176 |  |  | 846 |  |  | 1149 |  |  | 595 |  |
| Approach Delay，s／veh |  | 36.0 |  |  | 31.0 |  |  | 20.7 |  |  | 24.9 |  |
| Approach LOS |  | D |  |  | C |  |  | C |  |  | C |  |


| Timer－Assigned Phs | 1 | 2 | 4 | 5 | 6 | 8 |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: |
| Phs Duration（G＋Y＋Rc），s | 13.2 | 31.6 | 14.6 | 12.0 | 32.8 | 24.8 |
| Change Period（Y＋Rc），s | ${ }^{*} 4.2$ | 5.1 | ${ }^{*} 4.8$ | ${ }^{*} 4.2$ | 5.1 | 5.4 |
| Max Green Setting（Gmax），s | ${ }^{*} 20$ | 35.0 | ${ }^{*} 31$ | ${ }^{*} 20$ | 35.0 | 40.0 |
| Max Q Clear Time（g＿c＋11），s | 6.3 | 17.8 | 8.3 | 4.8 | 11.0 | 17.3 |
| Green Ext Time（p＿c），s | 0.1 | 8.7 | 0.3 | 0.0 | 4.7 | 1.6 |

Intersection Summary

| HCM 6th Ctrl Delay | 25.7 |
| :--- | ---: |
| HCM 6th LOS | C |

## Notes

User approved volume balancing among the lanes for turning movement．
＊HCM 6th computational engine requires equal clearance times for the phases crossing the barrier．

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Lane Configurations | \％${ }^{\text {\％}}$ | 「＂ | 个 $\uparrow$ | 「 |  | 个 $\uparrow$ |
| Traffic Volume（veh／h） | 145 | 315 | 809 | 589 | 0 | 1224 |
| Future Volume（veh／h） | 145 | 315 | 809 | 589 | 0 | 1224 |
| Initial $Q(Q b)$ ，veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped－Bike Adj（A＿pbT） | 1.00 | 1.00 |  | 1.00 | 1.00 |  |
| Parking Bus，Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No |  | No |  |  | No |
| Adj Sat Flow，veh／h／ln | 1870 | 1870 | 1870 | 1870 | 0 | 1870 |
| Adj Flow Rate，veh／h | 151 | 328 | 843 | 0 | 0 | 1275 |
| Peak Hour Factor | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 |
| Percent Heavy Veh，\％ | 2 | 2 | 2 | 2 | 0 | 2 |
| Cap，veh／h | 553 | 446 | 2439 |  | 0 | 2439 |
| Arrive On Green | 0.16 | 0.16 | 0.69 | 0.00 | 0.00 | 0.69 |
| Sat Flow，veh／h | 3456 | 2790 | 3647 | 1585 | 0 | 3741 |
| Grp Volume（v），veh／h | 151 | 328 | 843 | 0 | 0 | 1275 |
| Grp Sat Flow（s），veh／h／ln | 1728 | 1395 | 1777 | 1585 | 0 | 1777 |
| Q Serve（g＿s），s | 2.5 | 7.3 | 6.3 | 0.0 | 0.0 | 11.4 |
| Cycle Q Clear（g＿c），s | 2.5 | 7.3 | 6.3 | 0.0 | 0.0 | 11.4 |
| Prop In Lane | 1.00 | 1.00 |  | 1.00 | 0.00 |  |
| Lane Grp Cap（c），veh／h | 553 | 446 | 2439 |  | 0 | 2439 |
| V／C Ratio（X） | 0.27 | 0.74 | 0.35 |  | 0.00 | 0.52 |
| Avail Cap（c＿a），veh／h | 904 | 730 | 2439 |  | 0 | 2439 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter（I） | 1.00 | 1.00 | 0.84 | 0.00 | 0.00 | 0.83 |
| Uniform Delay（d），s／veh | 24.0 | 26.0 | 4.2 | 0.0 | 0.0 | 5.0 |
| Incr Delay（d2），s／veh | 0.3 | 2.4 | 0.3 | 0.0 | 0.0 | 0.7 |
| Initial Q Delay（d3），s／veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| \％ile BackOfQ（50\％），veh／ln | 0.9 | 2.2 | 1.3 | 0.0 | 0.0 | 2.3 |
| Unsig．Movement Delay，s／veh |  |  |  |  |  |  |
| LnGrp Delay（d），s／veh | 24.2 | 28.4 | 4.5 | 0.0 | 0.0 | 5.7 |
| LnGrp LOS | C | C | A |  | A | A |
| Approach Vol，veh／h | 479 |  | 843 |  |  | 1275 |
| Approach Delay，s／veh | 27.1 |  | 4.5 |  |  | 5.7 |
| Approach LOS | C |  | A |  |  | A |


| Timer－Assigned Phs | 2 | 4 | 6 |
| :--- | ---: | ---: | ---: |
| Phs Duration（G＋Y＋Rc），s | 49.6 | 15.4 | 49.6 |
| Change Period（Y＋Rc），s | 5.0 | 5.0 | 5.0 |
| Max Green Setting（Gmax），s | 38.0 | 17.0 | 38.0 |
| Max Q Clear Time（g＿c +11 ），s | 8.3 | 9.3 | 13.4 |
| Green Ext Time（p＿c），s | 5.9 | 1.1 | 9.6 |

## Intersection Summary

HCM 6th Ctrl Delay 9.2

HCM 6th LOS A

## Notes

Unsignalized Delay for［NBR］is excluded from calculations of the approach delay and intersection delay．


Notes
Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Lane Configurations | \％ | 4 | F | ${ }^{7}$ | $\uparrow$ | F＇ | \％ | 中 ${ }^{\text {a }}$ |  | ${ }^{7}$ | 个个 | F |
| Traffic Volume（veh／h） | 159 | 64 | 172 | 6 | 129 | 111 | 218 | 722 | 0 | 68 | 646 | 232 |
| Future Volume（veh／h） | 159 | 64 | 172 | 6 | 129 | 111 | 218 | 722 | 0 | 68 | 646 | 232 |
| Initial $\mathrm{Q}(\mathrm{Qb})$ ，veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped－Bike Adj（A＿pbT） | 1.00 |  | 1.00 | 1.00 |  | 1.00 | 1.00 |  | 1.00 | 1.00 |  | 1.00 |
| Parking Bus，Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach |  | No |  |  | No |  |  | No |  |  | No |  |
| Adj Sat Flow，veh／h／ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate，veh／h | 166 | 67 | 179 | 6 | 134 | 116 | 227 | 752 | 0 | 71 | 673 | 242 |
| Peak Hour Factor | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 |
| Percent Heavy Veh，\％ | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | ， | 2 | 2 | 2 |
| Cap，veh／h | 211 | 476 | 560 | 11 | 272 | 230 | 341 | 1359 | 0 | 91 | 1167 | 708 |
| Arrive On Green | 0.12 | 0.25 | 0.25 | 0.01 | 0.15 | 0.15 | 0.10 | 0.38 | 0.00 | 0.05 | 0.33 | 0.33 |
| Sat Flow，veh／h | 1781 | 1870 | 1585 | 1781 | 1870 | 1582 | 3456 | 3647 | 0 | 1781 | 3554 | 1584 |
| Grp Volume（v），veh／h | 166 | 67 | 179 | 6 | 134 | 116 | 227 | 752 | 0 | 71 | 673 | 242 |
| Grp Sat Flow（s），veh／h／ln | 1781 | 1870 | 1585 | 1781 | 1870 | 1582 | 1728 | 1777 | 0 | 1781 | 1777 | 1584 |
| Q Serve（g＿s），s | 5.7 | 1.7 | 5.2 | 0.2 | 4.2 | 4.3 | 4.0 | 10.5 | 0.0 | 2.5 | 9.9 | 6.3 |
| Cycle Q Clear（g＿c），s | 5.7 | 1.7 | 5.2 | 0.2 | 4.2 | 4.3 | 4.0 | 10.5 | 0.0 | 2.5 | 9.9 | 6.3 |
| Prop In Lane | 1.00 |  | 1.00 | 1.00 |  | 1.00 | 1.00 |  | 0.00 | 1.00 |  | 1.00 |
| Lane Grp Cap（c），veh／h | 211 | 476 | 560 | 11 | 272 | 230 | 341 | 1359 | 0 | 91 | 1167 | 708 |
| V／C Ratio（X） | 0.79 | 0.14 | 0.32 | 0.53 | 0.49 | 0.50 | 0.67 | 0.55 | 0.00 | 0.78 | 0.58 | 0.34 |
| Avail Cap（c＿a），veh／h | 846 | 1037 | 1035 | 846 | 1066 | 902 | 1368 | 3095 | 0 | 564 | 3095 | 1567 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter（l） | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay（d），s／veh | 27.1 | 18.2 | 14.9 | 31.3 | 24.8 | 24.9 | 27.5 | 15.3 | 0.0 | 29.6 | 17.6 | 11.4 |
| Incr Delay（d2），s／veh | 2.5 | 0.1 | 0.2 | 13.7 | 1.0 | 1.3 | 0.8 | 0.5 | 0.0 | 5.3 | 0.6 | 0.4 |
| Initial Q Delay（d3），s／veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| \％ile BackOfQ（50\％），veh／ln | 2.3 | 0.7 | 1.7 | 0.1 | 1.8 | 1.6 | 1.5 | 3.6 | 0.0 | 1.1 | 3.5 | 2.0 |

Unsig．Movement Delay，s／veh

| LnGrp Delay（d），s／veh | 29.5 | 18.3 | 15.1 | 45.0 | 25.9 | 26.1 | 28.3 | 15.8 | 0.0 | 34.9 | 18.2 | 11.8 |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| LnGrp LOS | C | B | B | D | C | C | C | B | A | C | B | B |
| Approach Vol，veh／h |  | 412 |  |  | 256 |  |  | 979 |  | 986 |  |  |
| Approach Delay，s／veh |  | 21.4 |  |  | 26.4 |  |  | 18.7 |  | 17.8 |  |  |
| Approach LOS | C |  |  | C |  |  | B |  |  | B |  |  |


| Timer－Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Phs Duration（ $\mathrm{G}+\mathrm{Y}+\mathrm{Rc}$ ），$s$ | 7.4 | 29.6 | 4.6 | 21.5 | 10.8 | 26.2 | 11.5 | 14.6 |  |
| Change Period（ $Y+R \mathrm{R}$ ），s | ＊4．2 | 5.5 | ＊4．2 | 5.4 | 4.6 | ＊ 5.5 | 4.0 | ＊ 5.4 |  |
| Max Green Setting（Gmax），s | ＊20 | 55.0 | ＊ 30 | 35.0 | 25.0 | ＊ 55 | 30.0 | ＊ 36 |  |
| Max Q Clear Time（g＿c +11 ），s | 4.5 | 12.5 | 2.2 | 7.2 | 6.0 | 11.9 | 7.7 | 6.3 |  |
| Green Ext Time（p＿c），s | 0.1 | 8.1 | 0.0 | 0.7 | 0.4 | 8.8 | 0.2 | 0.8 |  |

## Intersection Summary

| HCM 6th Ctrl Delay | 19.6 |
| :--- | ---: |
| HCM 6th LOS | $B$ |

## Notes

＊HCM 6th computational engine requires equal clearance times for the phases crossing the barrier．

|  | $\stackrel{ }{*}$ |  |  |  |  |  | 4 | $\dagger$ |  | - | $\downarrow$ | $\checkmark$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  | $\uparrow$ |  |  |  |  | \% | F |  | ${ }^{*}$ | F |  |
| Traffic Volume (veh/h) | 12 | 79 | 45 | 0 | 0 | 0 | 84 | 356 | 6 | 127 | 236 | 5 |
| Future Volume (veh/h) | 12 | 79 | 45 | 0 | 0 | 0 | 84 | 356 | 6 | 127 | 236 | 5 |
| Initial $Q(Q b)$, veh | 0 | 0 | 0 |  |  |  | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 |  | 1.00 |  |  |  | 1.00 |  | 1.00 | 1.00 |  | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 |  |  |  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach |  | No |  |  |  |  |  | No |  |  | No |  |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 |  |  |  | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 12 | 82 | 47 |  |  |  | 88 | 371 | 6 | 132 | 246 | 0 |
| Peak Hour Factor | 0.96 | 0.96 | 0.96 |  |  |  | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 |
| Percent Heavy Veh, \% | 2 | 2 | 2 |  |  |  | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 17 | 118 | 68 |  |  |  | 155 | 552 | 9 | 199 | 609 |  |
| Arrive On Green | 0.12 | 0.12 | 0.12 |  |  |  | 0.09 | 0.30 | 0.30 | 0.11 | 0.33 | 0.00 |
| Sat Flow, veh/h | 150 | 1022 | 586 |  |  |  | 1781 | 1835 | 30 | 1781 | 1870 | 0 |
| Grp Volume(v), veh/h | 141 | 0 | 0 |  |  |  | 88 | 0 | 377 | 132 | 246 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1757 | 0 | 0 |  |  |  | 1781 | 0 | 1865 | 1781 | 1870 | 0 |
| Q Serve(g_s), s | 2.3 | 0.0 | 0.0 |  |  |  | 1.4 | 0.0 | 5.3 | 2.1 | 3.0 | 0.0 |
| Cycle Q Clear(g_c), s | 2.3 | 0.0 | 0.0 |  |  |  | 1.4 | 0.0 | 5.3 | 2.1 | 3.0 | 0.0 |
| Prop In Lane | 0.09 |  | 0.33 |  |  |  | 1.00 |  | 0.02 | 1.00 |  | 0.00 |
| Lane Grp Cap(c), veh/h | 203 | 0 | 0 |  |  |  | 155 | 0 | 561 | 199 | 609 |  |
| V/C Ratio(X) | 0.69 | 0.00 | 0.00 |  |  |  | 0.57 | 0.00 | 0.67 | 0.66 | 0.40 |  |
| Avail Cap(c_a), veh/h | 1042 | 0 | 0 |  |  |  | 480 | 0 | 1470 | 600 | 1600 |  |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 |  |  |  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(l) | 1.00 | 0.00 | 0.00 |  |  |  | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 0.00 |
| Uniform Delay (d), s/veh | 12.6 | 0.0 | 0.0 |  |  |  | 13.0 | 0.0 | 9.1 | 12.6 | 7.8 | 0.0 |
| Incr Delay (d2), s/veh | 4.2 | 0.0 | 0.0 |  |  |  | 3.3 | 0.0 | 1.4 | 3.8 | 0.4 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 |  |  |  | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| \%ile BackOfQ(50\%),veh/ln | 0.7 | 0.0 | 0.0 |  |  |  | 0.5 | 0.0 | 1.0 | 0.7 | 0.5 | 0.0 |
| Unsig. Movement Delay, s/veh |  |  |  |  |  |  |  |  |  |  |  |  |
| LnGrp Delay(d),s/veh | 16.8 | 0.0 | 0.0 |  |  |  | 16.3 | 0.0 | 10.5 | 16.4 | 8.2 | 0.0 |
| LnGrp LOS | B | A | A |  |  |  | B | A | B | B | A |  |
| Approach Vol, veh/h |  | 141 |  |  |  |  |  | 465 |  |  | 378 |  |
| Approach Delay, s/veh |  | 16.8 |  |  |  |  |  | 11.6 |  |  | 11.1 |  |
| Approach LOS |  | B |  |  |  |  |  | B |  |  | B |  |


| Timer - Assigned Phs | 1 | 2 | 4 | 5 | 6 |
| :--- | ---: | ---: | ---: | ---: | ---: |
| Phs Duration $(G+Y+R c)$, s | 7.3 | 13.9 | 8.4 | 6.6 | 14.7 |
| Change Period (Y+Rc), s | 4.0 | 5.0 | 5.0 | 4.0 | 5.0 |
| Max Green Setting (Gmax), s | 10.0 | 23.4 | 17.6 | 8.0 | 25.4 |
| Max Q Clear Time (g_c+11), s | 4.1 | 7.3 | 4.3 | 3.4 | 5.0 |
| Green Ext Time (p_C), s | 0.1 | 1.7 | 0.5 | 0.1 | 1.1 |

Intersection Summary

| HCM 6th Ctrl Delay | 12.1 |
| :--- | ---: |
| HCM 6th LOS | $B$ |

## Notes

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

|  | $\rangle$ |  |  | $\dagger$ |  |  | 4 | $\uparrow$ | $p$ |  | $\downarrow$ | $\downarrow$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  | $\uparrow$ | 「 |  | $\dagger$ |  | \% | $\hat{\square}$ |  | \% | $\uparrow$ | F |
| Traffic Volume (veh/h) | 57 | 0 | 136 | 2 | 2 | 1 | 217 | 849 | 3 | 5 | 504 | 43 |
| Future Volume (veh/h) | 57 | 0 | 136 | 2 | 2 | 1 | 217 | 849 | 3 | 5 | 504 | 43 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 |  | 1.00 | 1.00 |  | 1.00 | 1.00 |  | 0.98 | 1.00 |  | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach |  | No |  |  | No |  |  | No |  |  | No |  |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 59 | 0 | 142 | 2 | 2 | 1 | 226 | 884 | 3 | 5 | 525 | 45 |
| Peak Hour Factor | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 |
| Percent Heavy Veh, \% | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 223 | 0 | 198 | 4 | 4 | 2 | 281 | 1017 | 3 | 9 | 737 | 624 |
| Arrive On Green | 0.12 | 0.00 | 0.12 | 0.01 | 0.01 | 0.01 | 0.16 | 0.55 | 0.55 | 0.01 | 0.39 | 0.39 |
| Sat Flow, veh/h | 1781 | 0 | 1585 | 708 | 708 | 354 | 1781 | 1863 | 6 | 1781 | 1870 | 1585 |
| Grp Volume(v), veh/h | 59 | 0 | 142 | 5 | 0 | 0 | 226 | 0 | 887 | 5 | 525 | 45 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 0 | 1585 | 1771 | 0 | 0 | 1781 | 0 | 1869 | 1781 | 1870 | 1585 |
| Q Serve(g_s), s | 1.8 | 0.0 | 5.1 | 0.2 | 0.0 | 0.0 | 7.3 | 0.0 | 24.5 | 0.2 | 14.1 | 1.1 |
| Cycle Q Clear (g_c), s | 1.8 | 0.0 | 5.1 | 0.2 | 0.0 | 0.0 | 7.3 | 0.0 | 24.5 | 0.2 | 14.1 | 1.1 |
| Prop In Lane | 1.00 |  | 1.00 | 0.40 |  | 0.20 | 1.00 |  | 0.00 | 1.00 |  | 1.00 |
| Lane Grp Cap (c), veh/h | 223 | 0 | 198 | 9 | 0 | 0 | 281 | 0 | 1021 | 9 | 737 | 624 |
| V/C Ratio(X) | 0.27 | 0.00 | 0.72 | 0.53 | 0.00 | 0.00 | 0.80 | 0.00 | 0.87 | 0.53 | 0.71 | 0.07 |
| Avail Cap(c_a), veh/h | 656 | 0 | 584 | 311 | 0 | 0 | 477 | 0 | 1455 | 119 | 1081 | 916 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(l) | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 23.6 | 0.0 | 25.1 | 29.6 | 0.0 | 0.0 | 24.3 | 0.0 | 11.7 | 29.6 | 15.2 | 11.3 |
| Incr Delay (d2), s/veh | 0.6 | 0.0 | 4.8 | 39.1 | 0.0 | 0.0 | 5.4 | 0.0 | 4.2 | 38.6 | 1.3 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| \%ile BackOfQ(50\%),veh/In | 0.7 | 0.0 | 2.1 | 0.2 | 0.0 | 0.0 | 3.1 | 0.0 | 7.9 | 0.2 | 5.0 | 0.3 |
| Unsig. Movement Delay, s/veh |  |  |  |  |  |  |  |  |  |  |  |  |
| LnGrp Delay(d),s/veh | 24.3 | 0.0 | 29.9 | 68.7 | 0.0 | 0.0 | 29.7 | 0.0 | 15.9 | 68.2 | 16.5 | 11.3 |
| LnGrp LOS | C | A | C | E | A | A | C | A | B | E | B | B |
| Approach Vol, veh/h |  | 201 |  |  | 5 |  |  | 1113 |  |  | 575 |  |
| Approach Delay, s/veh |  | 28.3 |  |  | 68.7 |  |  | 18.7 |  |  | 16.6 |  |
| Approach LOS |  | C |  |  | E |  |  | B |  |  | B |  |
| Timer - Assigned Phs | 1 | 2 |  | 4 | 5 | 6 |  | 8 |  |  |  |  |
| Phs Duration ( $\mathrm{G}+\mathrm{Y}+\mathrm{Rc}$ ), s | 4.3 | 38.1 |  | 11.5 | 13.4 | 29.0 |  | 5.8 |  |  |  |  |
| Change Period ( $Y+R \mathrm{Rc}$ ), s | 4.0 | 5.5 |  | 4.0 | 4.0 | 5.5 |  | 5.5 |  |  |  |  |
| Max Green Setting (Gmax), s | 4.0 | 46.5 |  | 22.0 | 16.0 | 34.5 |  | 10.5 |  |  |  |  |
| Max Q Clear Time (g_c+11), s | 2.2 | 26.5 |  | 7.1 | 9.3 | 16.1 |  | 2.2 |  |  |  |  |
| Green Ext Time (p_c), s | 0.0 | 6.1 |  | 0.6 | 0.3 | 3.0 |  | 0.0 |  |  |  |  |
| Intersection Summary |  |  |  |  |  |  |  |  |  |  |  |  |
| HCM 6th Ctrr DelayHCM 6th LOS |  |  | 19.2 |  |  |  |  |  |  |  |  |  |
|  |  |  | B |  |  |  |  |  |  |  |  |  |


| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Lane Configurations | \% | 「 | 4 | F | ${ }^{7}$ | $\uparrow$ |
| Traffic Volume (veh/h) | 42 | 60 | 859 | 44 | 70 | 515 |
| Future Volume (veh/h) | 42 | 60 | 859 | 44 | 70 | 515 |
| Initial $\mathrm{Q}(\mathrm{Qb})$, veh | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | 1.00 |  | 1.00 | 1.00 |  |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach | No |  | No |  |  | No |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 44 | 63 | 904 | 46 | 74 | 542 |
| Peak Hour Factor | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 |
| Percent Heavy Veh, \% | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 116 | 103 | 1081 | 916 | 94 | 1331 |
| Arrive On Green | 0.07 | 0.07 | 0.58 | 0.58 | 0.05 | 0.71 |
| Sat Flow, veh/h | 1781 | 1585 | 1870 | 1585 | 1781 | 1870 |
| Grp Volume(v), veh/h | 44 | 63 | 904 | 46 | 74 | 542 |
| Grp Sat Flow(s),veh/h/n | 1781 | 1585 | 1870 | 1585 | 1781 | 1870 |
| Q Serve(g_s), s | 1.2 | 1.9 | 19.5 | 0.6 | 2.0 | 5.8 |
| Cycle Q Clear(g_c), s | 1.2 | 1.9 | 19.5 | 0.6 | 2.0 | 5.8 |
| Prop In Lane | 1.00 | 1.00 |  | 1.00 | 1.00 |  |
| Lane Grp Cap(c), veh/h | 116 | 103 | 1081 | 916 | 94 | 1331 |
| V/C Ratio(X) | 0.38 | 0.61 | 0.84 | 0.05 | 0.79 | 0.41 |
| Avail Cap(c_a), veh/h | 1101 | 980 | 1763 | 1494 | 361 | 2294 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(l) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 22.1 | 22.4 | 8.5 | 4.5 | 23.1 | 2.9 |
| Incr Delay (d2), s/veh | 2.0 | 5.7 | 2.0 | 0.0 | 13.4 | 0.2 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| \%ile BackOfQ(50\%),veh/ln | 0.5 | 0.8 | 4.5 | 0.1 | 1.1 | 0.4 |
| Unsig. Movement Delay, s/veh |  |  |  |  |  |  |
| LnGrp Delay (d),s/veh | 24.1 | 28.1 | 10.5 | 4.5 | 36.5 | 3.1 |
| LnGrp LOS | C | C | B | A | D | A |
| Approach Vol, veh/h | 107 |  | 950 |  |  | 616 |
| Approach Delay, s/veh | 26.5 |  | 10.2 |  |  | 7.1 |
| Approach LOS | C |  | B |  |  | A |


| Timer - Assigned Phs | 1 | 2 | 6 | 8 |
| :---: | :---: | :---: | :---: | :---: |
| Phs Duration ( $G+Y+\mathrm{Rc}$ ), $s$ | 6.6 | 34.0 | 40.6 | 8.7 |
| Change Period ( $\mathrm{Y}+\mathrm{Rc}$ ), s | 4.0 | 5.5 | 5.5 | 5.5 |
| Max Green Setting (Gmax), s | 10.0 | 46.5 | 60.5 | 30.5 |
| Max Q Clear Time (g_c+1), s | 4.0 | 21.5 | 7.8 | 3.9 |
| Green Ext Time (p_c), s | 0.1 | 7.0 | 3.5 | 0.3 |
| Intersection Summary |  |  |  |  |
| HCM 6th Ctrr Delay |  |  |  |  |
| HCM 6th LOS |  |  |  |  |



|  | $\rangle$ | $\rightarrow$ |  | 7 |  |  | 4 | $\dagger$ | $p$ |  | $\downarrow$ | $\downarrow$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | \% | 个 | F |  | $\uparrow$ | F | \% | 中t |  | \% ${ }^{\text {\% }}$ | $\uparrow$ |  |
| Traffic Volume (veh/h) | 87 | 321 | , | 0 | 175 | 377 | 9 | 375 | 5 | 489 | 364 | 71 |
| Future Volume (veh/h) | 87 | 321 | 0 | 0 | 175 | 377 | 9 | 375 | 5 | 489 | 364 | 71 |
| Initial $Q(Q b)$, veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 |  | 0.97 | 1.00 |  | 1.00 | 1.00 |  | 0.98 | 1.00 |  | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach |  | No |  |  | No |  |  | No |  |  | No |  |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 0 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 93 | 341 | 6 | 0 | 186 | 401 | 10 | 399 | 5 | 520 | 387 | 76 |
| Peak Hour Factor | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 |
| Percent Heavy Veh, \% | 2 | 2 | 2 | 0 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 119 | 803 | 662 | 0 | 563 | 476 | 18 | 751 | 9 | 617 | 571 | 112 |
| Arrive On Green | 0.07 | 0.43 | 0.43 | 0.00 | 0.30 | 0.30 | 0.01 | 0.21 | 0.21 | 0.18 | 0.38 | 0.38 |
| Sat Flow, veh/h | 1781 | 1870 | 1542 | 0 | 1870 | 1580 | 1781 | 3593 | 45 | 3456 | 1513 | 297 |
| Grp Volume(v), veh/h | 93 | 341 | 6 | 0 | 186 | 401 | 10 | 197 | 207 | 520 | 0 | 463 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1870 | 1542 | 0 | 1870 | 1580 | 1781 | 1777 | 1861 | 1728 | 0 | 1811 |
| Q Serve(g_s), s | 3.8 | 9.4 | 0.2 | 0.0 | 5.7 | 17.5 | 0.4 | 7.3 | 7.3 | 10.7 | 0.0 | 15.7 |
| Cycle Q Clear(g_c), s | 3.8 | 9.4 | 0.2 | 0.0 | 5.7 | 17.5 | 0.4 | 7.3 | 7.3 | 10.7 | 0.0 | 15.7 |
| Prop In Lane | 1.00 |  | 1.00 | 0.00 |  | 1.00 | 1.00 |  | 0.02 | 1.00 |  | 0.16 |
| Lane Grp Cap(c), veh/h | 119 | 803 | 662 | 0 | 563 | 476 | 18 | 371 | 389 | 617 | 0 | 684 |
| VIC Ratio(X) | 0.78 | 0.42 | 0.01 | 0.00 | 0.33 | 0.84 | 0.56 | 0.53 | 0.53 | 0.84 | 0.00 | 0.68 |
| Avail Cap(c_a), veh/h | 138 | 1019 | 839 | 0 | 759 | 642 | 97 | 767 | 804 | 685 | 0 | 1043 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(l) | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 33.8 | 14.7 | 12.0 | 0.0 | 20.0 | 24.1 | 36.3 | 25.9 | 25.9 | 29.2 | 0.0 | 19.2 |
| Incr Delay (d2), s/veh | 21.7 | 0.4 | 0.0 | 0.0 | 0.3 | 7.5 | 24.5 | 1.2 | 1.1 | 8.7 | 0.0 | 1.2 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| \%oile BackOfQ( $50 \%$ ),veh/ln | 2.3 | 3.8 | 0.0 | 0.0 | 2.5 | 1.0 | 0.3 | 3.1 | 3.2 | 5.0 | 0.0 | 6.3 |
| Unsig. Movement Delay, s/veh |  |  |  |  |  |  |  |  |  |  |  |  |
| LnGrp Delay(d),s/veh | 55.5 | 15.0 | 12.1 | 0.0 | 20.3 | 31.6 | 60.8 | 27.1 | 27.0 | 37.9 | 0.0 | 20.4 |
| LnGrp LOS | E | B | B | A | C | C | E | C | C | D | A | C |
| Approach Vol, veh/h |  | 440 |  |  | 587 |  |  | 414 |  |  | 983 |  |
| Approach Delay, s/veh |  | 23.5 |  |  | 28.0 |  |  | 27.9 |  |  | 29.6 |  |
| Approach LOS |  | C |  |  | C |  |  | C |  |  | C |  |
| Timer - Assigned Phs | 1 | 2 |  | 4 | 5 | 6 | 7 | 8 |  |  |  |  |
| Phs Duration ( $G+Y+R \mathrm{c}$ ), $s$ | 17.6 | 19.9 |  | 36.1 | 5.2 | 32.3 | 9.4 | 26.7 |  |  |  |  |
| Change Period ( $\mathrm{Y}+\mathrm{Rc}$ ), s | 4.5 | 4.5 |  | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |  |  |  |  |
| Max Green Setting (Gmax), s | 14.6 | 31.8 |  | 40.1 | 4.0 | 42.4 | 5.7 | 29.9 |  |  |  |  |
| Max Q Clear Time (g_c+1), s | 12.7 | 9.3 |  | 11.4 | 2.4 | 17.7 | 5.8 | 19.5 |  |  |  |  |
| Green Ext Time (p_c), s | 0.4 | 2.3 |  | 2.3 | 0.0 | 3.1 | 0.0 | 2.0 |  |  |  |  |
| Intersection Summary |  |  |  |  |  |  |  |  |  |  |  |  |
| HCM 6th Ctrl Delay |  |  | 27.8 |  |  |  |  |  |  |  |  |  |
| HCM 6th LOS |  |  | C |  |  |  |  |  |  |  |  |  |


| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Lane Configurations | \% ${ }^{1 / 1}$ | $\uparrow$ | 「 | \% | $\hat{\beta}$ |  | \% | 性 |  | \% | $\uparrow$ | F |
| Traffic Volume (veh/h) | 655 | 139 | 807 | 55 | 51 | 49 | 256 | 565 | 42 | 22 | 147 | 201 |
| Future Volume (veh/h) | 655 | 139 | 807 | 55 | 51 | 49 | 256 | 565 | 42 | 22 | 147 | 201 |
| Initial $Q(Q b)$, veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 |  | 1.00 | 1.00 |  | 1.00 | 1.00 |  | 0.98 | 1.00 |  | 0.99 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach |  | No |  |  | No |  |  | No |  |  | No |  |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 682 | 145 | 0 | 57 | 53 | 51 | 267 | 589 | 44 | 23 | 153 | 209 |
| Peak Hour Factor | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 |
| Percent Heavy Veh, \% | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 753 | 407 |  | 145 | 71 | 68 | 672 | 1263 | 94 | 293 | 308 | 257 |
| Arrive On Green | 0.29 | 0.29 | 0.00 | 0.08 | 0.08 | 0.08 | 0.38 | 0.38 | 0.38 | 0.16 | 0.16 | 0.16 |
| Sat Flow, veh/h | 3456 | 1870 | 1585 | 1781 | 874 | 841 | 1781 | 3346 | 249 | 1781 | 1870 | 1562 |
| Grp Volume(v), veh/h | 682 | 145 | 0 | 57 | 0 | 104 | 267 | 312 | 321 | 23 | 153 | 209 |
| Grp Sat Flow(s), veh/h/ln | 1728 | 1870 | 1585 | 1781 | 0 | 1715 | 1781 | 1777 | 1818 | 1781 | 1870 | 1562 |
| Q Serve(g_s), s | 20.9 | 6.8 | 0.0 | 3.3 | 0.0 | 6.5 | 12.1 | 14.6 | 14.7 | 1.2 | 8.2 | 14.2 |
| Cycle Q Clear(g_c), s | 20.9 | 6.8 | 0.0 | 3.3 | 0.0 | 6.5 | 12.1 | 14.6 | 14.7 | 1.2 | 8.2 | 14.2 |
| Prop In Lane | 1.00 |  | 1.00 | 1.00 |  | 0.49 | 1.00 |  | 0.14 | 1.00 |  | 1.00 |
| Lane Grp Cap (c), veh/h | 753 | 407 |  | 145 | 0 | 139 | 672 | 671 | 686 | 293 | 308 | 257 |
| V/C Ratio(X) | 0.91 | 0.36 |  | 0.39 | 0.00 | 0.75 | 0.40 | 0.47 | 0.47 | 0.08 | 0.50 | 0.81 |
| Avail Cap(c_a), veh/h | 785 | 425 |  | 308 | 0 | 296 | 672 | 671 | 686 | 389 | 408 | 341 |
| HCM Platoon Ratio | 1.33 | 1.33 | 1.33 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(l) | 0.64 | 0.64 | 0.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.67 | 0.67 | 0.67 |
| Uniform Delay (d), s/veh | 38.0 | 33.0 | 0.0 | 48.0 | 0.0 | 49.4 | 25.1 | 25.9 | 25.9 | 38.9 | 41.8 | 44.3 |
| Incr Delay (d2), s/veh | 9.8 | 0.5 | 0.0 | 0.6 | 0.0 | 3.0 | 1.8 | 2.3 | 2.3 | 0.2 | 1.8 | 10.6 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| \%ile BackOfQ( $50 \%$ ),veh/ln | 9.1 | 3.0 | 0.0 | 1.5 | 0.0 | 2.9 | 5.4 | 6.5 | 6.7 | 0.5 | 3.9 | 6.2 |

Unsig. Movement Delay, s/veh

| LnGrp Delay (d),s/veh | 47.8 | 33.4 | 0.0 | 48.6 | 0.0 | 52.4 | 26.8 | 28.2 | 28.2 | 39.1 | 43.6 | 55.0 |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| LnGrp LOS | D | C |  | D | A | D | C | C | C | D | D | D |
| Approach Vol, veh/h |  | 827 |  |  | 161 |  |  | 900 |  | 385 |  |  |
| Approach Delay, s/veh |  | 45.3 |  |  | 51.1 |  |  | 27.8 |  | 49 |  |  |
| Approach LOS | D |  |  | D |  |  | C |  | D |  |  |  |


| Timer - Assigned Phs | 2 | 4 | 6 | 8 |
| :--- | ---: | ---: | ---: | ---: |
| Phs Duration $(G+Y+R c)$, s | 46.0 | 28.5 | 22.1 | 13.4 |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.0 | 4.5 |
| Max Green Setting (Gmax), s | 24.5 | 25.0 | 24.0 | 19.0 |
| Max Q Clear Time (g_c+11), s | 16.7 | 22.9 | 16.2 | 8.5 |
| Green Ext Time (p_c), s | 3.8 | 1.1 | 1.9 | 0.3 |

## Intersection Summary

HCM 6th Ctrl Delay 39.5

HCM 6th LOS D
Notes
Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.


## Notes

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.


|  | $\rangle$ |  |  | 7 |  |  |  | $\uparrow$ |  |  | $\downarrow$ | $\downarrow$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  | 个4 | 「 | \％ | 个4 |  |  |  |  | \％${ }^{1 / 1}$ | $\hat{\square}$ |  |
| Traffic Volume（veh／h） | 0 | 684 | 262 | 96 | 785 | 0 | 0 | 0 | 0 | 637 | 2 | 223 |
| Future Volume（veh／h） | 0 | 684 | 262 | 96 | 785 | 0 | 0 | 0 | 0 | 637 | 2 | 223 |
| Initial Q（Qb），veh | 0 | 0 | 0 | 0 | 0 | 0 |  |  |  | 0 | 0 | 0 |
| Ped－Bike Adj（A＿pbT） | 1.00 |  | 0.97 | 1.00 |  | 1.00 |  |  |  | 1.00 |  | 1.00 |
| Parking Bus，Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |  |  |  | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach |  | No |  |  | No |  |  |  |  |  | No |  |
| Adj Sat Flow，veh／h／ln | 0 | 1870 | 1870 | 1870 | 1870 | 0 |  |  |  | 1870 | 1870 | 1870 |
| Adj Flow Rate，veh／h | 0 | 691 | 265 | 97 | 793 | 0 |  |  |  | 643 | 2 | 225 |
| Peak Hour Factor | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 |  |  |  | 0.99 | 0.99 | 0.99 |
| Percent Heavy Veh，\％ | 0 | 2 | 2 | 2 | 2 | 0 |  |  |  | 2 | 2 | 2 |
| Cap，veh／h | 0 | 881 | 382 | 122 | 1252 | 0 |  |  |  | 1955 | 8 | 890 |
| Arrive On Green | 0.00 | 0.25 | 0.25 | 0.14 | 0.70 | 0.00 |  |  |  | 0.57 | 0.57 | 0.57 |
| Sat Flow，veh／h | 0 | 3647 | 1543 | 1781 | 3647 | 0 |  |  |  | 3456 | 14 | 1573 |
| Grp Volume（v），veh／h | 0 | 691 | 265 | 97 | 793 | 0 |  |  |  | 643 | 0 | 227 |
| Grp Sat Flow（s），veh／h／ln | 0 | 1777 | 1543 | 1781 | 1777 | 0 |  |  |  | 1728 | 0 | 1587 |
| Q Serve（g＿s），s | 0.0 | 20.0 | 17.2 | 5.8 | 13.1 | 0.0 |  |  |  | 10.9 | 0.0 | 8.0 |
| Cycle Q Clear（g＿c），s | 0.0 | 20.0 | 17.2 | 5.8 | 13.1 | 0.0 |  |  |  | 10.9 | 0.0 | 8.0 |
| Prop In Lane | 0.00 |  | 1.00 | 1.00 |  | 0.00 |  |  |  | 1.00 |  | 0.99 |
| Lane Grp Cap（c），veh／h | 0 | 881 | 382 | 122 | 1253 | 0 |  |  |  | 1955 | 0 | 898 |
| V／C Ratio（X） | 0.00 | 0.78 | 0.69 | 0.80 | 0.63 | 0.00 |  |  |  | 0.33 | 0.00 | 0.25 |
| Avail Cap（c＿a），veh／h | 0 | 1276 | 554 | 259 | 1922 | 0 |  |  |  | 1955 | 0 | 898 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 2.00 | 2.00 | 1.00 |  |  |  | 1.00 | 1.00 | 1.00 |
| Upstream Filter（l） | 0.00 | 1.00 | 1.00 | 0.99 | 0.99 | 0.00 |  |  |  | 1.00 | 0.00 | 1.00 |
| Uniform Delay（d），s／veh | 0.0 | 38.6 | 37.6 | 46.7 | 12.4 | 0.0 |  |  |  | 12.7 | 0.0 | 12.1 |
| Incr Delay（d2），s／veh | 0.0 | 2.1 | 2.3 | 11.1 | 0.5 | 0.0 |  |  |  | 0.5 | 0.0 | 0.7 |
| Initial Q Delay（d3），s／veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |  |  |  | 0.0 | 0.0 | 0.0 |
| \％ile BackOfQ（50\％），veh／In | 0.0 | 8.8 | 6.6 | 2.8 | 3.4 | 0.0 |  |  |  | 3.8 | 0.0 | 2.6 |
| Unsig．Movement Delay，s／veh |  |  |  |  |  |  |  |  |  |  |  |  |
| LnGrp Delay（d），s／veh | 0.0 | 40.7 | 39.8 | 57.9 | 13.0 | 0.0 |  |  |  | 13.2 | 0.0 | 12.8 |
| LnGrp LOS | A | D | D | E | B | A |  |  |  | B | A | B |
| Approach Vol，veh／h |  | 956 |  |  | 890 |  |  |  |  |  | 870 |  |
| Approach Delay，s／veh |  | 40.4 |  |  | 17.9 |  |  |  |  |  | 13.1 |  |
| Approach LOS |  | D |  |  | B |  |  |  |  |  | B |  |
| Timer－Assigned Phs |  |  | 3 | 4 |  | 6 |  | 8 |  |  |  |  |
| Phs Duration（ $\mathrm{G}+\mathrm{Y}+\mathrm{Rc}$ ），s |  |  | 11.5 | 31.8 |  | 66.7 |  | 43.3 |  |  |  |  |
| Change Period（ $Y+R \mathrm{Rc}$ ），s |  |  | 4.0 | 4.5 |  | 4.5 |  | 4.5 |  |  |  |  |
| Max Green Setting（Gmax），s |  |  | 16.0 | 39.5 |  | 41.5 |  | 59.5 |  |  |  |  |
| Max Q Clear Time（g＿c＋1），s |  |  | 7.8 | 22.0 |  | 12.9 |  | 15.1 |  |  |  |  |
| Green Ext Time（p＿c），s |  |  | 0.1 | 5.3 |  | 3.7 |  | 6.4 |  |  |  |  |
| Intersection Summary |  |  |  |  |  |  |  |  |  |  |  |  |
| HCM 6th Ctrl Delay |  |  | 24.3 |  |  |  |  |  |  |  |  |  |
| HCM 6th LOS |  |  | C |  |  |  |  |  |  |  |  |  |


|  | 4 |  |  | 7 | - |  | 4 | 4 | $p$ |  | $\dagger$ | $\downarrow$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | ${ }^{7}$ | 4 | F | ${ }^{4}$ | $\uparrow$ |  |  | $\uparrow$ | F |  | $\dagger$ |  |
| Traffic Volume (veh/h) | 0 | 353 | 128 | 244 | 537 | 0 | 145 | 0 | 225 | 0 | 0 | 0 |
| Future Volume (veh/h) | 0 | 353 | 128 | 244 | 537 | 0 | 145 | 0 | 225 | 0 | 0 | 0 |
| Initial $Q(Q b)$, veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 |  | 1.00 | 1.00 |  | 1.00 | 1.00 |  | 1.00 | 1.00 |  | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach |  | No |  |  | No |  |  | No |  |  | No |  |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 0 | 372 | 135 | 257 | 565 | 0 | 153 | 0 | 237 | 0 | 0 | 0 |
| Peak Hour Factor | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.92 | 0.95 | 0.95 |
| Percent Heavy Veh, \% | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 4 | 518 | 439 | 332 | 1042 | 0 | 497 | 0 | 368 | 0 | 434 | 0 |
| Arrive On Green | 0.00 | 0.28 | 0.28 | 0.19 | 0.56 | 0.00 | 0.23 | 0.00 | 0.23 | 0.00 | 0.00 | 0.00 |
| Sat Flow, veh/h | 1781 | 1870 | 1585 | 1781 | 1870 | 0 | 1418 | 0 | 1585 | 0 | 1870 | 0 |
| Grp Volume(v), veh/h | 0 | 372 | 135 | 257 | 565 | 0 | 153 | 0 | 237 | 0 | 0 | 0 |
| Grp Sat Flow(s),veh/h/n | 1781 | 1870 | 1585 | 1781 | 1870 | 0 | 1418 | 0 | 1585 | 0 | 1870 | 0 |
| Q Serve(g_s), s | 0.0 | 7.7 | 2.9 | 5.9 | 8.2 | 0.0 | 4.0 | 0.0 | 5.8 | 0.0 | 0.0 | 0.0 |
| Cycle Q Clear(g_c), s | 0.0 | 7.7 | 2.9 | 5.9 | 8.2 | 0.0 | 4.0 | 0.0 | 5.8 | 0.0 | 0.0 | 0.0 |
| Prop In Lane | 1.00 |  | 1.00 | 1.00 |  | 0.00 | 1.00 |  | 1.00 | 0.00 |  | 0.00 |
| Lane Grp Cap(c), veh/h | 4 | 518 | 439 | 332 | 1042 | 0 | 497 | 0 | 368 | 0 | 434 | 0 |
| V/C Ratio(X) | 0.00 | 0.72 | 0.31 | 0.77 | 0.54 | 0.00 | 0.31 | 0.00 | 0.64 | 0.00 | 0.00 | 0.00 |
| Avail Cap(c_a), veh/h | 209 | 1095 | 928 | 751 | 1665 | 0 | 966 | 0 | 891 | 0 | 1052 | 0 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 0.00 | 1.00 | 0.00 | 0.00 | 0.00 |
| Uniform Delay (d), s/veh | 0.0 | 13.9 | 12.2 | 16.5 | 6.0 | 0.0 | 14.1 | 0.0 | 14.8 | 0.0 | 0.0 | 0.0 |
| Incr Delay (d2), s/veh | 0.0 | 1.9 | 0.4 | 3.9 | 0.4 | 0.0 | 0.3 | 0.0 | 1.9 | 0.0 | 0.0 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| \%ile BackOfQ(50\%),veh/ln | 0.0 | 2.6 | 0.8 | 2.2 | 1.5 | 0.0 | 1.0 | 0.0 | 1.9 | 0.0 | 0.0 | 0.0 |
| Unsig. Movement Delay, s/veh |  |  |  |  |  |  |  |  |  |  |  |  |
| LnGrp Delay (d),s/veh | 0.0 | 15.8 | 12.6 | 20.4 | 6.4 | 0.0 | 14.5 | 0.0 | 16.7 | 0.0 | 0.0 | 0.0 |
| LnGrp LOS | A | B | B | C | A | A | B | A | B | A | A | A |
| Approach Vol, veh/h |  | 507 |  |  | 822 |  |  | 390 |  |  | 0 |  |
| Approach Delay, s/veh |  | 15.0 |  |  | 10.8 |  |  | 15.8 |  |  | 0.0 |  |
| Approach LOS |  | B |  |  | B |  |  | B |  |  |  |  |
| Timer - Assigned Phs | 1 | 2 |  | 4 | 5 | 6 |  | 8 |  |  |  |  |
| Phs Duration ( $G+Y+R \mathrm{c}$ ), $s$ | 0.0 | 28.8 |  | 13.9 | 12.0 | 16.8 |  | 13.9 |  |  |  |  |
| Change Period ( $\mathrm{Y}+\mathrm{Rc}$ ), s | 4.0 | 5.0 |  | 4.0 | 4.0 | 5.0 |  | 4.0 |  |  |  |  |
| Max Green Setting (Gmax), s | 5.0 | 38.0 |  | 24.0 | 18.0 | 25.0 |  | 24.0 |  |  |  |  |
| Max Q Clear Time (g_c+11), s | 0.0 | 10.2 |  | 7.8 | 7.9 | 9.7 |  | 0.0 |  |  |  |  |
| Green Ext Time (p_c), s | 0.0 | 3.5 |  | 1.4 | 0.5 | 2.2 |  | 0.0 |  |  |  |  |
| Intersection Summary |  |  |  |  |  |  |  |  |  |  |  |  |
| HCM 6th Ctrr Delay |  |  | 13.2 |  |  |  |  |  |  |  |  |  |
| HCM 6th LOS |  |  | B |  |  |  |  |  |  |  |  |  |



Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



|  | 4 | $\rightarrow$ |  | 7 | － | 4 | 4 | $\uparrow$ | $p$ |  | $\downarrow$ | $\downarrow$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | ${ }^{7}$ | 中t |  | ${ }^{7}$ | 中t |  | \％ | 中t |  | ${ }^{*}$ | 中t |  |
| Traffic Volume（veh／h） | 115 | 166 | 145 | 49 | 71 | 17 | 107 | 200 | 83 | 42 | 255 | 113 |
| Future Volume（veh／h） | 115 | 166 | 145 | 49 | 71 | 17 | 107 | 200 | 83 | 42 | 255 | 113 |
| Initial $Q(Q b)$ ，veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped－Bike Adj（A＿pbT） | 1.00 |  | 1.00 | 1.00 |  | 1.00 | 1.00 |  | 0.99 | 1.00 |  | 0.99 |
| Parking Bus，Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach |  | No |  |  | No |  |  | No |  |  | No |  |
| Adj Sat Flow，veh／h／ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate，veh／h | 120 | 173 | 151 | 51 | 74 | 18 | 111 | 208 | 86 | 44 | 266 | 118 |
| Peak Hour Factor | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 |
| Percent Heavy Veh，\％ | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap，veh／h | 164 | 355 | 291 | 96 | 437 | 103 | 158 | 626 | 250 | 86 | 513 | 221 |
| Arrive On Green | 0.09 | 0.19 | 0.19 | 0.05 | 0.15 | 0.15 | 0.09 | 0.25 | 0.25 | 0.05 | 0.21 | 0.21 |
| Sat Flow，veh／h | 1781 | 1855 | 1519 | 1781 | 2855 | 672 | 1781 | 2470 | 985 | 1781 | 2407 | 1036 |
| Grp Volume（v），veh／h | 120 | 165 | 159 | 51 | 45 | 47 | 111 | 147 | 147 | 44 | 194 | 190 |
| Grp Sat Flow（s），veh／h／n | 1781 | 1777 | 1597 | 1781 | 1777 | 1749 | 1781 | 1777 | 1678 | 1781 | 1777 | 1666 |
| Q Serve（g＿s），s | 2.6 | 3.3 | 3.6 | 1.1 | 0.9 | 0.9 | 2.4 | 2.7 | 2.8 | 1.0 | 3.8 | 4.0 |
| Cycle Q Clear（g＿c），s | 2.6 | 3.3 | 3.6 | 1.1 | 0.9 | 0.9 | 2.4 | 2.7 | 2.8 | 1.0 | 3.8 | 4.0 |
| Prop In Lane | 1.00 |  | 0.95 | 1.00 |  | 0.38 | 1.00 |  | 0.59 | 1.00 |  | 0.62 |
| Lane Grp Cap（c），veh／h | 164 | 340 | 306 | 96 | 272 | 268 | 158 | 450 | 425 | 86 | 379 | 355 |
| V／C Ratio（X） | 0.73 | 0.49 | 0.52 | 0.53 | 0.17 | 0.18 | 0.70 | 0.33 | 0.34 | 0.51 | 0.51 | 0.53 |
| Avail Cap（c＿a），veh／h | 493 | 1608 | 1446 | 493 | 1608 | 1584 | 448 | 1564 | 1477 | 448 | 1564 | 1467 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter（l） | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay（d），s／veh | 17.6 | 14.3 | 14.4 | 18.3 | 14.6 | 14.7 | 17.6 | 12.1 | 12.1 | 18.5 | 13.8 | 13.9 |
| Incr Delay（d2），s／veh | 6.1 | 1.1 | 1.4 | 4.4 | 0.3 | 0.3 | 5.5 | 0.4 | 0.5 | 4.6 | 1.1 | 1.3 |
| Initial Q Delay（d3），s／veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| \％ile BackOfQ（50\％），veh／ln | 1.2 | 1.2 | 1.2 | 0.5 | 0.3 | 0.3 | 1.1 | 0.9 | 0.9 | 0.5 | 1.4 | 1.4 |
| Unsig．Movement Delay，s／veh |  |  |  |  |  |  |  |  |  |  |  |  |
| LnGrp Delay（d），s／veh | 23.6 | 15.4 | 15.8 | 22.7 | 14.9 | 15.0 | 23.1 | 12.5 | 12.6 | 23.1 | 14.9 | 15.1 |
| LnGrp LOS | C | B | B | C | B | B | C | B | B | C | B | B |
| Approach Vol，veh／h |  | 444 |  |  | 143 |  |  | 405 |  |  | 428 |  |
| Approach Delay，s／veh |  | 17.8 |  |  | 17.7 |  |  | 15.5 |  |  | 15.9 |  |
| Approach LOS |  | B |  |  | B |  |  | B |  |  | B |  |
| Timer－Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |  |  |  |  |
| Phs Duration（ $\mathrm{G}+\mathrm{Y}+\mathrm{Rc}$ ）， s | 5.9 | 15.1 | 6.2 | 12.6 | 7.5 | 13.5 | 7.7 | 11.1 |  |  |  |  |
| Change Period（ $Y+R \mathrm{Rc}$ ），s | 4.0 | 5.0 | 4.0 | 5.0 | 4.0 | 5.0 | 4.0 | 5.0 |  |  |  |  |
| Max Green Setting（Gmax），s | 10.0 | 35.0 | 11.0 | 36.0 | 10.0 | 35.0 | 11.0 | 36.0 |  |  |  |  |
| Max Q Clear Time（g＿c＋11），s | 3.0 | 4.8 | 3.1 | 5.6 | 4.4 | 6.0 | 4.6 | 2.9 |  |  |  |  |
| Green Ext Time（p＿c），s | 0.0 | 1.8 | 0.0 | 2.1 | 0.1 | 2.5 | 0.1 | 0.5 |  |  |  |  |
| Intersection Summary |  |  |  |  |  |  |  |  |  |  |  |  |
| HCM 6th Ctrl DelayHCM 6th LOS |  |  | 16.5 |  |  |  |  |  |  |  |  |  |
|  |  |  | B |  |  |  |  |  |  |  |  |  |


| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Lane Configurations | ${ }^{*}{ }^{2}$ | 个4 | 「 | ${ }^{*}$ | 个个 | 「 | ${ }^{7} 1$ | 个个 | F＇ | ${ }^{1+1}$ | 个个 | F |
| Traffic Volume（veh／h） | 223 | 259 | 300 | 50 | 284 | 134 | 276 | 292 | 36 | 80 | 334 | 177 |
| Future Volume（veh／h） | 223 | 259 | 300 | 50 | 284 | 134 | 276 | 292 | 36 | 80 | 334 | 177 |
| Initial $Q(Q b)$ ，veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped－Bike Adj（A＿pbT） | 1.00 |  | 0.97 | 1.00 |  | 0.97 | 1.00 |  | 0.97 | 1.00 |  | 0.97 |
| Parking Bus，Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach |  | No |  |  | No |  |  | No |  |  | No |  |
| Adj Sat Flow，veh／h／ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate，veh／h | 256 | 298 | 345 | 57 | 326 | 154 | 317 | 336 | 41 | 92 | 384 | 203 |
| Peak Hour Factor | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 |
| Percent Heavy Veh，\％ | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap，veh／h | 359 | 1061 | 653 | 82 | 854 | 457 | 423 | 1225 | 604 | 193 | 906 | 556 |
| Arrive On Green | 0.10 | 0.30 | 0.30 | 0.05 | 0.24 | 0.24 | 0.12 | 0.34 | 0.34 | 0.06 | 0.25 | 0.25 |
| Sat Flow，veh／h | 3456 | 3554 | 1539 | 1781 | 3554 | 1533 | 3456 | 3554 | 1543 | 3456 | 3554 | 1535 |
| Grp Volume（v），veh／h | 256 | 298 | 345 | 57 | 326 | 154 | 317 | 336 | 41 | 92 | 384 | 203 |
| Grp Sat Flow（s），veh／h／n | 1728 | 1777 | 1539 | 1781 | 1777 | 1533 | 1728 | 1777 | 1543 | 1728 | 1777 | 1535 |
| Q Serve（g＿s），s | 5.5 | 4.9 | 2.2 | 2.4 | 5.9 | 6.0 | 6.8 | 5.3 | 1.3 | 2.0 | 6.9 | 3.7 |
| Cycle Q Clear（g＿c），s | 5.5 | 4.9 | 2.2 | 2.4 | 5.9 | 6.0 | 6.8 | 5.3 | 1.3 | 2.0 | 6.9 | 3.7 |
| Prop In Lane | 1.00 |  | 1.00 | 1.00 |  | 1.00 | 1.00 |  | 1.00 | 1.00 |  | 1.00 |
| Lane Grp Cap（c），veh／h | 359 | 1061 | 653 | 82 | 854 | 457 | 423 | 1225 | 604 | 193 | 906 | 556 |
| V／C Ratio（X） | 0.71 | 0.28 | 0.53 | 0.70 | 0.38 | 0.34 | 0.75 | 0.27 | 0.07 | 0.48 | 0.42 | 0.37 |
| Avail Cap（c＿a），veh／h | 675 | 2091 | 1099 | 348 | 2091 | 990 | 675 | 2091 | 980 | 675 | 2091 | 1068 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter（l） | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay（d），s／veh | 33.3 | 20.6 | 5.8 | 36.1 | 24.4 | 21.2 | 32.6 | 18.2 | 14.7 | 35.2 | 23.9 | 6.1 |
| Incr Delay（d2），s／veh | 2.6 | 0.1 | 0.7 | 10.3 | 0.3 | 0.4 | 2.7 | 0.1 | 0.0 | 1.8 | 0.3 | 0.4 |
| Initial Q Delay（d3），s／veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| \％ile BackOfQ（50\％），veh／ln | 2.4 | 2.0 | 2.0 | 1.3 | 2.4 | 2.1 | 2.9 | 2.1 | 0.4 | 0.9 | 2.8 | 1.5 |
| Unsig．Movement Delay，s／veh |  |  |  |  |  |  |  |  |  |  |  |  |
| LnGrp Delay（d），s／veh | 35.9 | 20.8 | 6.5 | 46.4 | 24.7 | 21.6 | 35.3 | 18.3 | 14.7 | 37.0 | 24.2 | 6.5 |
| LnGrp LOS | D | C | A | D | C | C | D | B | B | D | C | A |
| Approach Vol，veh／h |  | 899 |  |  | 537 |  |  | 694 |  |  | 679 |  |
| Approach Delay，s／veh |  | 19.6 |  |  | 26.1 |  |  | 25.9 |  |  | 20.7 |  |
| Approach LOS |  | B |  |  | C |  |  | C |  |  | C |  |


| Timer－Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| Phs Duration（G＋Y＋Rc），s | 8.3 | 32.3 | 7.5 | 28.7 | 15.2 | 25.4 | 12.0 | 24.3 |
| Change Period（Y＋Rc），s | 4.0 | 5.8 | 4.0 | 5.8 | 5.8 | ${ }^{*} 5.8$ | 4.0 | 5.8 |
| Max Green Setting（Gmax），s | 15.0 | 45.2 | 15.0 | 45.2 | 15.0 | ${ }^{*} 45$ | 15.0 | 45.2 |
| Max Q Clear Time（g＿c＋11），s | 4.0 | 7.3 | 4.4 | 6.9 | 8.8 | 8.9 | 7.5 | 8.0 |
| Green Ext Time（p＿c），s | 0.2 | 2.5 | 0.1 | 3.5 | 0.6 | 3.5 | 0.5 | 2.9 |

## Intersection Summary

| HCM 6th Ctrl Delay | 22.7 |
| :--- | ---: |
| HCM 6th LOS | C |

## Notes

＊HCM 6th computational engine requires equal clearance times for the phases crossing the barrier．

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Lane Configurations | \％ | 个 $\uparrow$ | 「 | \％ | 个4 | 「 | ${ }^{7}$ | F |  | ${ }^{7}$ | $\uparrow$ | F |
| Traffic Volume（veh／h） | 181 | 286 | 69 | 12 | 456 | 430 | 48 | 124 | 11 | 244 | 185 | 203 |
| Future Volume（veh／h） | 181 | 286 | 69 | 12 | 456 | 430 | 48 | 124 | 11 | 244 | 185 | 203 |
| Initial $Q(Q b)$ ，veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped－Bike Adj（A＿pbT） | 1.00 |  | 0.97 | 1.00 |  | 0.98 | 1.00 |  | 0.95 | 1.00 |  | 0.98 |
| Parking Bus，Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach |  | No |  |  | No |  |  | No |  |  | No |  |
| Adj Sat Flow，veh／h／ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate，veh／h | 187 | 295 | 71 | 12 | 470 | 443 | 49 | 128 | 11 | 252 | 191 | 209 |
| Peak Hour Factor | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 |
| Percent Heavy Veh，\％ | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap，veh／h | 233 | 1477 | 702 | 26 | 1064 | 723 | 74 | 313 | 27 | 292 | 575 | 684 |
| Arrive On Green | 0.13 | 0.42 | 0.42 | 0.01 | 0.30 | 0.30 | 0.04 | 0.18 | 0.18 | 0.16 | 0.31 | 0.31 |
| Sat Flow，veh／h | 1781 | 3554 | 1532 | 1781 | 3554 | 1548 | 1781 | 1690 | 145 | 1781 | 1870 | 1549 |
| Grp Volume（v），veh／h | 187 | 295 | 71 | 12 | 470 | 443 | 49 | 0 | 139 | 252 | 191 | 209 |
| Grp Sat Flow（s），veh／h／ln | 1781 | 1777 | 1532 | 1781 | 1777 | 1548 | 1781 | 0 | 1835 | 1781 | 1870 | 1549 |
| Q Serve（g＿s），s | 8.2 | 4.3 | 2.1 | 0.5 | 8.6 | 17.3 | 2.2 | 0.0 | 5.4 | 11.1 | 6.3 | 7.1 |
| Cycle Q Clear（g＿c），s | 8.2 | 4.3 | 2.1 | 0.5 | 8.6 | 17.3 | 2.2 | 0.0 | 5.4 | 11.1 | 6.3 | 7.1 |
| Prop In Lane | 1.00 |  | 1.00 | 1.00 |  | 1.00 | 1.00 |  | 0.08 | 1.00 |  | 1.00 |
| Lane Grp Cap（c），veh／h | 233 | 1477 | 702 | 26 | 1064 | 723 | 74 | 0 | 339 | 292 | 575 | 684 |
| V／C Ratio（X） | 0.80 | 0.20 | 0.10 | 0.46 | 0.44 | 0.61 | 0.67 | 0.00 | 0.41 | 0.86 | 0.33 | 0.31 |
| Avail Cap（c＿a），veh／h | 442 | 1477 | 702 | 442 | 1284 | 819 | 442 | 0 | 868 | 332 | 768 | 844 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter（I） | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay（d），s／veh | 34.0 | 15.0 | 12.5 | 39.4 | 22.8 | 16.3 | 38.1 | 0.0 | 29.0 | 32.8 | 21.5 | 14.7 |
| Incr Delay（d2），s／veh | 6.3 | 0.1 | 0.1 | 12.2 | 0.3 | 1.1 | 9.9 | 0.0 | 0.8 | 18.7 | 0.3 | 0.3 |
| Initial Q Delay（d3），s／veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| \％oile BackOfQ（50\％），veh／ln | 3.9 | 1.7 | 0.7 | 0.3 | 3.5 | 5.9 | 1.1 | 0.0 | 2.4 | 6.2 | 2.7 | 2.4 |
| Unsig．Movement Delay，s／veh |  |  |  |  |  |  |  |  |  |  |  |  |
| LnGrp Delay（d），s／veh | 40.3 | 15.1 | 12.5 | 51.5 | 23.1 | 17.4 | 47.9 | 0.0 | 29.7 | 51.5 | 21.9 | 14.9 |
| LnGrp LOS | D | B | B | D | C | B | D | A | C | D | C | B |
| Approach Vol，veh／h |  | 553 |  |  | 925 |  |  | 188 |  |  | 652 |  |
| Approach Delay，s／veh |  | 23.3 |  |  | 20.7 |  |  | 34.5 |  |  | 31.1 |  |
| Approach LOS |  | C |  |  | C |  |  | C |  |  | C |  |


| Timer－Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| Phs Duration $(G+Y+R c)$ ，s | 17.2 | 19.8 | 5.2 | 38.4 | 7.3 | 29.7 | 14.6 | 29.0 |
| Change Period（Y＋Rc），s | 4.0 | 4.9 | 4.0 | 4.9 | 4.0 | 4.9 | 4.0 | 4.9 |
| Max Green Setting（Gmax），s | 15.0 | 38.1 | 20.0 | 29.1 | 20.0 | 33.1 | 20.0 | 29.1 |
| Max Q Clear Time（g＿c＋11），s | 13.1 | 7.4 | 2.5 | 6.3 | 4.2 | 9.1 | 10.2 | 19.3 |
| Green Ext Time（p＿c），s | 0.1 | 0.8 | 0.0 | 2.1 | 0.1 | 1.8 | 0.3 | 3.5 |

Intersection Summary

| HCM 6th Ctrl Delay | 25.4 |
| :--- | ---: |
| HCM 6th LOS | C |

## Notes

User approved pedestrian interval to be less than phase max green．
User approved changes to right turn type．




| Major/Minor | Major1 |  | Major2 |  | Minor2 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Conflicting Flow All | 222 | 0 | - | 0 | 348 | 220 |
| Stage 1 | - | - | - | - | 220 | - |
| Stage 2 | - | - | - | - | 128 | - |
| Critical Hdwy | 4.12 | - | - | - | 6.42 | 6.22 |
| Critical Hdwy Stg 1 | - | - | - | - | 5.42 | - |
| Critical Hdwy Stg 2 | - | - | - | - | 5.42 | - |
| Follow-up Hdwy | 2.218 | - | - | - | 3.518 | 3.318 |
| Pot Cap-1 Maneuver | 1347 | - | - | - | 649 | 820 |
| Stage 1 | - | - | - | - | 817 | - |
| Stage 2 | - | - | - | - | 898 | - |
| Platoon blocked, \% |  | - | - | - |  |  |
| Mov Cap-1 Maneuver | 1347 | - | - | - | 645 | 820 |
| Mov Cap-2 Maneuver | - | - | - | - | 645 | - |
| Stage 1 | - | - | - | - | 812 | - |
| Stage 2 | - | - | - | - | 898 | - |
|  |  |  |  |  |  |  |
| Approach | EB |  | WB |  | SB |  |
| HCM Control Delay, s | 0.5 |  | 0 |  | 10.1 |  |
| HCM LOS |  |  |  |  | B |  |
|  |  |  |  |  |  |  |
| Minor Lane/Major Mvmt |  | EBL | EBT | WBT | WBR | SBLn1 |
| Capacity (veh/h) |  | 1347 | - | - | - | 710 |
| HCM Lane V/C Ratio |  | 0.006 | - | - | - | 0.011 |
| HCM Control Delay (s) |  | 7.7 | 0 | - | - | 10.1 |
| HCM Lane LOS |  | A | A | - | - | B |
| HCM 95th \%tile Q(veh) |  | 0 | - | - | - | 0 |


| Intersection |  |  |  |  |  |  |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: |
| Int Delay, s/veh | 4.5 |  |  |  |  |  |
| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
| Lane Configurations | 个 |  |  | 4 | I | $\mathbf{T}$ |
| Traffic Vol, veh/h | 100 | 0 | 0 | 89 | 114 | 43 |
| Future Vol, veh/h | 100 | 0 | 0 | 89 | 114 | 43 |
| Conflicting Peds, \#/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Stop | Stop |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | - | - | - | - | 0 | 25 |
| Veh in Median Storage, \# | 0 | - | - | 0 | 0 | - |
| Grade, \% | 0 | - | - | 0 | 0 | - |
| Peak Hour Factor | 93 | 93 | 93 | 93 | 93 | 93 |
| Heavy Vehicles, \% | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 108 | 0 | 0 | 96 | 123 | 46 |



| Intersection |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Int Delay, s/veh | 6.6 |  |  |  |  |  |  |  |  |  |  |  |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  | * |  |  | * |  | ${ }^{7}$ | $\uparrow$ |  | ${ }^{1 /}$ | 4 | 「 |
| Traffic Vol, veh/h | 67 | 30 | 48 | 3 | 23 | 43 | 36 | 531 | 9 | 31 | 316 | 38 |
| Future Vol, veh/h | 67 | 30 | 48 | 3 | 23 | 43 | 36 | 531 | 9 | 31 | 316 | 38 |
| Conflicting Peds, \#/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | - | 60 | - | - | 60 | - | 50 |
| Veh in Median Storage, \# | \# | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, \% | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 98 | 98 | 98 | 98 | 98 | 98 | 98 | 98 | 98 | 98 | 98 | 98 |
| Heavy Vehicles, \% | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 68 | 31 | 49 | 3 | 23 | 44 | 37 | 542 | 9 | 32 | 322 | 39 |



| Intersection |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Int Delay, s/veh | 6.5 |  |  |  |  |  |  |  |  |  |  |  |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  | * |  |  | $\leftrightarrow$ |  | ${ }^{1}$ | + | 「 | ${ }^{1 /}$ | 4 | 「 |
| Traffic Vol, veh/h | 43 | 3 | 24 | 0 | 4 | 13 | 23 | 1019 | 2 | 9 | 604 | 38 |
| Future Vol, veh/h | 43 | 3 | 24 | 0 | 4 | 13 | 23 | 1019 | 2 | 9 | 604 | 38 |
| Conflicting Peds, \#/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | - | 100 | - | 25 | 100 | - | 80 |
| Veh in Median Storage, \# | \# | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, \% | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 96 | 96 | 96 | 96 | 96 | 96 | 96 | 96 | 96 | 96 | 96 | 96 |
| Heavy Vehicles, \% | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 45 | 3 | 25 | 0 | 4 | 14 | 24 | 1061 | 2 | 9 | 629 | 40 |



| Intersection |  |  |  |  |  |  |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: |
| Int Delay, s/veh | 3.3 |  |  |  |  |  |
| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
| Lane Configurations | $\mathbf{r}$ | $\mathbf{r}$ | $\mathbf{r}$ | $\mathbf{r}$ | A |  |
| Traffic Vol, veh/h | 10 | 161 | 450 | 22 | 114 | 250 |
| Future Vol, veh/h | 10 | 161 | 450 | 22 | 114 | 250 |
| Conflicting Peds, \#/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | 25 | - | 25 | 75 | - |
| Veh in Median Storage, \# | 0 | - | 0 | - | - | 0 |
| Grade, \% | 0 | - | 0 | - | - | 0 |
| Peak Hour Factor | 97 | 97 | 97 | 97 | 97 | 97 |
| Heavy Vehicles, \% | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 10 | 166 | 464 | 23 | 118 | 258 |



| Intersection |  |  |  |  |  |  |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: |
| Int Delay, s/veh | 0.8 |  |  |  |  |  |
| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
| Lane Configurations | Mr |  | F |  |  | 4 |
| Traffic Vol, veh/h | 35 | 12 | 556 | 46 | 9 | 323 |
| Future Vol, veh/h | 35 | 12 | 556 | 46 | 9 | 323 |
| Conflicting Peds, \#/hr | 0 | 0 | 0 | 1 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | - | - | - | - | - |
| Veh in Median Storage, \# | 0 | - | 0 | - | - | 0 |
| Grade, \% | 0 | - | 0 | - | - | 0 |
| Peak Hour Factor | 98 | 98 | 98 | 98 | 98 | 98 |
| Heavy Vehicles, \% | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 36 | 12 | 567 | 47 | 9 | 330 |



| Intersection |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Int Delay, s/veh | 19.8 |  |  |  |  |  |  |  |  |  |  |  |  |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |  |
| Lane Configurations |  | \$ |  |  | $\uparrow$ |  | \% | F |  | \% | $\uparrow$ |  |  |
| Traffic Vol, veh/h | 1 | 2 | 24 | 28 | 6 | 163 | 29 | 860 | 155 | 108 | 465 | 0 |  |
| Future Vol, veh/h | 1 | 2 | 24 | 28 | 6 | 163 | 29 | 860 | 155 | 108 | 465 | 0 |  |
| Conflicting Peds, \#/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |  |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |  |
| RT Channelized | - | - | None | - | - | None | - |  | None | - |  | None |  |
| Storage Length | - | - | - | - | - | - | 70 | - | - | 80 | - | - |  |
| Veh in Median Storage, \# | \# | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |  |
| Grade, \% | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |  |
| Peak Hour Factor | 97 | 97 | 97 | 97 | 97 | 97 | 97 | 97 | 97 | 97 | 97 | 97 |  |
| Heavy Vehicles, \% | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |  |
| Mvmt Flow | 1 | 2 | 25 | 29 | 6 | 168 | 30 | 887 | 160 | 111 | 479 | 0 |  |



| Intersection |  |  |  |  |  |  |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: |
| Int Delay, s/veh | 5.2 |  |  |  |  |  |
| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
| Lane Configurations | 个 |  |  | 4 | T | $\mathbf{T}$ |
| Traffic Vol, veh/h | 206 | 0 | 0 | 255 | 53 | 284 |
| Future Vol, veh/h | 206 | 0 | 0 | 255 | 53 | 284 |
| Conflicting Peds, \#/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Stop | Stop |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | - | - | - | - | 0 | 80 |
| Veh in Median Storage, \# | 0 | - | - | 0 | 0 | - |
| Grade, \% | 0 | - | - | 0 | 0 | - |
| Peak Hour Factor | 90 | 90 | 90 | 90 | 90 | 90 |
| Heavy Vehicles, \% | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 229 | 0 | 0 | 283 | 59 | 316 |





| Intersection |  |  |  |  |  |  |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: |
| Int Delay, s/veh | 2.9 |  |  |  |  |  |
| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
| Lane Configurations | $\uparrow$ |  |  | -1 | Mr |  |
| Traffic Vol, veh/h | 455 | 78 | 33 | 650 | 60 | 44 |
| Future Vol, veh/h | 455 | 78 | 33 | 650 | 60 | 44 |
| Conflicting Peds, \#/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Stop | Stop |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | - | - | - | - | 0 | - |
| Veh in Median Storage, \# | 0 | - | - | 0 | 0 | - |
| Grade, \% | 0 | - | - | 0 | 0 | - |
| Peak Hour Factor | 92 | 92 | 92 | 92 | 92 | 92 |
| Heavy Vehicles, \% | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 495 | 85 | 36 | 707 | 65 | 48 |


| Major/Minor | Major1 |  | Major2 |  | Minor1 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Conflicting Flow All | 0 | 0 | 580 | 0 | 1317 | 538 |
| Stage 1 | - | - | - | - | 538 | - |
| Stage 2 | - | - | - | - | 779 | - |
| Critical Hdwy | - | - | 4.12 | - | 6.42 | 6.22 |
| Critical Hdwy Stg 1 | - | - | - | - | 5.42 | - |
| Critical Hdwy Stg 2 | - | - | - | - | 5.42 | - |
| Follow-up Hdwy | - | - | 2.218 | - | 3.518 | 3.318 |
| Pot Cap-1 Maneuver | - | - | 994 | - | 174 | 543 |
| Stage 1 | - | - | - | - | 585 | - |
| Stage 2 | - | - | - | - | 452 | - |
| Platoon blocked, \% | - | - |  | - |  |  |
| Mov Cap-1 Maneuver | - | - | 994 | - | 164 | 543 |
| Mov Cap-2 Maneuver | - | - | - | - | 164 | - |
| Stage 1 | - | - | - | - | 585 | - |
| Stage 2 | - | - | - | - | 425 | - |
|  |  |  |  |  |  |  |
| Approach | EB |  | WB |  | NB |  |
| HCM Control Delay, s | 0 |  | 0.4 |  | 34.2 |  |
| HCM LOS |  |  |  |  | D |  |
|  |  |  |  |  |  |  |
| Minor Lane/Major Mvmt |  | NBLn1 | EBT | EBR | R WBL | WBT |
| Capacity (veh/h) |  | 233 | - | - | 994 | - |
| HCM Lane V/C Ratio |  | 0.485 | - | - | 0.036 | - |
| HCM Control Delay (s) |  | 34.2 | - | - | 8.8 | 0 |
| HCM Lane LOS |  | D | - | - | A | A |
| HCM 95th \%tile Q(veh) |  | 2.4 | - | - | 0.1 | - |

## Long-term Future AM Peak Hour

| Intersection |  |
| :--- | ---: | :--- |
| Intersection Delay, s/veh | 30.5 |
| Intersection LOS | D |


| Movement | EBL | EBT | EBR | WBL | WBT | WBR | SBL | SBR | NEL | NER |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Lane Configurations |  | $\ddagger$ |  |  | * |  |  | W | * |  |
| Traffic Vol, veh/h | 1 | 590 | 13 | 10 | 340 | 10 | 80 | 10 | 10 | 30 |
| Future Vol, veh/h | 1 | 590 | 13 | 10 | 340 | 10 | 80 | 10 | 10 | 30 |
| Peak Hour Factor | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Heavy Vehicles, \% | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 1 | 656 | 14 | 11 | 378 | 11 | 89 | 11 | 11 | 33 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 0 |
| Approach | EB |  |  | WB |  |  | SB |  |  |  |
| Opposing Approach | WB |  |  | EB |  |  |  |  |  |  |
| Opposing Lanes | 1 |  |  | 1 |  |  | 0 |  |  |  |
| Conflicting Approach Left | SB |  |  | NE |  |  | WB |  |  |  |
| Conflicting Lanes Left | 1 |  |  | 1 |  |  | 1 |  |  |  |
| Conflicting Approach Right | NE |  |  | SB |  |  | NE |  |  |  |
| Conflicting Lanes Right | 1 |  |  | 1 |  |  | 1 |  |  |  |
| HCM Control Delay | 43.8 |  |  | 16.3 |  |  | 11.6 |  |  |  |
| HCM LOS | E |  |  | C |  |  | B |  |  |  |


| Lane | NELn1 | EBLn1 | WBLn1 | SBLn1 |
| :--- | ---: | ---: | ---: | ---: |
| Vol Left, \% | $40 \%$ | $0 \%$ | $3 \%$ | $80 \%$ |
| Vol Thru, \% | $0 \%$ | $98 \%$ | $94 \%$ | $0 \%$ |
| Vol Right, \% | $60 \%$ | $2 \%$ | $3 \%$ | $20 \%$ |
| Sign Control | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 50 | 604 | 360 | 100 |
| LT Vol | 20 | 1 | 10 | 80 |
| Through Vol | 0 | 590 | 340 | 0 |
| RT Vol | 30 | 13 | 10 | 20 |
| Lane Flow Rate | 56 | 671 | 400 | 111 |
| Geometry Grp | 1 | 1 | 1 | 1 |
| Degree of Util (X) | 0.102 | 0.944 | 0.6 | 0.208 |
| Departure Headway (Hd) | 6.624 | 5.066 | 5.399 | 6.746 |
| Convergence, Y/N | Yes | Yes | Yes | Yes |
| Cap | 538 | 718 | 668 | 530 |
| Service Time | 4.708 | 3.108 | 3.449 | 4.82 |
| HCM Lane V/C Ratio | 0.104 | 0.935 | 0.599 | 0.209 |
| HCM Control Delay | 10.5 | 43.8 | 16.3 | 11.6 |
| HCM Lane LOS | B | E | C | B |
| HCM 95th-tile Q | 0.3 | 13.5 | 4 | 0.8 |


| Intersection |  |
| :--- | ---: |
| Intersection Delay, s/veh $\quad 69.1$ |  |
| Intersection LOS | F |


| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Lane Configurations |  | ¢ |  |  | ¢ |  |  | $\uparrow$ |  |  | ${ }_{*}$ |  |
| Traffic Vol, veh/h | 40 | 90 | 70 | 50 | 100 | 10 | 140 | 140 | 110 | 50 | 310 | 50 |
| Future Vol, veh/h | 40 | 90 | 70 | 50 | 100 | 10 | 140 | 140 | 110 | 50 | 310 | 50 |
| Peak Hour Factor | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 | 0.75 |
| Heavy Vehicles, \% | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 53 | 120 | 93 | 67 | 133 | 13 | 187 | 187 | 147 | 67 | 413 | 67 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |
| Approach | EB |  |  | WB |  |  | NB |  |  | SB |  |  |
| Opposing Approach | WB |  |  | EB |  |  | SB |  |  | NB |  |  |
| Opposing Lanes | 1 |  |  | 1 |  |  | 1 |  |  | 1 |  |  |
| Conflicting Approach Left | SB |  |  | NB |  |  | EB |  |  | WB |  |  |
| Conflicting Lanes Left | 1 |  |  | 1 |  |  | 1 |  |  | 1 |  |  |
| Conflicting Approach Right | NB |  |  | SB |  |  | WB |  |  | EB |  |  |
| Conflicting Lanes Right | 1 |  |  | 1 |  |  | 1 |  |  | 1 |  |  |
| HCM Control Delay | 23.9 |  |  | 21.1 |  |  | 80.4 |  |  | 99.1 |  |  |
| HCM LOS | C |  |  | C |  |  | F |  |  | F |  |  |


| Lane | NBLn1 | EBLn1 | WBLn1 | SBLn1 |
| :--- | ---: | ---: | ---: | ---: |
| Vol Left, \% | $36 \%$ | $20 \%$ | $31 \%$ | $12 \%$ |
| Vol Thu, \% | $36 \%$ | $45 \%$ | $62 \%$ | $76 \%$ |
| Vol Right, \% | $28 \%$ | $35 \%$ | $6 \%$ | $12 \%$ |
| Sign Control | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 390 | 200 | 160 | 410 |
| LT Vol | 140 | 40 | 50 | 50 |
| Through Vol | 140 | 90 | 100 | 310 |
| RT Vol | 110 | 70 | 10 | 50 |
| Lane Flow Rate | 520 | 267 | 213 | 547 |
| Geometry Grp | 1 | 1 | 1 | 1 |
| Degree of Util (X) | 1.042 | 0.603 | 0.508 | 1.103 |
| Departure Headway (Hd) | 7.577 | 8.626 | 9.102 | 7.529 |
| Convergence, Y/N | Yes | Yes | Yes | Yes |
| Cap | 484 | 421 | 399 | 487 |
| Service Time | 5.577 | 6.626 | 7.102 | 5.529 |
| HCM Lane V/C Ratio | 1.074 | 0.634 | 0.534 | 1.123 |
| HCM Control Delay | 80.4 | 23.9 | 21.1 | 99.1 |
| HCM Lane LOS | F | C | C | F |
| HCM 95th-tile Q | 14.9 | 3.8 | 2.8 | 17.5 |


| Intersection |  |
| :--- | ---: |
| Intersection Delay, s/veh | 121.8 |
| Intersection LOS | F |


| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Lane Configurations | ${ }^{7}$ | 「 |  | $\uparrow$ | 4 | 「' |
| Traffic Vol, veh/h | 620 | 60 | 80 | 270 | 250 | 500 |
| Future Vol, veh/h | 620 | 60 | 80 | 270 | 250 | 500 |
| Peak Hour Factor | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 |
| Heavy Vehicles, \% | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 667 | 65 | 86 | 290 | 269 | 538 |
| Number of Lanes | 1 | 1 | 0 | 1 | 1 | 1 |
| Approach | EB |  | NB |  | SB |  |
| Opposing Approach |  |  | SB |  | NB |  |
| Opposing Lanes | 0 |  | 2 |  | 1 |  |
| Conflicting Approach Left | SB |  | EB |  |  |  |
| Conflicting Lanes Left | 2 |  | 2 |  | 0 |  |
| Conflicting Approach Right | NB |  |  |  | EB |  |
| Conflicting Lanes Right | 1 |  | 0 |  | 2 |  |
| HCM Control Delay | 240.3 |  | 36.5 |  | 54.1 |  |
| HCM LOS | F |  | E |  | F |  |


| Lane | NBLn1 | EBLn1 | EBLn2 | SBLn1 | SBLn2 |
| :--- | ---: | ---: | ---: | ---: | ---: |
| Vol Left, \% | $23 \%$ | $100 \%$ | $0 \%$ | $0 \%$ | $0 \%$ |
| Vol Thru, \% | $77 \%$ | $0 \%$ | $0 \%$ | $100 \%$ | $0 \%$ |
| Vol Right, \% | $0 \%$ | $0 \%$ | $100 \%$ | $0 \%$ | $100 \%$ |
| Sign Control | Stop | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 350 | 620 | 60 | 250 | 500 |
| LT Vol | 80 | 620 | 0 | 0 | 0 |
| Through Vol | 270 | 0 | 0 | 250 | 0 |
| RT Vol | 0 | 0 | 60 | 0 | 500 |
| Lane Flow Rate | 376 | 667 | 65 | 269 | 538 |
| Geometry Grp | 4 | 7 | 7 | 7 | 7 |
| Degree of Util (X) | 0.78 | 1.51 | 0.124 | 0.552 | 0.999 |
| Departure Headway (Hd) | 8.731 | 8.154 | 6.921 | 8.704 | 7.976 |
| Convergence, Y/N | Yes | Yes | Yes | Yes | Yes |
| Cap | 418 | 447 | 519 | 417 | 457 |
| Service Time | 6.731 | 5.887 | 4.654 | 6.404 | 5.676 |
| HCM Lane V/C Ratio | 0.9 | 1.492 | 0.125 | 0.645 | 1.177 |
| HCM Control Delay | 36.5 | 262.5 | 10.6 | 21.6 | 70.3 |
| HCM Lane LOS | E | F | B | C | F |
| HCM 95th-tile Q | 6.7 | 35.1 | 0.4 | 3.2 | 13 |


|  | 4 | $\rightarrow$ | 7 | 4 |  | 4 | 4 | $\dagger$ | $p$ |  | $\downarrow$ | $\pm$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | ${ }^{1}$ | F |  | ${ }^{7}$ | F |  | ${ }^{7}$ | F |  |  | * |  |
| Traffic Volume (veh/h) | 10 | 170 | 50 | 190 | 240 | 10 | 280 | 10 | 50 | 10 | 10 | 10 |
| Future Volume (veh/h) | 10 | 170 | 50 | 190 | 240 | 10 | 280 | 10 | 50 | 10 | 10 | 10 |
| Initial Q $(Q b)$, veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 |  | 1.00 | 1.00 |  | 1.00 | 1.00 |  | 1.00 | 1.00 |  | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach |  | No |  |  | No |  |  | No |  |  | No |  |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 12 | 198 | 54 | 207 | 279 | 12 | 304 | 11 | 54 | 12 | 11 | 12 |
| Peak Hour Factor | 0.86 | 0.86 | 0.92 | 0.92 | 0.86 | 0.86 | 0.92 | 0.92 | 0.92 | 0.86 | 0.92 | 0.86 |
| Percent Heavy Veh, \% | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 524 | 542 | 148 | 550 | 683 | 29 | 645 | 81 | 399 | 257 | 215 | 165 |
| Arrive On Green | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.38 | 0.29 | 0.29 | 0.29 | 0.29 | 0.29 | 0.29 |
| Sat Flow, veh/h | 1087 | 1414 | 386 | 1126 | 1780 | 77 | 1384 | 275 | 1352 | 344 | 728 | 559 |
| Grp Volume(v), veh/h | 12 | 0 | 252 | 207 | 0 | 291 | 304 | 0 | 65 | 35 | 0 | 0 |
| Grp Sat Flow(s), veh/h/ln | 1087 | 0 | 1800 | 1126 | 0 | 1856 | 1384 | 0 | 1627 | 1630 | 0 | 0 |
| Q Serve(g_s), s | 0.3 | 0.0 | 3.1 | 5.0 | 0.0 | 3.6 | 5.6 | 0.0 | 0.9 | 0.0 | 0.0 | 0.0 |
| Cycle Q Clear(g_c), s | 3.8 | 0.0 | 3.1 | 8.1 | 0.0 | 3.6 | 6.0 | 0.0 | 0.9 | 0.4 | 0.0 | 0.0 |
| Prop In Lane | 1.00 |  | 0.21 | 1.00 |  | 0.04 | 1.00 |  | 0.83 | 0.34 |  | 0.34 |
| Lane Grp Cap(c), veh/h | 524 | 0 | 690 | 550 | 0 | 712 | 645 | 0 | 480 | 636 | 0 | 0 |
| V/C Ratio(X) | 0.02 | 0.00 | 0.36 | 0.38 | 0.00 | 0.41 | 0.47 | 0.00 | 0.14 | 0.06 | 0.00 | 0.00 |
| Avail Cap(c_a), veh/h | 771 | 0 | 1099 | 806 | 0 | 1134 | 1171 | 0 | 1098 | 1229 | 0 | 0 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 0.00 |
| Uniform Delay (d), s/veh | 8.4 | 0.0 | 6.9 | 9.8 | 0.0 | 7.0 | 9.8 | 0.0 | 8.1 | 7.9 | 0.0 | 0.0 |
| Incr Delay (d2), s/veh | 0.0 | 0.0 | 0.3 | 0.4 | 0.0 | 0.4 | 0.5 | 0.0 | 0.1 | 0.0 | 0.0 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| \%ile BackOfQ(50\%),veh/ln | 0.0 | 0.0 | 0.7 | 0.8 | 0.0 | 0.8 | 1.3 | 0.0 | 0.2 | 0.1 | 0.0 | 0.0 |
| Unsig. Movement Delay, s/veh |  |  |  |  |  |  |  |  |  |  |  |  |
| LnGrp Delay(d),s/veh | 8.4 | 0.0 | 7.2 | 10.2 | 0.0 | 7.4 | 10.3 | 0.0 | 8.2 | 7.9 | 0.0 | 0.0 |
| LnGrp LOS | A | A | A | B | A | A | B | A | A | A | A | A |
| Approach Vol, veh/h |  | 264 |  |  | 498 |  |  | 369 |  |  | 35 |  |
| Approach Delay, s/veh |  | 7.3 |  |  | 8.6 |  |  | 10.0 |  |  | 7.9 |  |
| Approach LOS |  | A |  |  | A |  |  | A |  |  | A |  |
| Timer - Assigned Phs |  | 2 |  | 4 |  | 6 |  | 8 |  |  |  |  |
| Phs Duration (G+Y+Rc), s |  | 14.2 |  | 16.9 |  | 14.2 |  | 16.9 |  |  |  |  |
| Change Period ( $\mathrm{Y}+\mathrm{Rc}$ ), s |  | 5.0 |  | 5.0 |  | 5.0 |  | 5.0 |  |  |  |  |
| Max Green Setting (Gmax), s |  | 21.0 |  | 19.0 |  | 21.0 |  | 19.0 |  |  |  |  |
| Max Q Clear Time (g_c+l1), s |  | 8.0 |  | 5.8 |  | 2.4 |  | 10.1 |  |  |  |  |
| Green Ext Time (p_c), s |  | 1.1 |  | 1.2 |  | 0.1 |  | 1.7 |  |  |  |  |
| Intersection Summary |  |  |  |  |  |  |  |  |  |  |  |  |
| HCM 6th Ctrl Delay |  |  | 8.7 |  |  |  |  |  |  |  |  |  |
| HCM 6th LOS |  |  | A |  |  |  |  |  |  |  |  |  |

HCM 6th Signalized Intersection Summary
3: US 101 NB Ramps \& Railroad Ave
09/29/2023

|  | 4 | $\rightarrow$ | $\geqslant$ | $\checkmark$ | $\Perp$ | 4 | 4 | $\dagger$ | $p$ | - | $\dagger$ | $\downarrow$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | ${ }^{1}$ | 4 |  |  | 4 | F゙ |  | ${ }_{4}{ }^{1}$ | 「 |  |  |  |
| Traffic Volume (veh/h) | 150 | 80 | 0 | 0 | 250 | 10 | 180 | 0 | 20 | 0 | 0 | 0 |
| Future Volume (veh/h) | 150 | 80 | 0 | 0 | 250 | 10 | 180 | 0 | 20 | 0 | 0 | 0 |
| Initial $Q(Q b)$, veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |  |  |  |
| Ped-Bike Adj(A_pbT) | 1.00 |  | 1.00 | 1.00 |  | 1.00 | 1.00 |  | 0.99 |  |  |  |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |  |  |  |
| Work Zone On Approach |  | No |  |  | No |  |  | No |  |  |  |  |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 0 | 0 | 1870 | 1870 | 1870 | 1870 | 1870 |  |  |  |
| Adj Flow Rate, veh/h | 163 | 87 | 0 | 0 | 272 | 11 | 196 | 0 | 22 |  |  |  |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |  |  |  |
| Percent Heavy Veh, \% | 2 | 2 | 0 | 0 | 2 | 2 | 2 | 2 | 2 |  |  |  |
| Cap, veh/h | 211 | 909 | 0 | 0 | 428 | 363 | 330 | 0 | 291 |  |  |  |
| Arrive On Green | 0.12 | 0.49 | 0.00 | 0.00 | 0.23 | 0.23 | 0.19 | 0.00 | 0.19 |  |  |  |
| Sat Flow, veh/h | 1781 | 1870 | 0 | 0 | 1870 | 1585 | 1781 | 0 | 1572 |  |  |  |
| Grp Volume(v), veh/h | 163 | 87 | 0 | 0 | 272 | 11 | 196 | 0 | 22 |  |  |  |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1870 | 0 | 0 | 1870 | 1585 | 1781 | 0 | 1572 |  |  |  |
| Q Serve(g_s), s | 2.6 | 0.7 | 0.0 | 0.0 | 3.8 | 0.2 | 2.9 | 0.0 | 0.3 |  |  |  |
| Cycle Q Clear(g_c), s | 2.6 | 0.7 | 0.0 | 0.0 | 3.8 | 0.2 | 2.9 | 0.0 | 0.3 |  |  |  |
| Prop In Lane | 1.00 |  | 0.00 | 0.00 |  | 1.00 | 1.00 |  | 1.00 |  |  |  |
| Lane Grp Cap(c), veh/h | 211 | 909 | 0 | 0 | 428 | 363 | 330 | 0 | 291 |  |  |  |
| V/C Ratio(X) | 0.77 | 0.10 | 0.00 | 0.00 | 0.64 | 0.03 | 0.59 | 0.00 | 0.08 |  |  |  |
| Avail Cap(c_a), veh/h | 494 | 1944 | 0 | 0 | 1166 | 989 | 648 | 0 | 572 |  |  |  |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |  |  |  |
| Upstream Filter(I) | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 |  |  |  |
| Uniform Delay (d), s/veh | 12.3 | 4.0 | 0.0 | 0.0 | 10.0 | 8.6 | 10.8 | 0.0 | 9.7 |  |  |  |
| Incr Delay (d2), s/veh | 5.9 | 0.0 | 0.0 | 0.0 | 1.6 | 0.0 | 1.7 | 0.0 | 0.1 |  |  |  |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |  |  |  |
| \%ile BackOfQ(50\%),veh/In | 1.1 | 0.1 | 0.0 | 0.0 | 1.2 | 0.0 | 0.7 | 0.0 | 0.1 |  |  |  |
| Unsig. Movement Delay, s/veh |  |  |  |  |  |  |  |  |  |  |  |  |
| LnGrp Delay(d),s/veh | 18.2 | 4.0 | 0.0 | 0.0 | 11.6 | 8.7 | 12.5 | 0.0 | 9.8 |  |  |  |
| LnGrp LOS | B | A | A | A | B | A | B | A | A |  |  |  |
| Approach Vol, veh/h |  | 250 |  |  | 283 |  |  | 218 |  |  |  |  |
| Approach Delay, s/veh |  | 13.3 |  |  | 11.5 |  |  | 12.2 |  |  |  |  |
| Approach LOS |  | B |  |  | B |  |  | B |  |  |  |  |
| Timer - Assigned Phs |  | 2 |  | 4 |  |  | 7 | 8 |  |  |  |  |
| Phs Duration (G+Y+Rc), s |  | 10.3 |  | 18.5 |  |  | 7.4 | 11.1 |  |  |  |  |
| Change Period ( $\mathrm{Y}+\mathrm{Rc}$ ), s |  | 5.0 |  | 4.5 |  |  | 4.0 | 4.5 |  |  |  |  |
| Max Green Setting (Gmax), s |  | 10.5 |  | 30.0 |  |  | 8.0 | 18.0 |  |  |  |  |
| Max Q Clear Time (g_c+11), s |  | 4.9 |  | 2.7 |  |  | 4.6 | 5.8 |  |  |  |  |
| Green Ext Time (p_c), s |  | 0.4 |  | 0.4 |  |  | 0.1 | 1.2 |  |  |  |  |
| Intersection Summary |  |  |  |  |  |  |  |  |  |  |  |  |
| HCM 6th Ctrl Delay |  |  | 12.3 |  |  |  |  |  |  |  |  |  |
| HCM 6th LOS |  |  | B |  |  |  |  |  |  |  |  |  |


|  | 4 | $\rightarrow$ | 7 | 7 |  | 4 | 4 | $\dagger$ | $p$ |  | $\frac{1}{1}$ | $\downarrow$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | ${ }^{7}$ | $\uparrow$ |  | ${ }^{7}$ | $\uparrow$ |  | ${ }^{7}$ | $\uparrow$ |  | ${ }^{1}$ | 4 | 7 |
| Traffic Volume (veh/h) | 30 | 80 | 50 | 20 | 80 | 40 | 40 | 300 | 20 | 30 | 630 | 120 |
| Future Volume (veh/h) | 30 | 80 | 50 | 20 | 80 | 40 | 40 | 300 | 20 | 30 | 630 | 120 |
| Initial Q $(Q b)$, veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 |  | 1.00 | 1.00 |  | 1.00 | 1.00 |  | 0.98 | 1.00 |  | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach |  | No |  |  | No |  |  | No |  |  | No |  |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 34 | 92 | 57 | 23 | 92 | 46 | 46 | 345 | 23 | 34 | 724 | 138 |
| Peak Hour Factor | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 |
| Percent Heavy Veh, \% | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 54 | 148 | 92 | 39 | 151 | 76 | 68 | 803 | 54 | 54 | 853 | 706 |
| Arrive On Green | 0.03 | 0.14 | 0.14 | 0.02 | 0.13 | 0.13 | 0.04 | 0.46 | 0.46 | 0.03 | 0.46 | 0.46 |
| Sat Flow, veh/h | 1781 | 1080 | 669 | 1781 | 1175 | 587 | 1781 | 1731 | 115 | 1781 | 1870 | 1548 |
| Grp Volume(v), veh/h | 34 | 0 | 149 | 23 | 0 | 138 | 46 | 0 | 368 | 34 | 724 | 138 |
| Grp Sat Flow(s), veh/h/ln | 1781 | 0 | 1750 | 1781 | 0 | 1762 | 1781 | 0 | 1846 | 1781 | 1870 | 1548 |
| Q Serve(g_s), s | 0.9 | 0.0 | 3.9 | 0.6 | 0.0 | 3.6 | 1.2 | 0.0 | 6.5 | 0.9 | 16.8 | 2.6 |
| Cycle Q Clear(g_c), s | 0.9 | 0.0 | 3.9 | 0.6 | 0.0 | 3.6 | 1.2 | 0.0 | 6.5 | 0.9 | 16.8 | 2.6 |
| Prop In Lane | 1.00 |  | 0.38 | 1.00 |  | 0.33 | 1.00 |  | 0.06 | 1.00 |  | 1.00 |
| Lane Grp Cap(c), veh/h | 54 | 0 | 240 | 39 | 0 | 227 | 68 | 0 | 856 | 54 | 853 | 706 |
| V/C Ratio(X) | 0.63 | 0.00 | 0.62 | 0.59 | 0.00 | 0.61 | 0.68 | 0.00 | 0.43 | 0.63 | 0.85 | 0.20 |
| Avail Cap(c_a), veh/h | 145 | 0 | 964 | 145 | 0 | 971 | 145 | 0 | 1017 | 182 | 1069 | 884 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 23.5 | 0.0 | 19.9 | 23.7 | 0.0 | 20.2 | 23.3 | 0.0 | 8.8 | 23.5 | 11.8 | 8.0 |
| Incr Delay (d2), s/veh | 11.6 | 0.0 | 2.6 | 13.3 | 0.0 | 2.6 | 11.3 | 0.0 | 0.3 | 11.6 | 5.4 | 0.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| \%ile BackOfQ(50\%),veh/ln | 0.5 | 0.0 | 1.6 | 0.4 | 0.0 | 1.4 | 0.7 | 0.0 | 1.7 | 0.5 | 6.1 | 0.6 |
| Unsig. Movement Delay, s/veh |  |  |  |  |  |  |  |  |  |  |  |  |
| LnGrp Delay(d),s/veh | 35.0 | 0.0 | 22.6 | 37.0 | 0.0 | 22.8 | 34.6 | 0.0 | 9.1 | 35.0 | 17.3 | 8.1 |
| LnGrp LOS | D | A | C | D | A | C | C | A | A | D | B | A |
| Approach Vol, veh/h |  | 183 |  |  | 161 |  |  | 414 |  |  | 896 |  |
| Approach Delay, s/veh |  | 24.9 |  |  | 24.8 |  |  | 12.0 |  |  | 16.5 |  |
| Approach LOS |  | C |  |  | C |  |  | B |  |  | B |  |
| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |  |  |  |  |
| Phs Duration (G+Y+Rc), s | 5.5 | 27.2 | 5.1 | 11.2 | 5.9 | 26.9 | 5.5 | 10.8 |  |  |  |  |
| Change Period ( $\mathrm{Y}+\mathrm{Rc}$ ), s | 4.0 | 4.5 | 4.0 | 4.5 | 4.0 | 4.5 | 4.0 | 4.5 |  |  |  |  |
| Max Green Setting (Gmax), s | 5.0 | 27.0 | 4.0 | 27.0 | 4.0 | 28.0 | 4.0 | 27.0 |  |  |  |  |
| Max Q Clear Time (g_c+11), s | 2.9 | 8.5 | 2.6 | 5.9 | 3.2 | 18.8 | 2.9 | 5.6 |  |  |  |  |
| Green Ext Time (p_c), s | 0.0 | 1.8 | 0.0 | 0.7 | 0.0 | 3.5 | 0.0 | 0.6 |  |  |  |  |
| Intersection Summary |  |  |  |  |  |  |  |  |  |  |  |  |
| HCM 6th Ctrl Delay |  |  | 17.1 |  |  |  |  |  |  |  |  |  |
| HCM 6th LOS |  |  | B |  |  |  |  |  |  |  |  |  |



HCM 6th Signalized Intersection Summary
6: Petaluma Hill Rd \& Railroad Ave
09/29/2023

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

|  | $\stackrel{ }{*}$ | $\rightarrow$ |  | 7 |  |  | 4 | $\dagger$ |  |  | $\downarrow$ | $\downarrow$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  | * |  |  | $\uparrow$ | 「 | ${ }_{1}$ | $\dagger$ |  | ${ }^{7}$ | $\hat{\dagger}$ |  |
| Traffic Volume (veh/h) | 40 | 170 | 40 | 10 | 100 | 310 | 40 | 380 | 10 | 390 | 660 | 110 |
| Future Volume (veh/h) | 40 | 170 | 40 | 10 | 100 | 310 | 40 | 380 | 10 | 390 | 660 | 110 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 0.99 |  | 0.98 | 0.99 |  | 0.98 | 1.00 |  | 0.96 | 1.00 |  | 0.97 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach |  | No |  |  | No |  |  | No |  |  | No |  |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 45 | 191 | 45 | 11 | 112 | 348 | 45 | 427 | 11 | 438 | 742 | 124 |
| Peak Hour Factor | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 |
| Percent Heavy Veh, \% | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 101 | 276 | 60 | 73 | 403 | 796 | 61 | 524 | 14 | 498 | 843 | 141 |
| Arrive On Green | 0.23 | 0.23 | 0.23 | 0.23 | 0.23 | 0.23 | 0.03 | 0.29 | 0.29 | 0.28 | 0.54 | 0.54 |
| Sat Flow, veh/h | 167 | 1215 | 263 | 60 | 1777 | 1554 | 1781 | 1813 | 47 | 1781 | 1554 | 260 |
| Grp Volume(v), veh/h | 281 | 0 | 0 | 123 | 0 | 348 | 45 | 0 | 438 | 438 | 0 | 866 |
| Grp Sat Flow(s),veh/h/ln | 1645 | 0 | 0 | 1837 | 0 | 1554 | 1781 | 0 | 1859 | 1781 | 0 | 1813 |
| Q Serve(g_s), s | 5.2 | 0.0 | 0.0 | 0.0 | 0.0 | 9.4 | 1.7 | 0.0 | 14.5 | 15.5 | 0.0 | 27.6 |
| Cycle Q Clear(g_c), s | 10.2 | 0.0 | 0.0 | 3.6 | 0.0 | 9.4 | 1.7 | 0.0 | 14.5 | 15.5 | 0.0 | 27.6 |
| Prop In Lane | 0.16 |  | 0.16 | 0.09 |  | 1.00 | 1.00 |  | 0.03 | 1.00 |  | 0.14 |
| Lane Grp Cap (c), veh/h | 436 | 0 | 0 | 476 | 0 | 796 | 61 | 0 | 538 | 498 | 0 | 984 |
| V/C Ratio(X) | 0.64 | 0.00 | 0.00 | 0.26 | 0.00 | 0.44 | 0.74 | 0.00 | 0.81 | 0.88 | 0.00 | 0.88 |
| Avail Cap(c_a), veh/h | 649 | 0 | 0 | 717 | 0 | 1008 | 108 | 0 | 732 | 714 | 0 | 1345 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(l) | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 23.5 | 0.0 | 0.0 | 21.1 | 0.0 | 10.4 | 31.6 | 0.0 | 21.8 | 22.7 | 0.0 | 13.2 |
| Incr Delay (d2), s/veh | 1.6 | 0.0 | 0.0 | 0.3 | 0.0 | 0.4 | 16.2 | 0.0 | 5.1 | 8.9 | 0.0 | 5.4 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| \%ile BackOfQ(50\%),veh/ln | 3.9 | 0.0 | 0.0 | 1.5 | 0.0 | 2.6 | 1.0 | 0.0 | 6.7 | 7.0 | 0.0 | 9.9 |
| Unsig. Movement Delay, s/veh |  |  |  |  |  |  |  |  |  |  |  |  |
| LnGrp Delay(d),s/veh | 25.1 | 0.0 | 0.0 | 21.4 | 0.0 | 10.7 | 47.8 | 0.0 | 27.0 | 31.6 | 0.0 | 18.6 |
| LnGrp LOS | C | A | A | C | A | B | D | A | C | C | A | B |
| Approach Vol, veh/h |  | 281 |  |  | 471 |  |  | 483 |  |  | 1304 |  |
| Approach Delay, s/veh |  | 25.1 |  |  | 13.5 |  |  | 28.9 |  |  | 23.0 |  |
| Approach LOS |  | C |  |  | B |  |  | C |  |  | C |  |
| Timer - Assigned Phs | 1 | 2 |  | 4 | 5 | 6 |  | 8 |  |  |  |  |
| Phs Duration ( $\mathrm{G}+\mathrm{Y}+\mathrm{Rc}$ ), s | 23.0 | 23.6 |  | 19.5 | 6.2 | 40.3 |  | 19.5 |  |  |  |  |
| Change Period ( $\mathrm{Y}+\mathrm{Rc}$ ), s | 4.5 | 4.5 |  | 4.5 | 4.0 | 4.5 |  | 4.5 |  |  |  |  |
| Max Green Setting (Gmax), s | 26.5 | 26.0 |  | 24.0 | 4.0 | 49.0 |  | 24.0 |  |  |  |  |
| Max Q Clear Time (g_c+1), s | 17.5 | 16.5 |  | 12.2 | 3.7 | 29.6 |  | 11.4 |  |  |  |  |
| Green Ext Time (p_c), s | 1.0 | 2.0 |  | 1.3 | 0.0 | 6.2 |  | 1.6 |  |  |  |  |
| Intersection Summary |  |  |  |  |  |  |  |  |  |  |  |  |
| HCM 6th Ctrl DelayHCM 6th LOS |  |  | 22.6 |  |  |  |  |  |  |  |  |  |
|  |  |  | C |  |  |  |  |  |  |  |  |  |



|  | 4 | $\rightarrow$ |  | 7 | - |  | 4 | 4 | $p$ |  | $\downarrow$ | $\downarrow$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  | $\uparrow$ |  |  | $\dagger$ |  | ${ }^{7}$ | $\uparrow$ |  | \% | $\uparrow$ |  |
| Traffic Volume (veh/h) | 50 | 10 | 190 | 10 | 10 | 10 | 90 | 340 | 10 | 10 | 620 | 50 |
| Future Volume (veh/h) | 50 | 10 | 190 | 10 | 10 | 10 | 90 | 340 | 10 | 10 | 620 | 50 |
| Initial $Q(Q b)$, veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 |  | 1.00 | 1.00 |  | 1.00 | 1.00 |  | 1.00 | 1.00 |  | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach |  | No |  |  | No |  |  | No |  |  | No |  |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 56 | 11 | 211 | 11 | 11 | 11 | 100 | 378 | 11 | 11 | 689 | 56 |
| Peak Hour Factor | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Percent Heavy Veh, \% | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 124 | 35 | 266 | 164 | 157 | 119 | 129 | 966 | 28 | 20 | 808 | 66 |
| Arrive On Green | 0.22 | 0.22 | 0.22 | 0.22 | 0.22 | 0.22 | 0.07 | 0.53 | 0.53 | 0.01 | 0.47 | 0.47 |
| Sat Flow, veh/h | 221 | 159 | 1198 | 368 | 707 | 537 | 1781 | 1808 | 53 | 1781 | 1707 | 139 |
| Grp Volume(v), veh/h | 278 | 0 | 0 | 33 | 0 | 0 | 100 | 0 | 389 | 11 | 0 | 745 |
| Grp Sat Flow(s),veh/h/ln | 1578 | 0 | 0 | 1612 | 0 | 0 | 1781 | 0 | 1861 | 1781 | 0 | 1845 |
| Q Serve(g_s), s | 5.8 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 3.2 | 0.0 | 7.1 | 0.4 | 0.0 | 20.7 |
| Cycle Q Clear (g_c), s | 9.6 | 0.0 | 0.0 | 0.9 | 0.0 | 0.0 | 3.2 | 0.0 | 7.1 | 0.4 | 0.0 | 20.7 |
| Prop In Lane | 0.20 |  | 0.76 | 0.33 |  | 0.33 | 1.00 |  | 0.03 | 1.00 |  | 0.08 |
| Lane Grp Cap (c), veh/h | 425 | 0 | 0 | 441 | 0 | 0 | 129 | 0 | 994 | 20 | 0 | 873 |
| V/C Ratio(X) | 0.65 | 0.00 | 0.00 | 0.07 | 0.00 | 0.00 | 0.78 | 0.00 | 0.39 | 0.55 | 0.00 | 0.85 |
| Avail Cap(c_a), veh/h | 802 | 0 | 0 | 800 | 0 | 0 | 215 | 0 | 1459 | 123 | 0 | 1351 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(l) | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 21.2 | 0.0 | 0.0 | 17.9 | 0.0 | 0.0 | 26.5 | 0.0 | 8.0 | 28.6 | 0.0 | 13.5 |
| Incr Delay (d2), s/veh | 1.7 | 0.0 | 0.0 | 0.1 | 0.0 | 0.0 | 9.6 | 0.0 | 0.3 | 21.6 | 0.0 | 3.4 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| \%ile BackOfQ(50\%),veh/ln | 3.3 | 0.0 | 0.0 | 0.3 | 0.0 | 0.0 | 1.5 | 0.0 | 2.0 | 0.3 | 0.0 | 7.0 |
| Unsig. Movement Delay, s/veh |  |  |  |  |  |  |  |  |  |  |  |  |
| LnGrp Delay(d),s/veh | 22.9 | 0.0 | 0.0 | 18.0 | 0.0 | 0.0 | 36.1 | 0.0 | 8.2 | 50.2 | 0.0 | 16.9 |
| LnGrp LOS | C | A | A | B | A | A | D | A | A | D | A | B |
| Approach Vol, veh/h |  | 278 |  |  | 33 |  |  | 489 |  |  | 756 |  |
| Approach Delay, s/veh |  | 22.9 |  |  | 18.0 |  |  | 13.9 |  |  | 17.4 |  |
| Approach LOS |  | C |  |  | B |  |  | B |  |  | B |  |
| Timer - Assigned Phs | 1 | 2 |  | 4 | 5 | 6 |  | 8 |  |  |  |  |
| Phs Duration ( $\mathrm{G}+\mathrm{Y}+\mathrm{Rc}$ ), s | 4.7 | 35.5 |  | 17.9 | 8.2 | 32.0 |  | 17.9 |  |  |  |  |
| Change Period ( $\mathrm{Y}+\mathrm{Rc}$ ), s | 4.0 | 4.5 |  | 5.0 | 4.0 | 4.5 |  | 5.0 |  |  |  |  |
| Max Green Setting (Gmax), s | 4.0 | 45.5 |  | 27.0 | 7.0 | 42.5 |  | 27.0 |  |  |  |  |
| Max Q Clear Time (g_c+1), s | 2.4 | 9.1 |  | 11.6 | 5.2 | 22.7 |  | 2.9 |  |  |  |  |
| Green Ext Time (p_c), s | 0.0 | 2.3 |  | 1.4 | 0.0 | 4.8 |  | 0.1 |  |  |  |  |
| Intersection Summary |  |  |  |  |  |  |  |  |  |  |  |  |
| HCM 6th Ctrl Delay |  |  | 17.3 |  |  |  |  |  |  |  |  |  |
| HCM 6th LOS |  |  | B |  |  |  |  |  |  |  |  |  |

HCM 6th Signalized Intersection Summary
14：Corona Rd \＆N McDowell Blvd
09／29／2023

|  | $\rangle$ | $\rightarrow$ |  | 7 |  | 4 | 4 | 4 | 1 |  | 1 | $\downarrow$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | ＊ | 性 |  | ${ }^{7}$ | 性 |  | \％ | $\uparrow$ | 「 | ${ }^{7}$ | $\uparrow$ | F |
| Traffic Volume（veh／h） | 90 | 210 | 140 | 50 | 260 | 340 | 70 | 190 | 20 | 150 | 350 | 30 |
| Future Volume（veh／h） | 90 | 210 | 140 | 50 | 260 | 340 | 70 | 190 | 20 | 150 | 350 | 30 |
| Initial $Q(Q b)$ ，veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped－Bike Adj（A＿pbT） | 1.00 |  | 0.97 | 1.00 |  | 0.98 | 1.00 |  | 0.99 | 1.00 |  | 1.00 |
| Parking Bus，Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach |  | No |  |  | No |  |  | No |  |  | No |  |
| Adj Sat Flow，veh／h／ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate，veh／h | 100 | 233 | 156 | 56 | 289 | 378 | 78 | 211 | 22 | 167 | 389 | 33 |
| Peak Hour Factor | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Percent Heavy Veh，\％ | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap，veh／h | 219 | 645 | 412 | 175 | 500 | 437 | 202 | 455 | 536 | 208 | 462 | 391 |
| Arrive On Green | 0.12 | 0.31 | 0.31 | 0.10 | 0.28 | 0.28 | 0.11 | 0.24 | 0.24 | 0.12 | 0.25 | 0.25 |
| Sat Flow，veh／h | 1781 | 2057 | 1314 | 1781 | 1777 | 1551 | 1781 | 1870 | 1565 | 1781 | 1870 | 1585 |
| Grp Volume（v），veh／h | 100 | 200 | 189 | 56 | 289 | 378 | 78 | 211 | 22 | 167 | 389 | 33 |
| Grp Sat Flow（s），veh／h／ln | 1781 | 1777 | 1594 | 1781 | 1777 | 1551 | 1781 | 1870 | 1565 | 1781 | 1870 | 1585 |
| Q Serve（g＿s），s | 4.2 | 6.9 | 7.4 | 2.3 | 11.1 | 18.5 | 3.2 | 7.7 | 0.7 | 7.3 | 15.8 | 1.3 |
| Cycle Q Clear（g＿c），s | 4.2 | 6.9 | 7.4 | 2.3 | 11.1 | 18.5 | 3.2 | 7.7 | 0.7 | 7.3 | 15.8 | 1.3 |
| Prop In Lane | 1.00 |  | 0.82 | 1.00 |  | 1.00 | 1.00 |  | 1.00 | 1.00 |  | 1.00 |
| Lane Grp Cap（c），veh／h | 219 | 557 | 500 | 175 | 500 | 437 | 202 | 455 | 536 | 208 | 462 | 391 |
| V／C Ratio（X） | 0.46 | 0.36 | 0.38 | 0.32 | 0.58 | 0.87 | 0.39 | 0.46 | 0.04 | 0.80 | 0.84 | 0.08 |
| Avail Cap（c＿a），veh／h | 245 | 557 | 500 | 268 | 570 | 498 | 245 | 710 | 749 | 221 | 691 | 586 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter（l） | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay（d），s／veh | 32.5 | 21.2 | 21.3 | 33.5 | 24.6 | 27.2 | 32.8 | 25.7 | 17.6 | 34.4 | 28.6 | 23.1 |
| Incr Delay（d2），s／veh | 1.5 | 0.4 | 0.5 | 1.0 | 1.1 | 13.6 | 1.2 | 0.7 | 0.0 | 18.1 | 6.0 | 0.1 |
| Initial Q Delay（d3），s／veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| \％ile BackOfQ（50\％），veh／ln | 1.8 | 2.8 | 2.7 | 1.0 | 4.7 | 8.2 | 1.4 | 3.3 | 0.3 | 4.1 | 7.6 | 0.5 |
| Unsig．Movement Delay，s／veh |  |  |  |  |  |  |  |  |  |  |  |  |
| LnGrp Delay（d），s／veh | 34.0 | 21.6 | 21.8 | 34.6 | 25.7 | 40.8 | 34.0 | 26.5 | 17.6 | 52.4 | 34.6 | 23.2 |
| LnGrp LOS | C | C | C | C | C | D | C | C | B | D | C | C |
| Approach Vol，veh／h |  | 489 |  |  | 723 |  |  | 311 |  |  | 589 |  |
| Approach Delay，s／veh |  | 24.2 |  |  | 34.3 |  |  | 27.7 |  |  | 39.0 |  |
| Approach LOS |  | C |  |  | C |  |  | C |  |  | D |  |


| Timer－Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| Phs Duration $(G+Y+R c)$ ，s | 13.3 | 24.3 | 11.8 | 30.3 | 13.0 | 24.6 | 14.4 | 27.8 |
| Change Period $(\mathrm{Y}+\mathrm{Rc})$ ， s | 4.0 | 4.9 | 4.0 | ${ }^{*} 5.3$ | 4.0 | ${ }^{*} 4.9$ | 4.6 | 5.3 |
| Max Green Setting $(G \max ), \mathrm{s}$ | 9.9 | 30.3 | 12.0 | ${ }^{*} 25$ | 11.0 | ${ }^{*} 30$ | 11.0 | 25.6 |
| Max Q Clear Time（g＿c＋11），s | 9.3 | 9.7 | 4.3 | 9.4 | 5.2 | 17.8 | 6.2 | 20.5 |
| Green Ext Time（p＿c），s | 0.0 | 1.1 | 0.0 | 2.1 | 0.1 | 1.9 | 0.1 | 2.0 |

Intersection Summary

| HCM 6th Ctrl Delay | 32.3 |
| :--- | ---: |
| HCM 6th LOS | C |

## Notes

＊HCM 6th computational engine requires equal clearance times for the phases crossing the barrier．

|  | $\rangle$ | $\rightarrow$ | 7 | 7 |  | 4 | 4 | 4 | $>$ |  | $\downarrow$ | $\downarrow$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  | \$ |  |  | $\uparrow$ | 「 | ${ }^{7}$ | $\uparrow$ |  | ${ }^{7}$ | $\uparrow$ |  |
| Traffic Volume (veh/h) | 10 | 10 | 30 | 30 | 10 | 150 | 10 | 530 | 90 | 260 | 1070 | 10 |
| Future Volume (veh/h) | 10 | 10 | 30 | 30 | 10 | 150 | 10 | 530 | 90 | 260 | 1070 | 10 |
| Initial $Q(Q b)$, veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 |  | 1.00 | 1.00 |  | 1.00 | 1.00 |  | 0.97 | 1.00 |  | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach |  | No |  |  | No |  |  | No |  |  | No |  |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 11 | 11 | 33 | 33 | 11 | 167 | 11 | 589 | 100 | 289 | 1189 | 11 |
| Peak Hour Factor | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Percent Heavy Veh, \% | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 72 | 66 | 129 | 219 | 63 | 211 | 24 | 801 | 136 | 332 | 1274 | 12 |
| Arrive On Green | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.01 | 0.52 | 0.52 | 0.19 | 0.69 | 0.69 |
| Sat Flow, veh/h | 149 | 495 | 966 | 1067 | 469 | 1579 | 1781 | 1552 | 263 | 1781 | 1850 | 17 |
| Grp Volume(v), veh/h | 55 | 0 | 0 | 44 | 0 | 167 | 11 | 0 | 689 | 289 | 0 | 1200 |
| Grp Sat Flow(s),veh/h/ln | 1610 | 0 | 0 | 1537 | 0 | 1579 | 1781 | 0 | 1815 | 1781 | 0 | 1867 |
| Q Serve(g_s), s | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 8.4 | 0.5 | 0.0 | 24.4 | 13.0 | 0.0 | 46.0 |
| Cycle Q Clear(g_c), s | 2.4 | 0.0 | 0.0 | 1.8 | 0.0 | 8.4 | 0.5 | 0.0 | 24.4 | 13.0 | 0.0 | 46.0 |
| Prop In Lane | 0.20 |  | 0.60 | 0.75 |  | 1.00 | 1.00 |  | 0.15 | 1.00 |  | 0.01 |
| Lane Grp Cap(c), veh/h | 267 | 0 | 0 | 282 | 0 | 211 | 24 | 0 | 937 | 332 | 0 | 1286 |
| V/C Ratio(X) | 0.21 | 0.00 | 0.00 | 0.16 | 0.00 | 0.79 | 0.46 | 0.00 | 0.74 | 0.87 | 0.00 | 0.93 |
| Avail Cap(c_a), veh/h | 400 | 0 | 0 | 408 | 0 | 348 | 108 | 0 | 1068 | 433 | 0 | 1439 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(l) | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 31.9 | 0.0 | 0.0 | 31.6 | 0.0 | 34.5 | 40.3 | 0.0 | 15.5 | 32.5 | 0.0 | 11.1 |
| Incr Delay (d2), s/veh | 0.4 | 0.0 | 0.0 | 0.3 | 0.0 | 6.6 | 12.9 | 0.0 | 2.3 | 14.1 | 0.0 | 10.7 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| \%ile BackOfQ(50\%),veh/ln | 1.0 | 0.0 | 0.0 | 0.8 | 0.0 | 3.4 | 0.3 | 0.0 | 9.2 | 6.5 | 0.0 | 15.7 |
| Unsig. Movement Delay, s/veh |  |  |  |  |  |  |  |  |  |  |  |  |
| LnGrp Delay(d),s/veh | 32.3 | 0.0 | 0.0 | 31.9 | 0.0 | 41.1 | 53.2 | 0.0 | 17.8 | 46.6 | 0.0 | 21.8 |
| LnGrp LOS | C | A | A | C | A | D | D | A | B | D | A | C |
| Approach Vol, veh/h |  | 55 |  |  | 211 |  |  | 700 |  |  | 1489 |  |
| Approach Delay, s/veh |  | 32.3 |  |  | 39.2 |  |  | 18.4 |  |  | 26.6 |  |
| Approach LOS |  | C |  |  | D |  |  | B |  |  | C |  |
| Timer - Assigned Phs | 1 | 2 |  | 4 | 5 | 6 |  | 8 |  |  |  |  |
| Phs Duration ( $\mathrm{G}+\mathrm{Y}+\mathrm{Rc}$ ), s | 19.3 | 47.4 |  | 15.5 | 5.1 | 61.7 |  | 15.5 |  |  |  |  |
| Change Period ( $Y+R \mathrm{Rc}$ ), s | 4.0 | 5.0 |  | 4.5 | 4.0 | 5.0 |  | 4.5 |  |  |  |  |
| Max Green Setting (Gmax), s | 20.0 | 48.4 |  | 18.1 | 5.0 | 63.4 |  | 18.1 |  |  |  |  |
| Max Q Clear Time (g_c+1), s | 15.0 | 26.4 |  | 4.4 | 2.5 | 48.0 |  | 10.4 |  |  |  |  |
| Green Ext Time (p_c), s | 0.4 | 4.7 |  | 0.2 | 0.0 | 8.6 |  | 0.4 |  |  |  |  |
| Intersection Summary |  |  |  |  |  |  |  |  |  |  |  |  |
| HCM 6th Ctrl Delay |  |  | 25.5 |  |  |  |  |  |  |  |  |  |
| HCM 6th LOS |  |  | C |  |  |  |  |  |  |  |  |  |



## Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary
17: Old Redwood Hwy \& US 101 NB Ramps


## Notes

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.


## Notes

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary
19：Petaluma Blvd／Petaluma Blvd \＆Stony Point Rd／Industrial Ave
09／29／2023

|  | $\rangle$ | $\rightarrow$ |  | $\dagger$ |  | 4 | 4 | 4 | $p$ |  | $\downarrow$ | $\downarrow$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | ${ }^{*}$ | $\uparrow$ | \％ | ${ }^{*}$ | 4 | 「 | \％${ }^{17}$ | 性 |  | \％ | 个个 | F |
| Traffic Volume（veh／h） | 390 | 170 | 270 | 10 | 100 | 50 | 170 | 600 | 10 | 80 | 870 | 320 |
| Future Volume（veh／h） | 390 | 170 | 270 | 10 | 100 | 50 | 170 | 600 | 10 | 80 | 870 | 320 |
| Initial Q（Qb），veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped－Bike Adj（A＿pbT） | 1.00 |  | 1.00 | 1.00 |  | 1.00 | 1.00 |  | 1.00 | 1.00 |  | 1.00 |
| Parking Bus，Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach |  | No |  |  | No |  |  | No |  |  | No |  |
| Adj Sat Flow，veh／h／ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate，veh／h | 433 | 189 | 300 | 11 | 111 | 56 | 189 | 667 | 11 | 89 | 967 | 356 |
| Peak Hour Factor | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Percent Heavy Veh，\％ | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap，veh／h | 464 | 636 | 658 | 19 | 172 | 145 | 261 | 1412 | 23 | 114 | 1347 | 1014 |
| Arrive On Green | 0.26 | 0.34 | 0.34 | 0.01 | 0.09 | 0.09 | 0.08 | 0.39 | 0.39 | 0.06 | 0.38 | 0.38 |
| Sat Flow，veh／h | 1781 | 1870 | 1585 | 1781 | 1870 | 1580 | 3456 | 3578 | 59 | 1781 | 3554 | 1585 |
| Grp Volume（v），veh／h | 433 | 189 | 300 | 11 | 111 | 56 | 189 | 331 | 347 | 89 | 967 | 356 |
| Grp Sat Flow（s），veh／h／ln | 1781 | 1870 | 1585 | 1781 | 1870 | 1580 | 1728 | 1777 | 1860 | 1781 | 1777 | 1585 |
| Q Serve（g＿s），s | 24.0 | 7.5 | 13.8 | 0.6 | 5.8 | 3.4 | 5.4 | 14.0 | 14.0 | 5.0 | 23.5 | 10.6 |
| Cycle Q Clear（g＿c），s | 24.0 | 7.5 | 13.8 | 0.6 | 5.8 | 3.4 | 5.4 | 14.0 | 14.0 | 5.0 | 23.5 | 10.6 |
| Prop In Lane | 1.00 |  | 1.00 | 1.00 |  | 1.00 | 1.00 |  | 0.03 | 1.00 |  | 1.00 |
| Lane Grp Cap（c），veh／h | 464 | 636 | 658 | 19 | 172 | 145 | 261 | 701 | 734 | 114 | 1347 | 1014 |
| V／C Ratio（X） | 0.93 | 0.30 | 0.46 | 0.59 | 0.65 | 0.39 | 0.72 | 0.47 | 0.47 | 0.78 | 0.72 | 0.35 |
| Avail Cap（c＿a），veh／h | 529 | 648 | 669 | 529 | 666 | 563 | 855 | 967 | 1012 | 352 | 1934 | 1275 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter（l） | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay（d），s／veh | 36.5 | 24.5 | 21.3 | 49.8 | 44.3 | 43.2 | 45.7 | 22.8 | 22.8 | 46.6 | 26.8 | 8.5 |
| Incr Delay（d2），s／veh | 21.3 | 0.2 | 0.4 | 10.4 | 3.0 | 1.2 | 1.4 | 0.7 | 0.7 | 4.3 | 1.0 | 0.3 |
| Initial Q Delay（d3），s／veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| \％ile BackOfQ（50\％），veh／In | 12.6 | 3.2 | 5.0 | 0.3 | 2.8 | 1.3 | 2.3 | 5.6 | 5.9 | 2.3 | 9.4 | 3.3 |
| Unsig．Movement Delay，s／veh |  |  |  |  |  |  |  |  |  |  |  |  |
| LnGrp Delay（d），s／veh | 57.8 | 24.7 | 21.7 | 60.2 | 47.3 | 44.4 | 47.1 | 23.5 | 23.4 | 50.9 | 27.8 | 8.8 |
| LnGrp LOS | E | C | C | E | D | D | D | C | C | D | C | A |
| Approach Vol，veh／h |  | 922 |  |  | 178 |  |  | 867 |  |  | 1412 |  |
| Approach Delay，s／veh |  | 39.3 |  |  | 47.2 |  |  | 28.6 |  |  | 24.5 |  |
| Approach LOS |  | D |  |  | D |  |  | C |  |  | C |  |
| Timer－Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |  |  |  |  |
| Phs Duration（ $G+Y+R \mathrm{c}$ ），$s$ | 10.7 | 45.4 | 5.3 | 39.7 | 12.2 | 43.8 | 30.3 | 14.7 |  |  |  |  |
| Change Period（ $\mathrm{Y}+\mathrm{Rc}$ ）， s | ＊4．2 | 5.5 | ＊4．2 | 5.4 | 4.6 | ＊5．5 | 4.0 | ＊ 5.4 |  |  |  |  |
| Max Green Setting（Gmax），s | ＊ 20 | 55.0 | ＊ 30 | 35.0 | 25.0 | ＊55 | 30.0 | ＊ 36 |  |  |  |  |
| Max Q Clear Time（g＿c＋1），s | 7.0 | 16.0 | 2.6 | 15.8 | 7.4 | 25.5 | 26.0 | 7.8 |  |  |  |  |
| Green Ext Time（p＿c），s | 0.1 | 6.2 | 0.0 | 1.4 | 0.3 | 12.9 | 0.3 | 0.6 |  |  |  |  |
| Intersection Summary |  |  |  |  |  |  |  |  |  |  |  |  |
| HCM 6th Ctrr Delay |  |  | 30.8 |  |  |  |  |  |  |  |  |  |
| HCM 6th LOS |  |  | C |  |  |  |  |  |  |  |  |  |
| Notes |  |  |  |  |  |  |  |  |  |  |  |  |

＊HCM 6th computational engine requires equal clearance times for the phases crossing the barrier．

|  | $\rangle$ |  |  |  |  |  | 4 | $\uparrow$ |  |  | $\downarrow$ | $\checkmark$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  | ${ }_{\$}$ |  |  |  |  | \% | $\hat{\beta}$ |  | ${ }^{7}$ | F |  |
| Traffic Volume (veh/h) | 10 | 60 | 70 | 0 | 0 | 0 | 80 | 220 | 10 | 190 | 500 | 10 |
| Future Volume (veh/h) | 10 | 60 | 70 | 0 | 0 | 0 | 80 | 220 | 10 | 190 | 500 | 10 |
| Initial $Q(Q b)$, veh | 0 | 0 | 0 |  |  |  | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 |  | 1.00 |  |  |  | 1.00 |  | 1.00 | 1.00 |  | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 |  |  |  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach |  | No |  |  |  |  |  | No |  |  | No |  |
| Adj Sat Flow, veh/h/n | 1870 | 1870 | 1870 |  |  |  | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 12 | 70 | 81 |  |  |  | 93 | 256 | 12 | 221 | 581 | 0 |
| Peak Hour Factor | 0.86 | 0.86 | 0.86 |  |  |  | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 | 0.86 |
| Percent Heavy Veh, \% | 2 | 2 | 2 |  |  |  | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 16 | 96 | 111 |  |  |  | 150 | 568 | 27 | 288 | 745 |  |
| Arrive On Green | 0.13 | 0.13 | 0.13 |  |  |  | 0.08 | 0.32 | 0.32 | 0.16 | 0.40 | 0.00 |
| Sat Flow, veh/h | 126 | 735 | 850 |  |  |  | 1781 | 1772 | 83 | 1781 | 1870 | 0 |
| Grp Volume(v), veh/h | 163 | 0 | 0 |  |  |  | 93 | 0 | 268 | 221 | 581 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1711 | 0 | 0 |  |  |  | 1781 | 0 | 1855 | 1781 | 1870 | 0 |
| Q Serve(g_s), s | 3.3 | 0.0 | 0.0 |  |  |  | 1.8 | 0.0 | 4.1 | 4.3 | 9.8 | 0.0 |
| Cycle Q Clear(g_c), s | 3.3 | 0.0 | 0.0 |  |  |  | 1.8 | 0.0 | 4.1 | 4.3 | 9.8 | 0.0 |
| Prop In Lane | 0.07 |  | 0.50 |  |  |  | 1.00 |  | 0.04 | 1.00 |  | 0.00 |
| Lane Grp Cap(c), veh/h | 223 | 0 | 0 |  |  |  | 150 | 0 | 595 | 288 | 745 |  |
| V/C Ratio(X) | 0.73 | 0.00 | 0.00 |  |  |  | 0.62 | 0.00 | 0.45 | 0.77 | 0.78 |  |
| Avail Cap(c_a), veh/h | 828 | 0 | 0 |  |  |  | 443 |  | 1103 | 591 | 1267 |  |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 |  |  |  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(l) | 1.00 | 0.00 | 0.00 |  |  |  | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 0.00 |
| Uniform Delay (d), s/veh | 15.1 | 0.0 | 0.0 |  |  |  | 16.0 | 0.0 | 9.8 | 14.5 | 9.5 | 0.0 |
| Incr Delay (d2), s/veh | 4.6 | 0.0 | 0.0 |  |  |  | 4.2 | 0.0 | 0.5 | 4.2 | 1.8 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 |  |  |  | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| \%ile BackOfQ( $50 \%$ ),veh/ln | 1.1 | 0.0 | 0.0 |  |  |  | 0.7 | 0.0 | 1.0 | 1.5 | 2.1 | 0.0 |
| Unsig. Movement Delay, s/veh |  |  |  |  |  |  |  |  |  |  |  |  |
| LnGrp Delay(d),s/veh | 19.7 | 0.0 | 0.0 |  |  |  | 20.2 | 0.0 | 10.3 | 18.7 | 11.3 | 0.0 |
| LnGrp LOS | B | A | A |  |  |  | C | A | B | B | B |  |
| Approach Vol, veh/h |  | 163 |  |  |  |  |  | 361 |  |  | 802 |  |
| Approach Delay, s/veh |  | 19.7 |  |  |  |  |  | 12.8 |  |  | 13.3 |  |
| Approach LOS |  | B |  |  |  |  |  | B |  |  | B |  |
| Timer - Assigned Phs | 1 | 2 |  | 4 | 5 | 6 |  |  |  |  |  |  |
| Phs Duration ( $\mathrm{G}+\mathrm{Y}+\mathrm{Rc}$ ), s | 9.9 | 16.6 |  | 9.7 | 7.0 | 19.4 |  |  |  |  |  |  |
| Change Period ( $Y+R \mathrm{c}$ ), s | 4.0 | 5.0 |  | 5.0 | 4.0 | 5.0 |  |  |  |  |  |  |
| Max Green Setting (Gmax), s | 12.0 | 21.5 |  | 17.5 | 9.0 | 24.5 |  |  |  |  |  |  |
| Max Q Clear Time (g_c+11), s | 6.3 | 6.1 |  | 5.3 | 3.8 | 11.8 |  |  |  |  |  |  |
| Green Ext Time (p_c), s | 0.3 | 1.1 |  | 0.5 | 0.1 | 2.6 |  |  |  |  |  |  |
| Intersection Summary |  |  |  |  |  |  |  |  |  |  |  |  |
| HCM 6th Ctrr Delay |  |  | 14.0 |  |  |  |  |  |  |  |  |  |
| HCM 6th LOS |  |  | B |  |  |  |  |  |  |  |  |  |

## Notes

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

|  | $\rangle$ | $\rightarrow$ | 7 | $\checkmark$ |  |  | 4 | $\uparrow$ | $p$ |  | $\downarrow$ | $\downarrow$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  | $\uparrow$ | 7 |  | $\dagger$ |  | \% | $\uparrow$ |  | ${ }^{7}$ | 个 | F |
| Traffic Volume (veh/h) | 50 | 10 | 240 | 5 | 0 | 0 | 130 | 560 | 10 | 10 | 780 | 80 |
| Future Volume (veh/h) | 50 | 10 | 240 | 5 | 0 | 0 | 130 | 560 | 10 | 10 | 780 | 80 |
| Initial $Q(Q b)$, veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 |  | 1.00 | 1.00 |  | 1.00 | 1.00 |  | 0.98 | 1.00 |  | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach |  | No |  |  | No |  |  | No |  |  | No |  |
| Adj Sat Flow, veh/h/n | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 57 | 11 | 273 | 6 | 0 | 0 | 148 | 636 | 11 | 11 | 886 | 91 |
| Peak Hour Factor | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 | 0.88 |
| Percent Heavy Veh, \% | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 303 | 58 | 319 | 11 | 0 | 0 | 187 | 985 | 17 | 19 | 829 | 703 |
| Arrive On Green | 0.20 | 0.20 | 0.20 | 0.01 | 0.00 | 0.00 | 0.10 | 0.54 | 0.54 | 0.01 | 0.44 | 0.44 |
| Sat Flow, veh/h | 1505 | 290 | 1585 | 1781 | 0 | 0 | 1781 | 1832 | 32 | 1781 | 1870 | 1585 |
| Grp Volume(v), veh/h | 68 | 0 | 273 | 6 | 0 | 0 | 148 | 0 | 647 | 11 | 886 | 91 |
| Grp Sat Flow(s),veh/h/ln | 1795 | 0 | 1585 | 1781 | 0 | 0 | 1781 | 0 | 1864 | 1781 | 1870 | 1585 |
| Q Serve(g_s), s | 2.4 | 0.0 | 12.9 | 0.3 | 0.0 | 0.0 | 6.3 | 0.0 | 19.1 | 0.5 | 34.5 | 2.6 |
| Cycle Q Clear(g_c), s | 2.4 | 0.0 | 12.9 | 0.3 | 0.0 | 0.0 | 6.3 | 0.0 | 19.1 | 0.5 | 34.5 | 2.6 |
| Prop In Lane | 0.84 |  | 1.00 | 1.00 |  | 0.00 | 1.00 |  | 0.02 | 1.00 |  | 1.00 |
| Lane Grp Cap(c), veh/h | 361 | 0 | 319 | 11 | 0 | 0 | 187 | 0 | 1002 | 19 | 829 | 703 |
| V/C Ratio(X) | 0.19 | 0.00 | 0.86 | 0.54 | 0.00 | 0.00 | 0.79 | 0.00 | 0.65 | 0.57 | 1.07 | 0.13 |
| Avail Cap(c_a), veh/h | 508 | 0 | 448 | 240 | 0 | 0 | 366 | 0 | 1114 | 92 | 829 | 703 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(l) | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 25.8 | 0.0 | 30.0 | 38.5 | 0.0 | 0.0 | 34.0 | 0.0 | 12.7 | 38.3 | 21.7 | 12.8 |
| Incr Delay (d2), s/veh | 0.2 | 0.0 | 11.1 | 34.9 | 0.0 | 0.0 | 7.3 | 0.0 | 1.1 | 23.5 | 51.1 | 0.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| \%ile BackOfQ(50\%),veh/ln | 1.0 | 0.0 | 5.7 | 0.2 | 0.0 | 0.0 | 2.9 | 0.0 | 6.7 | 0.3 | 24.4 | 0.8 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
| LnGrp Delay(d),s/veh | 26.0 | 0.0 | 41.1 | 73.5 | 0.0 | 0.0 | 41.3 | 0.0 | 13.9 | 61.8 | 72.8 | 12.9 |
| LnGrp LOS | C | A | D | E | A | A | D | A | B | E | F | B |
| Approach Vol, veh/h |  | 341 |  |  | 6 |  |  | 795 |  |  | 988 |  |
| Approach Delay, s/veh |  | 38.1 |  |  | 73.5 |  |  | 19.0 |  |  | 67.2 |  |
| Approach LOS |  | D |  |  | E |  |  | B |  |  | E |  |
| Timer - Assigned Phs | 1 | 2 |  | 4 | 5 | 6 |  | 8 |  |  |  |  |
| Phs Duration ( $\mathrm{G}+\mathrm{Y}+\mathrm{Rc}$ ), s | 4.8 | 47.3 |  | 19.7 | 12.2 | 40.0 |  | 6.0 |  |  |  |  |
| Change Period ( $\mathrm{Y}+\mathrm{Rc}$ ), s | 4.0 | 5.5 |  | 4.0 | 4.0 | 5.5 |  | 5.5 |  |  |  |  |
| Max Green Setting (Gmax), s | 4.0 | 46.5 |  | 22.0 | 16.0 | 34.5 |  | 10.5 |  |  |  |  |
| Max Q Clear Time (g_c+11), s | 2.5 | 21.1 |  | 14.9 | 8.3 | 36.5 |  | 2.3 |  |  |  |  |
| Green Ext Time (p_c), s | 0.0 | 4.2 |  | 0.7 | 0.2 | 0.0 |  | 0.0 |  |  |  |  |
| Intersection Summary |  |  |  |  |  |  |  |  |  |  |  |  |
| HCM 6th Ctrl Delay |  |  | 44.5 |  |  |  |  |  |  |  |  |  |
| HCM 6th LOS |  |  | D |  |  |  |  |  |  |  |  |  |



* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.


|  | 4 |  | \％ | 7 |  |  | 4 | $\dagger$ | $p$ |  | $\downarrow$ | 4 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | ${ }^{7}$ | 4 | 「 |  | 4 | 「 | ${ }^{7}$ | 中 ${ }^{\text {a }}$ |  | ${ }^{7} 1$ | $\hat{F}$ |  |
| Traffic Volume（veh／h） | 10 | 340 | 10 | 0 | 380 | 490 | 10 | 260 | 40 | 460 | 300 | 10 |
| Future Volume（veh／h） | 10 | 340 | 10 | 0 | 380 | 490 | 10 | 260 | 40 | 460 | 300 | 10 |
| Initial $Q(Q b)$ ，veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped－Bike Adj（A＿pbT） | 1.00 |  | 0.98 | 1.00 |  | 1.00 | 1.00 |  | 0.98 | 1.00 |  | 1.00 |
| Parking Bus，Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach |  | No |  |  | No |  |  | No |  |  | No |  |
| Adj Sat Flow，veh／h／ln | 1870 | 1870 | 1870 | 0 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate，veh／h | 11 | 366 | 11 | 0 | 409 | 527 | 11 | 280 | 43 | 495 | 323 | 11 |
| Peak Hour Factor | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 |
| Percent Heavy Veh，\％ | 2 | 2 | 2 | 0 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap，veh／h | 20 | 926 | 767 | 0 | 756 | 639 | 20 | 522 | 79 | 336 | 459 | 16 |
| Arrive On Green | 0.01 | 0.50 | 0.50 | 0.00 | 0.40 | 0.40 | 0.01 | 0.17 | 0.17 | 0.10 | 0.26 | 0.26 |
| Sat Flow，veh／h | 1781 | 1870 | 1549 | 0 | 1870 | 1580 | 1781 | 3083 | 467 | 3456 | 1798 | 61 |
| Grp Volume（v），veh／h | 11 | 366 | 11 | 0 | 409 | 527 | 11 | 160 | 163 | 495 | 0 | 334 |
| Grp Sat Flow（s），veh／h／ln | 1781 | 1870 | 1549 | 0 | 1870 | 1580 | 1781 | 1777 | 1774 | 1728 | 0 | 1859 |
| Q Serve（g＿s），s | 0.3 | 7.0 | 0.2 | 0.0 | 9.4 | 16.9 | 0.3 | 4.6 | 4.8 | 5.5 | 0.0 | 9.2 |
| Cycle Q Clear（g＿c），s | 0.3 | 7.0 | 0.2 | 0.0 | 9.4 | 16.9 | 0.3 | 4.6 | 4.8 | 5.5 | 0.0 | 9.2 |
| Prop In Lane | 1.00 |  | 1.00 | 0.00 |  | 1.00 | 1.00 |  | 0.26 | 1.00 |  | 0.03 |
| Lane Grp Cap（c），veh／h | 20 | 926 | 767 | 0 | 756 | 639 | 20 | 301 | 300 | 336 | 0 | 475 |
| V／C Ratio（X） | 0.55 | 0.40 | 0.01 | 0.00 | 0.54 | 0.82 | 0.55 | 0.53 | 0.54 | 1.47 | 0.00 | 0.70 |
| Avail Cap（c＿a），veh／h | 126 | 1269 | 1051 | 0 | 988 | 835 | 126 | 1023 | 1021 | 336 | 0 | 1120 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter（I） | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay（d），s／veh | 27.8 | 9.0 | 7.3 | 0.0 | 12.9 | 15.1 | 27.8 | 21.5 | 21.5 | 25.6 | 0.0 | 19.1 |
| Incr Delay（d2），s／veh | 21.5 | 0.3 | 0.0 | 0.0 | 0.6 | 5.2 | 21.5 | 1.5 | 1.5 | 229.0 | 0.0 | 1.9 |
| Initial Q Delay（d3），s／veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| \％ile BackOfQ（50\％），veh／ln | 0.3 | 2.5 | 0.0 | 0.0 | 3.6 | 0.9 | 0.3 | 1.9 | 2.0 | 12.8 | 0.0 | 3.8 |
| Unsig．Movement Delay，s／veh |  |  |  |  |  |  |  |  |  |  |  |  |
| LnGrp Delay（d），s／veh | 49.4 | 9.2 | 7.3 | 0.0 | 13.5 | 20.3 | 49.4 | 22.9 | 23.0 | 254.6 | 0.0 | 21.1 |
| LnGrp LOS | D | A | A | A | B | C | D | C | C | F | A | C |
| Approach Vol，veh／h |  | 388 |  |  | 936 |  |  | 334 |  |  | 829 |  |
| Approach Delay，s／veh |  | 10.3 |  |  | 17.3 |  |  | 23.8 |  |  | 160.5 |  |
| Approach LOS |  | B |  |  | B |  |  | C |  |  | F |  |
| Timer－Assigned Phs | 1 | 2 |  | 4 | 5 | 6 | 7 | 8 |  |  |  |  |
| Phs Duration（ $\mathrm{G}+\mathrm{Y}+\mathrm{Rc}$ ），s | 10.0 | 14.1 |  | 32.5 | 5.1 | 19.0 | 5.1 | 27.4 |  |  |  |  |
| Change Period（Y＋Rc），s | 4.5 | 4.5 |  | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |  |  |  |  |
| Max Green Setting（Gmax），s | 5.5 | 32.6 |  | 38.4 | 4.0 | 34.1 | 4.0 | 29.9 |  |  |  |  |
| Max Q Clear Time（g＿c＋11），s | 7.5 | 6.8 |  | 9.0 | 2.3 | 11.2 | 2.3 | 18.9 |  |  |  |  |
| Green Ext Time（p＿c），s | 0.0 | 1.9 |  | 2.5 | 0.0 | 2.0 | 0.0 | 3.7 |  |  |  |  |
| Intersection Summary |  |  |  |  |  |  |  |  |  |  |  |  |
| HCM 6th Ctrl Delay |  |  | 64.8 |  |  |  |  |  |  |  |  |  |
| HCM 6th LOS |  |  | E |  |  |  |  |  |  |  |  |  |


| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Lane Configurations | ${ }^{7} 1$ | $\uparrow$ | 「 | ${ }^{4}$ | $\hat{\beta}$ |  | ${ }^{1+1}$ | $\hat{\beta}$ |  | ${ }_{1}$ | $\uparrow$ | 「 |
| Traffic Volume (veh/h) | 110 | 90 | 820 | 30 | 150 | 60 | 710 | 110 | 40 | 20 | 50 | 480 |
| Future Volume (veh/h) | 110 | 90 | 820 | 30 | 150 | 60 | 710 | 110 | 40 | 20 | 50 | 480 |
| Initial $Q(Q b)$, veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 |  | 1.00 | 1.00 |  | 0.98 | 1.00 |  | 1.00 | 1.00 |  | 0.99 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach |  | No |  |  | No |  |  | No |  |  | No |  |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 118 | 97 | 0 | 32 | 161 | 65 | 763 | 118 | 43 | 22 | 54 | 516 |
| Peak Hour Factor | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 |
| Percent Heavy Veh, \% | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 289 | 157 |  | 261 | 184 | 74 | 801 | 751 | 274 | 65 | 701 | 719 |
| Arrive On Green | 0.08 | 0.08 | 0.00 | 0.15 | 0.15 | 0.15 | 0.23 | 0.57 | 0.57 | 0.04 | 0.37 | 0.37 |
| Sat Flow, veh/h | 3456 | 1870 | 1585 | 1781 | 1260 | 509 | 3456 | 1307 | 476 | 1781 | 1870 | 1565 |
| Grp Volume(v), veh/h | 118 | 97 | 0 | 32 | 0 | 226 | 763 | 0 | 161 | 22 | 54 | 516 |
| Grp Sat Flow(s),veh/h/n | 1728 | 1870 | 1585 | 1781 | 0 | 1769 | 1728 | 0 | 1783 | 1781 | 1870 | 1565 |
| Q Serve(g_s), s | 3.6 | 5.5 | 0.0 | 1.7 | 0.0 | 13.8 | 23.9 | 0.0 | 4.6 | 1.3 | 2.0 | 29.3 |
| Cycle Q Clear(g_c), s | 3.6 | 5.5 | 0.0 | 1.7 | 0.0 | 13.8 | 23.9 | 0.0 | 4.6 | 1.3 | 2.0 | 29.3 |
| Prop In Lane | 1.00 |  | 1.00 | 1.00 |  | 0.29 | 1.00 |  | 0.27 | 1.00 |  | 1.00 |
| Lane Grp Cap(c), veh/h | 289 | 157 |  | 261 | 0 | 259 | 801 | 0 | 1024 | 65 | 701 | 719 |
| V/C Ratio(X) | 0.41 | 0.62 |  | 0.12 | 0.00 | 0.87 | 0.95 | 0.00 | 0.16 | 0.34 | 0.08 | 0.72 |
| Avail Cap(c_a), veh/h | 738 | 400 |  | 308 | 0 | 306 | 801 | 0 | 1024 | 372 | 701 | 719 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(l) | 0.86 | 0.86 | 0.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 47.8 | 48.7 | 0.0 | 40.8 | 0.0 | 46.0 | 41.7 | 0.0 | 10.9 | 51.7 | 22.2 | 24.1 |
| Incr Delay (d2), s/veh | 1.1 | 4.8 | 0.0 | 0.1 | 0.0 | 18.8 | 21.1 | 0.0 | 0.3 | 6.5 | 0.1 | 4.3 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| \%ile BackOfQ(50\%),veh/In | 1.6 | 2.8 | 0.0 | 0.8 | 0.0 | 7.4 | 12.4 | 0.0 | 1.9 | 0.7 | 0.9 | 13.4 |
| Unsig. Movement Delay, s/veh |  |  |  |  |  |  |  |  |  |  |  |  |
| LnGrp Delay(d),s/veh | 48.9 | 53.5 | 0.0 | 40.9 | 0.0 | 64.8 | 62.8 | 0.0 | 11.3 | 58.2 | 22.3 | 28.4 |
| LnGrp LOS | D | D |  | D | A | E | E | A | B | E | C | C |
| Approach Vol, veh/h |  | 215 |  |  | 258 |  |  | 924 |  |  | 592 |  |
| Approach Delay, s/veh |  | 51.0 |  |  | 61.8 |  |  | 53.8 |  |  | 28.9 |  |
| Approach LOS |  | D |  |  | E |  |  | D |  |  | C |  |


| Timer - Assigned Phs | 1 | 2 | 4 | 5 | 6 | 8 |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: |
| Phs Duration $(G+Y+R c)$, s | 8.0 | 67.7 | 13.7 | 30.0 | 45.7 | 20.6 |
| Change Period $(\mathrm{Y}+\mathrm{Rc})$, s | 4.0 | 4.5 | 4.5 | 4.5 | $* 4.5$ | 4.5 |
| Max Green Setting (Gmax), s | 23.0 | 27.0 | 23.5 | 25.5 | ${ }^{*} 25$ | 19.0 |
| Max Q Clear Time (g_c+11), s | 3.3 | 6.6 | 7.5 | 25.9 | 31.3 | 15.8 |
| Green Ext Time (p_c), s | 0.1 | 1.1 | 1.1 | 0.0 | 0.0 | 0.3 |

## Intersection Summary

| HCM 6th Ctrl Delay | 47.1 |
| :--- | ---: |
| HCM 6th LOS | $D$ |

## Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

|  | 4 | $\rightarrow$ |  | 7 |  |  | 4 | $\uparrow$ | $p$ |  | $\downarrow$ | $\downarrow$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | \％ | 个个 |  |  | 个4 | F「7 | ＊＊ | $\hat{\beta}$ |  |  |  |  |
| Traffic Volume（veh／h） | 320 | 930 | 0 | 0 | 580 | 770 | 70 | 0 | 100 | 0 | 0 | 0 |
| Future Volume（veh／h） | 320 | 930 | 0 | 0 | 580 | 770 | 70 | 0 | 100 | 0 | 0 | 0 |
| Initial $Q(Q b)$ ，veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |  |  |  |
| Ped－Bike Adj（A＿pbT） | 1.00 |  | 1.00 | 1.00 |  | 1.00 | 1.00 |  | 1.00 |  |  |  |
| Parking Bus，Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |  |  |  |
| Work Zone On Approach |  | No |  |  | No |  |  | No |  |  |  |  |
| Adj Sat Flow，veh／h／ln | 1870 | 1870 | 0 | 0 | 1870 | 1870 | 1870 | 1870 | 1870 |  |  |  |
| Adj Flow Rate，veh／h | 348 | 1033 | 0 | 0 | 644 | 837 | 78 | 0 | 111 |  |  |  |
| Peak Hour Factor | 0.92 | 0.90 | 0.90 | 0.90 | 0.90 | 0.92 | 0.90 | 0.92 | 0.90 |  |  |  |
| Percent Heavy Veh，\％ | 2 | 2 | 0 | 0 | 2 | 2 | 2 | 2 | 2 |  |  |  |
| Cap，veh／h | 371 | 2015 | 0 | 0 | 1144 | 898 | 1214 | 0 | 557 |  |  |  |
| Arrive On Green | 0.42 | 1.00 | 0.00 | 0.00 | 0.32 | 0.32 | 0.35 | 0.00 | 0.35 |  |  |  |
| Sat Flow，veh／h | 1781 | 3647 | 0 | 0 | 3647 | 2790 | 3456 | 0 | 1585 |  |  |  |
| Grp Volume（v），veh／h | 348 | 1033 | 0 | 0 | 644 | 837 | 78 | 0 | 111 |  |  |  |
| Grp Sat Flow（s），veh／h／ln | 1781 | 1777 | 0 | 0 | 1777 | 1395 | 1728 | 0 | 1585 |  |  |  |
| Q Serve（g＿s），s | 20.6 | 0.0 | 0.0 | 0.0 | 16.5 | 32.0 | 1.6 | 0.0 | 5.4 |  |  |  |
| Cycle Q Clear（g＿c），s | 20.6 | 0.0 | 0.0 | 0.0 | 16.5 | 32.0 | 1.6 | 0.0 | 5.4 |  |  |  |
| Prop In Lane | 1.00 |  | 0.00 | 0.00 |  | 1.00 | 1.00 |  | 1.00 |  |  |  |
| Lane Grp Cap（c），veh／h | 371 | 2015 | 0 | 0 | 1144 | 898 | 1214 | 0 | 557 |  |  |  |
| V／C Ratio（X） | 0.94 | 0.51 | 0.00 | 0.00 | 0.56 | 0.93 | 0.06 | 0.00 | 0.20 |  |  |  |
| Avail Cap（c＿a），veh／h | 421 | 2132 | 0 | 0 | 1163 | 913 | 1214 | 0 | 557 |  |  |  |
| HCM Platoon Ratio | 2.00 | 2.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |  |  |  |
| Upstream Filter（l） | 0.75 | 0.75 | 0.00 | 0.00 | 0.49 | 0.49 | 1.00 | 0.00 | 1.00 |  |  |  |
| Uniform Delay（d），s／veh | 31.4 | 0.0 | 0.0 | 0.0 | 30.9 | 36.1 | 23.7 | 0.0 | 24.9 |  |  |  |
| Incr Delay（d2），s／veh | 22.1 | 0.2 | 0.0 | 0.0 | 0.3 | 9.0 | 0.1 | 0.0 | 0.8 |  |  |  |
| Initial Q Delay（d3），s／veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |  |  |  |
| \％ile BackOfQ（50\％），veh／ln | 8.9 | 0.0 | 0.0 | 0.0 | 7.0 | 11.6 | 0.6 | 0.0 | 2.0 |  |  |  |
| Unsig．Movement Delay，s／veh |  |  |  |  |  |  |  |  |  |  |  |  |
| LnGrp Delay（d），s／veh | 53.5 | 0.2 | 0.0 | 0.0 | 31.2 | 45.1 | 23.8 | 0.0 | 25.7 |  |  |  |
| LnGrp LOS | D | A | A | A | C | D | C | A | C |  |  |  |
| Approach Vol，veh／h |  | 1381 |  |  | 1481 |  |  | 189 |  |  |  |  |
| Approach Delay，s／veh |  | 13.6 |  |  | 39.0 |  |  | 24.9 |  |  |  |  |
| Approach LOS |  | B |  |  | D |  |  | C |  |  |  |  |
| Timer－Assigned Phs |  | 2 |  | 4 |  |  | 7 | 8 |  |  |  |  |
| Phs Duration（ $\mathrm{G}+\mathrm{Y}+\mathrm{Rc}$ ）， s |  | 42.6 |  | 67.4 |  |  | 26.9 | 40.4 |  |  |  |  |
| Change Period（ $Y+R \mathrm{c}$ ）， s |  | 4.0 |  | 5.0 |  |  | 4.0 | 5.0 |  |  |  |  |
| Max Green Setting（Gmax），s |  | 35.0 |  | 66.0 |  |  | 26.0 | 36.0 |  |  |  |  |
| Max Q Clear Time（g＿c＋1），s |  | 7.4 |  | 2.0 |  |  | 22.6 | 34.0 |  |  |  |  |
| Green Ext Time（p＿c），s |  | 0.8 |  | 9.5 |  |  | 0.4 | 1.5 |  |  |  |  |
| Intersection Summary |  |  |  |  |  |  |  |  |  |  |  |  |
| HCM 6th Ctrr Delay |  |  | 26.6 |  |  |  |  |  |  |  |  |  |
| HCM 6th LOS |  |  | C |  |  |  |  |  |  |  |  |  |


|  | 4 | $\rightarrow$ |  | 7 |  |  |  | $\uparrow$ | $p$ |  | $\downarrow$ | $\downarrow$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  | 个个 | 「 | \％ | 个个 |  |  |  |  | \％${ }^{1 / 4}$ | $\dagger$ |  |
| Traffic Volume（veh／h） | 0 | 640 | 310 | 320 | 350 | 0 | 0 | 0 | 0 | 590 | 10 | 120 |
| Future Volume（veh／h） | 0 | 640 | 310 | 320 | 350 | 0 | 0 | 0 | 0 | 590 | 10 | 120 |
| Initial $Q(Q b)$ ，veh | 0 | 0 | 0 | 0 | 0 | 0 |  |  |  | 0 | 0 | 0 |
| Ped－Bike Adj（A＿pbT） | 1.00 |  | 0.97 | 1.00 |  | 1.00 |  |  |  | 1.00 |  | 1.00 |
| Parking Bus，Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |  |  |  | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach |  | No |  |  | No |  |  |  |  |  | No |  |
| Adj Sat Flow，veh／h／ln | 0 | 1870 | 1870 | 1870 | 1870 | 0 |  |  |  | 1870 | 1870 | 1870 |
| Adj Flow Rate，veh／h | 0 | 696 | 337 | 348 | 380 | 0 |  |  |  | 641 | 11 | 130 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |  |  |  | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh，\％ | 0 | 2 | 2 | 2 | 2 | 0 |  |  |  | 2 | 2 | 2 |
| Cap，veh／h | 0 | 926 | 400 | 375 | 1802 | 0 |  |  |  | 1420 | 51 | 608 |
| Arrive On Green | 0.00 | 0.26 | 0.26 | 0.42 | 1.00 | 0.00 |  |  |  | 0.41 | 0.41 | 0.41 |
| Sat Flow，veh／h | 0 | 3647 | 1538 | 1781 | 3647 | 0 |  |  |  | 3456 | 125 | 1479 |
| Grp Volume（v），veh／h | 0 | 696 | 337 | 348 | 380 | 0 |  |  |  | 641 | 0 | 141 |
| Grp Sat Flow（s），veh／h／ln | 0 | 1777 | 1538 | 1781 | 1777 | 0 |  |  |  | 1728 | 0 | 1604 |
| Q Serve（g＿s），s | 0.0 | 19.8 | 22.8 | 20.4 | 0.0 | 0.0 |  |  |  | 14.8 | 0.0 | 6.2 |
| Cycle Q Clear（g＿c），s | 0.0 | 19.8 | 22.8 | 20.4 | 0.0 | 0.0 |  |  |  | 14.8 | 0.0 | 6.2 |
| Prop In Lane | 0.00 |  | 1.00 | 1.00 |  | 0.00 |  |  |  | 1.00 |  | 0.92 |
| Lane Grp Cap（c），veh／h | 0 | 926 | 400 | 375 | 1802 | 0 |  |  |  | 1420 | 0 | 659 |
| V／C Ratio（X） | 0.00 | 0.75 | 0.84 | 0.93 | 0.21 | 0.00 |  |  |  | 0.45 | 0.00 | 0.21 |
| Avail Cap（c＿a），veh／h | 0 | 1082 | 468 | 502 | 2213 | 0 |  |  |  | 1420 | 0 | 659 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 2.00 | 2.00 | 1.00 |  |  |  | 1.00 | 1.00 | 1.00 |
| Upstream Filter（l） | 0.00 | 1.00 | 1.00 | 0.82 | 0.82 | 0.00 |  |  |  | 1.00 | 0.00 | 1.00 |
| Uniform Delay（d），s／veh | 0.0 | 37.4 | 38.5 | 31.1 | 0.0 | 0.0 |  |  |  | 23.4 | 0.0 | 20.9 |
| Incr Delay（d2），s／veh | 0.0 | 2.5 | 11.5 | 17.3 | 0.0 | 0.0 |  |  |  | 1.0 | 0.0 | 0.7 |
| Initial Q Delay（d3），s／veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |  |  |  | 0.0 | 0.0 | 0.0 |
| \％ile BackOfQ（50\％），veh／ln | 0.0 | 8.8 | 9.7 | 8.3 | 0.0 | 0.0 |  |  |  | 5.7 | 0.0 | 2.3 |
| Unsig．Movement Delay，s／veh |  |  |  |  |  |  |  |  |  |  |  |  |
| LnGrp Delay（d），s／veh | 0.0 | 39.9 | 50.0 | 48.4 | 0.0 | 0.0 |  |  |  | 24.5 | 0.0 | 21.7 |
| LnGrp LOS | A | D | D | D | A | A |  |  |  | C | A | C |
| Approach Vol，veh／h |  | 1033 |  |  | 728 |  |  |  |  |  | 782 |  |
| Approach Delay，s／veh |  | 43.2 |  |  | 23.1 |  |  |  |  |  | 24.0 |  |
| Approach LOS |  | D |  |  | C |  |  |  |  |  | C |  |
| Timer－Assigned Phs |  |  | 3 | 4 |  | 6 |  | 8 |  |  |  |  |
| Phs Duration（ $\mathrm{G}+\mathrm{Y}+\mathrm{Rc}$ ）， s |  |  | 27.1 | 33.1 |  | 49.7 |  | 60.3 |  |  |  |  |
| Change Period（ $Y+R \mathrm{c}$ ）， s |  |  | 4.0 | 4.5 |  | 4.5 |  | 4.5 |  |  |  |  |
| Max Green Setting（Gmax），s |  |  | 31.0 | 33.5 |  | 32.5 |  | 68.5 |  |  |  |  |
| Max Q Clear Time（g＿c＋1），s |  |  | 22.4 | 24.8 |  | 16.8 |  | 2.0 |  |  |  |  |
| Green Ext Time（p＿c），s |  |  | 0.7 | 3.8 |  | 2.8 |  | 2.7 |  |  |  |  |
| Intersection Summary |  |  |  |  |  |  |  |  |  |  |  |  |
| HCM 6th Ctrr Delay |  |  | 31.6 |  |  |  |  |  |  |  |  |  |
| HCM 6th LOS |  |  | C |  |  |  |  |  |  |  |  |  |


|  | $\rangle$ |  |  | $\dagger$ |  |  | 4 | 4 | $p$ |  | $\downarrow$ | $\downarrow$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | ${ }^{*}$ | 4 | 「 | ${ }^{*}$ | $\uparrow$ |  |  | $\uparrow$ | 「 |  | 4 |  |
| Traffic Volume (veh/h) | 0 | 630 | 160 | 290 | 320 | 0 | 90 | 0 | 320 | 0 | 0 | 0 |
| Future Volume (veh/h) | 0 | 630 | 160 | 290 | 320 | 0 | 90 | 0 | 320 | 0 | 0 | 0 |
| Initial $Q(Q b)$, veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 |  | 1.00 | 1.00 |  | 1.00 | 1.00 |  | 1.00 | 1.00 |  | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach |  | No |  |  | No |  |  | No |  |  | No |  |
| Adj Sat Flow, veh/h/n | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 0 | 724 | 184 | 333 | 368 | 0 | 103 | 0 | 368 | 0 | 0 | 0 |
| Peak Hour Factor | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 |
| Percent Heavy Veh, \% | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 2 | 632 | 535 | 377 | 1129 | 0 | 468 | 0 | 414 | 0 | 489 | 0 |
| Arrive On Green | 0.00 | 0.34 | 0.34 | 0.21 | 0.60 | 0.00 | 0.26 | 0.00 | 0.26 | 0.00 | 0.00 | 0.00 |
| Sat Flow, veh/h | 1781 | 1870 | 1585 | 1781 | 1870 | 0 | 1418 | 0 | 1585 | 0 | 1870 | 0 |
| Grp Volume(v), veh/h | 0 | 724 | 184 | 333 | 368 | 0 | 103 | 0 | 368 | 0 | 0 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1870 | 1585 | 1781 | 1870 | 0 | 1418 | 0 | 1585 | 0 | 1870 | 0 |
| Q Serve(g_s), s | 0.0 | 25.0 | 6.4 | 13.4 | 7.2 | 0.0 | 4.3 | 0.0 | 16.5 | 0.0 | 0.0 | 0.0 |
| Cycle Q Clear (g_c), s | 0.0 | 25.0 | 6.4 | 13.4 | 7.2 | 0.0 | 4.3 | 0.0 | 16.5 | 0.0 | 0.0 | 0.0 |
| Prop In Lane | 1.00 |  | 1.00 | 1.00 |  | 0.00 | 1.00 |  | 1.00 | 0.00 |  | 0.00 |
| Lane Grp Cap(c), veh/h | 2 | 632 | 535 | 377 | 1129 | 0 | 468 | 0 | 414 | 0 | 489 | 0 |
| V/C Ratio(X) | 0.00 | 1.15 | 0.34 | 0.88 | 0.33 | 0.00 | 0.22 | 0.00 | 0.89 | 0.00 | 0.00 | 0.00 |
| Avail Cap(c_a), veh/h | 120 | 632 | 535 | 433 | 1129 | 0 | 538 | 0 | 493 | 0 | 606 | 0 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(l) | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 0.00 | 1.00 | 0.00 | 0.00 | 0.00 |
| Uniform Delay (d), s/veh | 0.0 | 24.5 | 18.4 | 28.3 | 7.2 | 0.0 | 21.8 | 0.0 | 26.3 | 0.0 | 0.0 | 0.0 |
| Incr Delay (d2), s/veh | 0.0 | 83.4 | 0.4 | 17.2 | 0.2 | 0.0 | 0.2 | 0.0 | 15.9 | 0.0 | 0.0 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| \%ile BackOfQ(50\%),veh/ln | 0.0 | 24.2 | 2.1 | 7.0 | 2.1 | 0.0 | 1.3 | 0.0 | 7.7 | 0.0 | 0.0 | 0.0 |
| Unsig. Movement Delay, s/veh     |  |  |  |  |  |  |  |  |  |  |  |  |
| LnGrp Delay(d),s/veh | 0.0 | 107.9 | 18.7 | 45.5 | 7.4 | 0.0 | 22.0 | 0.0 | 42.2 | 0.0 | 0.0 | 0.0 |
| LnGrp LOS | A | F | B | D | A | A | C | A | D | A | A | A |
| Approach Vol, veh/h |  | 908 |  |  | 701 |  |  | 471 |  |  | 0 |  |
| Approach Delay, s/veh |  | 89.8 |  |  | 25.5 |  |  | 37.8 |  |  | 0.0 |  |
| Approach LOS |  | F |  |  | C |  |  | D |  |  |  |  |
| Timer - Assigned Phs | 1 | 2 |  | 4 | 5 | 6 |  | 8 |  |  |  |  |
| Phs Duration ( $\mathrm{G}+\mathrm{Y}+\mathrm{Rc}$ ), s | 0.0 | 49.7 |  | 24.3 | 19.7 | 30.0 |  | 24.3 |  |  |  |  |
| Change Period ( $\mathrm{Y}+\mathrm{Rc}$ ), s | 4.0 | 5.0 |  | 5.0 | 4.0 | 5.0 |  | * 5 |  |  |  |  |
| Max Green Setting (Gmax), s | 5.0 | 38.0 |  | 23.0 | 18.0 | 25.0 |  | * 24 |  |  |  |  |
| Max Q Clear Time (g_c+11), s | 0.0 | 9.2 |  | 18.5 | 15.4 | 27.0 |  | 0.0 |  |  |  |  |
| Green Ext Time (p_c), s | 0.0 | 2.1 |  | 0.8 | 0.3 | 0.0 |  | 0.0 |  |  |  |  |
| Intersection Summary |  |  |  |  |  |  |  |  |  |  |  |  |
| HCM 6th Ctrl DelayHCM 6th LOS |  |  | 56.4 |  |  |  |  |  |  |  |  |  |
|  |  |  | E |  |  |  |  |  |  |  |  |  |

## Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.




|  | $\rangle$ | $\rightarrow$ |  | 7 |  |  | 4 | 4 | $p$ |  | $\downarrow$ | $\downarrow$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | ${ }_{1}$ | 愐 |  | \％ | 愐 |  | \％ | 性 |  | ${ }^{*}$ |  |  |
| Traffic Volume（veh／h） | 130 | 90 | 170 | 100 | 160 | 60 | 190 | 310 | 80 | 20 | 280 | 120 |
| Future Volume（veh／h） | 130 | 90 | 170 | 100 | 160 | 60 | 190 | 310 | 80 | 20 | 280 | 120 |
| Initial $Q(Q b)$ ，veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped－Bike Adj（A＿pbT） | 1.00 |  | 1.00 | 1.00 |  | 1.00 | 1.00 |  | 1.00 | 1.00 |  | 1.00 |
| Parking Bus，Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach |  | No |  |  | No |  |  | No |  |  | No |  |
| Adj Sat Flow，veh／h／ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate，veh／h | 144 | 100 | 189 | 111 | 178 | 67 | 211 | 344 | 89 | 22 | 311 | 133 |
| Peak Hour Factor | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Percent Heavy Veh，\％ | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap，veh／h | 188 | 335 | 298 | 145 | 419 | 152 | 265 | 948 | 242 | 47 | 527 | 220 |
| Arrive On Green | 0.11 | 0.19 | 0.19 | 0.08 | 0.16 | 0.16 | 0.15 | 0.34 | 0.34 | 0.03 | 0.22 | 0.22 |
| Sat Flow，veh／h | 1781 | 1777 | 1585 | 1781 | 2553 | 927 | 1781 | 2803 | 715 | 1781 | 2441 | 1022 |
| Grp Volume（v），veh／h | 144 | 100 | 189 | 111 | 122 | 123 | 211 | 216 | 217 | 22 | 225 | 219 |
| Grp Sat Flow（s），veh／h／n | 1781 | 1777 | 1585 | 1781 | 1777 | 1703 | 1781 | 1777 | 1742 | 1781 | 1777 | 1686 |
| Q Serve（g＿s），s | 3.9 | 2.4 | 5.4 | 3.0 | 3.0 | 3.2 | 5.6 | 4.5 | 4.6 | 0.6 | 5.6 | 5.8 |
| Cycle Q Clear（g＿c），s | 3.9 | 2.4 | 5.4 | 3.0 | 3.0 | 3.2 | 5.6 | 4.5 | 4.6 | 0.6 | 5.6 | 5.8 |
| Prop In Lane | 1.00 |  | 1.00 | 1.00 |  | 0.54 | 1.00 |  | 0.41 | 1.00 |  | 0.61 |
| Lane Grp Cap（c），veh／h | 188 | 335 | 298 | 145 | 292 | 280 | 265 | 601 | 589 | 47 | 383 | 364 |
| V／C Ratio（X） | 0.77 | 0.30 | 0.63 | 0.77 | 0.42 | 0.44 | 0.80 | 0.36 | 0.37 | 0.47 | 0.59 | 0.60 |
| Avail Cap（c＿a），veh／h | 398 | 1300 | 1159 | 398 | 1300 | 1246 | 362 | 1264 | 1239 | 362 | 1264 | 1199 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter（l） | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay（d），s／veh | 21.4 | 17.2 | 18.4 | 22.2 | 18.5 | 18.5 | 20.2 | 12.3 | 12.3 | 23.6 | 17.3 | 17.4 |
| Incr Delay（d2），s／veh | 6.5 | 0.5 | 2.2 | 8.2 | 1.0 | 1.1 | 8.4 | 0.4 | 0.4 | 7.1 | 1.4 | 1.6 |
| Initial Q Delay（d3），s／veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| \％ile BackOfQ（50\％），veh／ln | 1.8 | 0.9 | 1.9 | 1.5 | 1.2 | 1.2 | 2.7 | 1.6 | 1.6 | 0.3 | 2.2 | 2.1 |
| Unsig．Movement Delay，s／veh |  |  |  |  |  |  |  |  |  |  |  |  |
| LnGrp Delay（d），s／veh | 27.9 | 17.7 | 20.6 | 30.4 | 19.4 | 19.6 | 28.6 | 12.6 | 12.7 | 30.7 | 18.7 | 19.0 |
| LnGrp LOS | C | B | C | C | B | B | C | B | B | C | B | B |
| Approach Vol，veh／h |  | 433 |  |  | 356 |  |  | 644 |  |  | 466 |  |
| Approach Delay，s／veh |  | 22.4 |  |  | 22.9 |  |  | 17.9 |  |  | 19.4 |  |
| Approach LOS |  | C |  |  | C |  |  | B |  |  | B |  |
| Timer－Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |  |  |  |  |
| Phs Duration（ $\mathrm{G}+\mathrm{Y}+\mathrm{Rc}$ ）， s | 5.3 | 21.7 | 8.0 | 14.3 | 11.3 | 15.6 | 9.2 | 13.1 |  |  |  |  |
| Change Period（ $Y+\mathrm{Rc}$ ），s | 4.0 | 5.0 | 4.0 | 5.0 | 4.0 | 5.0 | 4.0 | 5.0 |  |  |  |  |
| Max Green Setting（Gmax），s | 10.0 | 35.0 | 11.0 | 36.0 | 10.0 | 35.0 | 11.0 | 36.0 |  |  |  |  |
| Max Q Clear Time（g＿c＋11），s | 2.6 | 6.6 | 5.0 | 7.4 | 7.6 | 7.8 | 5.9 | 5.2 |  |  |  |  |
| Green Ext Time（p＿c），s | 0.0 | 2.7 | 0.1 | 1.9 | 0.1 | 2.8 | 0.1 | 1.5 |  |  |  |  |
| Intersection Summary |  |  |  |  |  |  |  |  |  |  |  |  |
| HCM 6th Ctrl DelayHCM 6 th LOS |  |  | 20.2 |  |  |  |  |  |  |  |  |  |
|  |  |  | C |  |  |  |  |  |  |  |  |  |


|  | $\stackrel{ }{*}$ | $\rightarrow$ | 7 | 7 | － | 4 | 4 | 4 | $p$ | $\checkmark$ | $\downarrow$ | $\downarrow$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | \％${ }^{1 / 4}$ | ¢个 | 「 | \％ | ¢4 | 「 | \％${ }^{1 / 4}$ | 个个 | F | ＊＊ | 个4 | F |
| Traffic Volume（veh／h） | 250 | 390 | 210 | 70 | 280 | 150 | 220 | 380 | 90 | 240 | 400 | 250 |
| Future Volume（veh／h） | 250 | 390 | 210 | 70 | 280 | 150 | 220 | 380 | 90 | 240 | 400 | 250 |
| Initial $Q(Q b)$ ，veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped－Bike Adj（A＿pbT） | 1.00 |  | 0.98 | 1.00 |  | 0.98 | 1.00 |  | 0.98 | 1.00 |  | 0.98 |
| Parking Bus，Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach |  | No |  |  | No |  |  | No |  |  | No |  |
| Adj Sat Flow，veh／h／ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate，veh／h | 287 | 448 | 241 | 80 | 322 | 172 | 253 | 437 | 103 | 276 | 460 | 287 |
| Peak Hour Factor | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 |
| Percent Heavy Veh，\％ | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap，veh／h | 381 | 1095 | 638 | 104 | 911 | 566 | 346 | 1046 | 550 | 370 | 1071 | 643 |
| Arrive On Green | 0.11 | 0.31 | 0.31 | 0.06 | 0.26 | 0.26 | 0.10 | 0.29 | 0.29 | 0.11 | 0.30 | 0.30 |
| Sat Flow，veh／h | 3456 | 3554 | 1554 | 1781 | 3554 | 1548 | 3456 | 3554 | 1553 | 3456 | 3554 | 1553 |
| Grp Volume（v），veh／h | 287 | 448 | 241 | 80 | 322 | 172 | 253 | 437 | 103 | 276 | 460 | 287 |
| Grp Sat Flow（s），veh／h／ln | 1728 | 1777 | 1554 | 1781 | 1777 | 1548 | 1728 | 1777 | 1553 | 1728 | 1777 | 1553 |
| Q Serve（g＿s），s | 6.8 | 8.4 | 9.2 | 3.7 | 6.3 | 6.7 | 6.0 | 8.4 | 3.9 | 6.6 | 8.8 | 11.3 |
| Cycle Q Clear（g＿c），s | 6.8 | 8.4 | 9.2 | 3.7 | 6.3 | 6.7 | 6.0 | 8.4 | 3.9 | 6.6 | 8.8 | 11.3 |
| Prop In Lane | 1.00 |  | 1.00 | 1.00 |  | 1.00 | 1.00 |  | 1.00 | 1.00 |  | 1.00 |
| Lane Grp Cap（c），veh／h | 381 | 1095 | 638 | 104 | 911 | 566 | 346 | 1046 | 550 | 370 | 1071 | 643 |
| V／C Ratio（X） | 0.75 | 0.41 | 0.38 | 0.77 | 0.35 | 0.30 | 0.73 | 0.42 | 0.19 | 0.75 | 0.43 | 0.45 |
| Avail Cap（c＿a），veh／h | 613 | 1900 | 990 | 316 | 1900 | 997 | 613 | 1900 | 923 | 613 | 1900 | 1006 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter（l） | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay（d），s／veh | 36.5 | 23.2 | 17.5 | 39.2 | 25.7 | 19.3 | 36.9 | 24.0 | 18.9 | 36.6 | 23.7 | 17.9 |
| Incr Delay（d2），s／veh | 3.0 | 0.2 | 0.4 | 11.1 | 0.2 | 0.3 | 3.0 | 0.3 | 0.2 | 3.0 | 0.3 | 0.5 |
| Initial Q Delay（d3），s／veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| \％ile BackOfQ（50\％），veh／ln | 3.0 | 3.5 | 3.2 | 1.9 | 2.6 | 2.4 | 2.6 | 3.4 | 1.4 | 2.9 | 3.6 | 3.9 |
| Unsig．Movement Delay，s／veh |  |  |  |  |  |  |  |  |  |  |  |  |
| LnGrp Delay（d），s／veh | 39.5 | 23.4 | 17.9 | 50.3 | 25.9 | 19.6 | 39.9 | 24.3 | 19.1 | 39.6 | 24.0 | 18.4 |
| LnGrp LOS | D | C | B | D | C | B | D | C | B | D | C | B |
| Approach Vol，veh／h |  | 976 |  |  | 574 |  |  | 793 |  |  | 1023 |  |
| Approach Delay，s／veh |  | 26.8 |  |  | 27.4 |  |  | 28.6 |  |  | 26.6 |  |
| Approach LOS |  | C |  |  | C |  |  | C |  |  | C |  |
| Timer－Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |  |  |  |  |
| Phs Duration（ $\mathrm{G}+\mathrm{Y}+\mathrm{Rc}$ ），s | 13.0 | 30.7 | 8.9 | 31.8 | 12.5 | 31.3 | 13.3 | 27.5 |  |  |  |  |
| Change Period（ $\mathrm{Y}+\mathrm{Rc}$ ）， s | 4.0 | 5.8 | 4.0 | 5.8 | 4.0 | 5.8 | 4.0 | 5.8 |  |  |  |  |
| Max Green Setting（Gmax），s | 15.0 | 45.2 | 15.0 | 45.2 | 15.0 | 45.2 | 15.0 | 45.2 |  |  |  |  |
| Max Q Clear Time（g＿c＋11），s | 8.6 | 10.4 | 5.7 | 11.2 | 8.0 | 13.3 | 8.8 | 8.7 |  |  |  |  |
| Green Ext Time（p＿c），s | 0.5 | 3.6 | 0.1 | 4.2 | 0.5 | 4.5 | 0.5 | 2.9 |  |  |  |  |
| Intersection Summary |  |  |  |  |  |  |  |  |  |  |  |  |
| HCM 6th Ctrl Delay |  |  | 27.3 |  |  |  |  |  |  |  |  |  |
| HCM 6th LOS |  |  | C |  |  |  |  |  |  |  |  |  |

HCM 6th Signalized Intersection Summary
39: Maurice Ave/Snyder Ln \& Cotati Ave
09/29/2023

|  | $\rangle$ | $\rightarrow$ |  | 7 | 4 | 4 | 4 | 4 | 7 |  | $\downarrow$ | $\checkmark$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | \% | 个4 | F | ${ }^{7}$ | 个 4 | F | ${ }^{7}$ | $\uparrow$ |  | ${ }^{7}$ | $\uparrow$ | F |
| Traffic Volume (veh/h) | 450 | 580 | 40 | 10 | 180 | 170 | 80 | 190 | 30 | 290 | 160 | 440 |
| Future Volume (veh/h) | 450 | 580 | 40 | 10 | 180 | 170 | 80 | 190 | 30 | 290 | 160 | 440 |
| Initial $Q(Q b)$, veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 |  | 0.97 | 1.00 |  | 0.97 | 1.00 |  | 0.95 | 1.00 |  | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach |  | No |  |  | No |  |  | No |  |  | No |  |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 517 | 667 | 46 | 11 | 207 | 195 | 92 | 218 | 34 | 333 | 184 | 506 |
| Peak Hour Factor | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 |
| Percent Heavy Veh, \% | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 411 | 1406 | 713 | 24 | 633 | 548 | 120 | 333 | 52 | 309 | 595 | 859 |
| Arrive On Green | 0.23 | 0.40 | 0.40 | 0.01 | 0.18 | 0.18 | 0.07 | 0.21 | 0.21 | 0.17 | 0.32 | 0.32 |
| Sat Flow, veh/h | 1781 | 3554 | 1531 | 1781 | 3554 | 1537 | 1781 | 1568 | 245 | 1781 | 1870 | 1550 |
| Grp Volume(v), veh/h | 517 | 667 | 46 | 11 | 207 | 195 | 92 | 0 | 252 | 333 | 184 | 506 |
| Grp Sat Flow(s),veh/h/n | 1781 | 1777 | 1531 | 1781 | 1777 | 1537 | 1781 | 0 | 1812 | 1781 | 1870 | 1550 |
| Q Serve(g_s), s | 20.0 | 12.1 | 1.4 | 0.5 | 4.4 | 8.2 | 4.4 | 0.0 | 11.0 | 15.0 | 6.4 | 18.9 |
| Cycle Q Clear(g_c), s | 20.0 | 12.1 | 1.4 | 0.5 | 4.4 | 8.2 | 4.4 | 0.0 | 11.0 | 15.0 | 6.4 | 18.9 |
| Prop In Lane | 1.00 |  | 1.00 | 1.00 |  | 1.00 | 1.00 |  | 0.13 | 1.00 |  | 1.00 |
| Lane Grp Cap(c), veh/h | 411 | 1406 | 713 | 24 | 633 | 548 | 120 | 0 | 385 | 309 | 595 | 859 |
| V/C Ratio(X) | 1.26 | 0.47 | 0.06 | 0.46 | 0.33 | 0.36 | 0.77 | 0.00 | 0.66 | 1.08 | 0.31 | 0.59 |
| Avail Cap(c_a), veh/h | 411 | 1406 | 713 | 411 | 1194 | 791 | 411 | 0 | 797 | 309 | 715 | 958 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 33.3 | 19.5 | 12.9 | 42.4 | 31.1 | 20.9 | 39.7 | 0.0 | 31.2 | 35.8 | 22.3 | 13.1 |
| Incr Delay (d2), s/veh | 134.0 | 0.2 | 0.0 | 13.1 | 0.3 | 0.4 | 9.7 | 0.0 | 1.9 | 74.0 | 0.3 | 0.8 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| \%ile BackOfQ(50\%),veh/ln | 23.7 | 4.8 | 0.5 | 0.3 | 1.9 | 2.9 | 2.2 | 0.0 | 4.9 | 12.7 | 2.8 | 6.2 |
| Unsig. Movement Delay, s/veh |  |  |  |  |  |  |  |  |  |  |  |  |
| LnGrp Delay (d),s/veh | 167.3 | 19.7 | 12.9 | 55.6 | 31.4 | 21.3 | 49.4 | 0.0 | 33.1 | 109.8 | 22.6 | 13.9 |
| LnGrp LOS | F | B | B | E | C | C | D | A | C | F | C | B |
| Approach Vol, veh/h |  | 1230 |  |  | 413 |  |  | 344 |  |  | 1023 |  |
| Approach Delay, s/veh |  | 81.5 |  |  | 27.2 |  |  | 37.5 |  |  | 46.7 |  |
| Approach LOS |  | F |  |  | C |  |  | D |  |  | D |  |


| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| Phs Duration $(G+Y+R c)$, s | 19.0 | 23.3 | 5.2 | 39.2 | 9.8 | 32.4 | 24.0 | 20.3 |
| Change Period (Y+Rc), s | 4.0 | 4.9 | 4.0 | 4.9 | 4.0 | 4.9 | 4.0 | 4.9 |
| Max Green Setting (Gmax), s | 15.0 | 38.1 | 20.0 | 29.1 | 20.0 | 33.1 | 20.0 | 29.1 |
| Max Q Clear Time (g_c+11), s | 17.0 | 13.0 | 2.5 | 14.1 | 6.4 | 20.9 | 22.0 | 10.2 |
| Green Ext Time (p_C), s | 0.0 | 1.5 | 0.0 | 4.2 | 0.2 | 2.5 | 0.0 | 1.9 |

Intersection Summary

| HCM 6th Ctrl Delay | 57.2 |
| :--- | ---: |
| HCM 6th LOS | $E$ |

## Notes

User approved pedestrian interval to be less than phase max green.



| Intersection |  |  |  |  |  |  |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: |
| Int Delay, s/veh | 19.3 |  |  |  |  |  |
| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
| Lane Configurations | $\mathbf{T}$ | $\mathbf{7}$ | $\mathbf{4}$ | $\mathbf{7}$ | $\mathbf{7}$ | 4 |
| Traffic Vol, veh/h | 80 | 210 | 160 | 50 | 270 | 520 |
| Future Vol, veh/h | 80 | 210 | 160 | 50 | 270 | 520 |
| Conflicting Peds, \#/hr | 0 | 1 | 0 | 0 | 1 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | 25 | - | 25 | 75 | - |
| Veh in Median Storage, \# | 0 | - | 0 | - | - | 0 |
| Grade, \% | 0 | - | 0 | - | - | 0 |
| Peak Hour Factor | 77 | 77 | 77 | 77 | 77 | 77 |
| Heavy Vehicles, \% | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 104 | 273 | 208 | 65 | 351 | 675 |



| Intersection |  |  |  |  |  |  |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: |
| Int Delay, s/veh | 1.8 |  |  |  |  |  |
| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
| Lane Configurations | $\mathbf{7}$ |  | $\uparrow$ |  |  | 4 |
| Traffic Vol, veh/h | 60 | 10 | 470 | 50 | 10 | 730 |
| Future Vol, veh/h | 60 | 10 | 470 | 50 | 10 | 730 |
| Conflicting Peds, \#/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | - | - | - | - | - |
| Veh in Median Storage, \# | 0 | - | 0 | - | - | 0 |
| Grade, \% | 0 | - | 0 | - | - | 0 |
| Peak Hour Factor | 98 | 98 | 98 | 98 | 98 | 98 |
| Heavy Vehicles, \% | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 61 | 10 | 480 | 51 | 10 | 745 |



| Intersection |  |  |  |  |  |  |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: |
| Int Delay, s/veh | 4.4 |  |  |  |  |  |
| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
| Lane Configurations | 个 |  |  | 个 | I | $\mathbf{7}$ |
| Traffic Vol, veh/h | 250 | 0 | 0 | 560 | 120 | 150 |
| Future Vol, veh/h | 250 | 0 | 0 | 560 | 120 | 150 |
| Conflicting Peds, \#/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Stop | Stop |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | - | - | - | - | 0 | 80 |
| Veh in Median Storage, \# | 0 | - | - | 0 | 0 | - |
| Grade, \% | 0 | - | - | 0 | 0 | - |
| Peak Hour Factor | 90 | 90 | 90 | 90 | 90 | 90 |
| Heavy Vehicles, \% | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 278 | 0 | 0 | 622 | 133 | 167 |


| Major/Minor M | Major1 |  | Major2 |  | Minor1 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Conflicting Flow All | 0 | - | - | - | 900 | 278 |
| Stage 1 | - | - | - | - | 278 | - |
| Stage 2 | - | - | - | - | 622 | - |
| Critical Hdwy | - | - | - | - | 6.42 | 6.22 |
| Critical Hdwy Stg 1 | - | - | - | - | 5.42 | - |
| Critical Hdwy Stg 2 | - | - | - | - | 5.42 | - |
| Follow-up Hdwy | - | - | - | - | 3.518 | 3.318 |
| Pot Cap-1 Maneuver | - | 0 | 0 | - | 309 | 761 |
| Stage 1 | - | 0 | 0 | - | 769 | - |
| Stage 2 | - | 0 | 0 | - | 535 | - |
| Platoon blocked, \% | - |  |  | - |  |  |
| Mov Cap-1 Maneuver | - | - | - | - | 309 | 761 |
| Mov Cap-2 Maneuver | - | - | - | - | 309 | - |
| Stage 1 | - | - | - | - | 769 | - |
| Stage 2 | - | - | - | - | 535 | - |
|  |  |  |  |  |  |  |
| Approach | EB |  | WB |  | NB |  |
| HCM Control Delay, s | 0 |  | 0 |  | 17.4 |  |
| HCM LOS |  |  |  |  | C |  |
|  |  |  |  |  |  |  |
| Minor Lane/Major Mvmt |  | NBLn1 NBLn2 EBT WBT |  |  |  |  |
| Capacity (veh/h) |  | 309761 |  | - | - |  |
| HCM Lane V/C Ratio |  | 0.4310 .219 |  | - | - |  |
| HCM Control Delay (s) |  | 25.2 | 11.1 | - | - |  |
| HCM Lane LOS |  | D | B | - | - |  |
| HCM 95th \%tile Q(veh) |  | 2.1 | 0.8 | - | - |  |






## Long-term Future PM Peak Hour

| Intersection |  |
| :--- | ---: | :--- |
| Intersection Delay, s/veh | 23 |
| Intersection LOS | C |


| Movement | EBL | EBT | EBR | WBL | WBT | WBR | SBL | SBR | NEL | NER |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Lane Configurations |  | \& |  |  | \& |  |  | F | * |  |
| Traffic Vol, veh/h | 10 | 330 | 1 | 10 | 610 | 30 | 10 | 10 | 10 | 14 |
| Future Vol, veh/h | 10 | 330 | 1 | 10 | 610 | 30 | 10 | 10 | 10 | 14 |
| Peak Hour Factor | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 |
| Heavy Vehicles, \% | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 11 | 355 | 1 | 11 | 656 | 32 | 11 | 11 | 11 | 15 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 0 |
| Approach | EB |  |  | WB |  |  | SB |  | NE |  |
| Opposing Approach | WB |  |  | EB |  |  |  |  |  |  |
| Opposing Lanes | 1 |  |  | 1 |  |  | 0 |  | 0 |  |
| Conflicting Approach Left | SB |  |  | NE |  |  | WB |  | EB |  |
| Conflicting Lanes Left | 1 |  |  | 1 |  |  | 1 |  | 1 |  |
| Conflicting Approach Right | NE |  |  | SB |  |  | NE |  | WB |  |
| Conflicting Lanes Right | 1 |  |  | 1 |  |  | 1 |  | 1 |  |
| HCM Control Delay | 12.5 |  |  | 29.7 |  |  | 9.4 |  | 9.4 |  |
| HCM LOS | B |  |  | D |  |  | A |  | A |  |


| Lane | NELn1 | EBLn1 | WBLn1 | SBLn1 |
| :--- | ---: | ---: | ---: | ---: |
| Vol Left, \% | $42 \%$ | $3 \%$ | $2 \%$ | $33 \%$ |
| Vol Thru, \% | $0 \%$ | $97 \%$ | $94 \%$ | $0 \%$ |
| Vol Right, \% | $58 \%$ | $0 \%$ | $5 \%$ | $67 \%$ |
| Sign Control | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 24 | 341 | 650 | 30 |
| LT Vol | 10 | 10 | 10 | 10 |
| Through Vol | 0 | 330 | 610 | 0 |
| RT Vol | 14 | 1 | 30 | 20 |
| Lane Flow Rate | 26 | 367 | 699 | 32 |
| Geometry Grp | 1 | 1 | 1 | 1 |
| Degree of Util (X) | 0.044 | 0.492 | 0.871 | 0.054 |
| Departure Headway (Hd) | 6.135 | 4.834 | 4.485 | 6.048 |
| Convergence, Y/N | Yes | Yes | Yes | Yes |
| Cap | 587 | 741 | 804 | 595 |
| Service Time | 4.137 | 2.893 | 2.532 | 4.05 |
| HCM Lane V/C Ratio | 0.044 | 0.495 | 0.869 | 0.054 |
| HCM Control Delay | 9.4 | 12.5 | 29.7 | 9.4 |
| HCM Lane LOS | A | B | D | A |
| HCM 95th-tile Q | 0.1 | 2.7 | 10.9 | 0.2 |


| Intersection |  |
| :--- | ---: |
| Intersection Delay, s/veh 13.5 |  |
| Intersection LOS | B |


| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Lane Configurations |  | $\dagger$ |  |  | * |  |  | ¢ |  |  | ¢ |  |
| Traffic Vol, veh/h | 80 | 100 | 30 | 30 | 100 | 10 | 40 | 170 | 20 | 50 | 220 | 30 |
| Future Vol, veh/h | 80 | 100 | 30 | 30 | 100 | 10 | 40 | 170 | 20 | 50 | 220 | 30 |
| Peak Hour Factor | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 |
| Heavy Vehicles, \% | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 92 | 115 | 34 | 34 | 115 | 11 | 46 | 195 | 23 | 57 | 253 | 34 |
| Number of Lanes | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 |
| Approach | EB |  |  | WB |  |  | NB |  |  | SB |  |  |
| Opposing Approach | WB |  |  | EB |  |  | SB |  |  | NB |  |  |
| Opposing Lanes | 1 |  |  | 1 |  |  | 1 |  |  | 1 |  |  |
| Conflicting Approach Left | SB |  |  | NB |  |  | EB |  |  | WB |  |  |
| Conflicting Lanes Left | 1 |  |  | 1 |  |  | 1 |  |  | 1 |  |  |
| Conflicting Approach Right | NB |  |  | SB |  |  | WB |  |  | EB |  |  |
| Conflicting Lanes Right | 1 |  |  | 1 |  |  | 1 |  |  | 1 |  |  |
| HCM Control Delay | 13 |  |  | 11.6 |  |  | 13 |  |  | 15.1 |  |  |
| HCM LOS | B |  |  | B |  |  | B |  |  | C |  |  |


| Lane | NBLn1 | EBLn1 | WBLL1 | SBLn1 |
| :--- | ---: | ---: | ---: | ---: |
| Vol Left, \% | $17 \%$ | $38 \%$ | $21 \%$ | $17 \%$ |
| Vol Thru, \% | $74 \%$ | $48 \%$ | $71 \%$ | $73 \%$ |
| Vol Right, \% | $9 \%$ | $14 \%$ | $7 \%$ | $10 \%$ |
| Sign Control | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 230 | 210 | 140 | 300 |
| LT Vol | 40 | 80 | 30 | 50 |
| Through Vol | 170 | 100 | 100 | 220 |
| RT Vol | 20 | 30 | 10 | 30 |
| Lane Flow Rate | 264 | 241 | 161 | 345 |
| Geometry Grp | 1 | 1 | 1 | 1 |
| Degree of Util (X) | 0.422 | 0.4 | 0.275 | 0.537 |
| Departure Headway (Hd) | 5.746 | 5.968 | 6.152 | 5.602 |
| Convergence, Y/N | Yes | Yes | Yes | Yes |
| Cap | 621 | 599 | 579 | 638 |
| Service Time | 3.826 | 4.052 | 4.245 | 3.675 |
| HCM Lane V/C Ratio | 0.425 | 0.402 | 0.278 | 0.541 |
| HCM Control Delay | 13 | 13 | 11.6 | 15.1 |
| HCM Lane LOS | B | B | B | C |
| HCM 95th-tile Q | 2.1 | 1.9 | 1.1 | 3.2 |


| Intersection |  |
| :--- | ---: | :--- |
| Intersection Delay, s/veh | 207.8 |
| Intersection LOS | F |


| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Lane Configurations | \% | 「 |  | $\uparrow$ | 4 | 「 |
| Traffic Vol, veh/h | 650 | 30 | 100 | 330 | 220 | 810 |
| Future Vol, veh/h | 650 | 30 | 100 | 330 | 220 | 810 |
| Peak Hour Factor | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 |
| Heavy Vehicles, \% | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 670 | 31 | 103 | 340 | 227 | 835 |
| Number of Lanes | 1 | 1 | 0 | 1 | 1 | 1 |
| Approach | EB |  | NB |  | SB |  |
| Opposing Approach |  |  | SB |  | NB |  |
| Opposing Lanes | 0 |  | 2 |  | 1 |  |
| Conflicting Approach Left | SB |  | EB |  |  |  |
| Conflicting Lanes Left | 2 |  | 2 |  | 0 |  |
| Conflicting Approach Right | NB |  |  |  | EB |  |
| Conflicting Lanes Right | 1 |  | 0 |  | 2 |  |
| HCM Control Delay | 256.6 |  | 58.9 |  | 237.8 |  |
| HCM LOS | F |  | F |  | F |  |


| Lane | NBLn1 | EBLn1 | EBLn2 | SBLn1 | SBLn2 |
| :--- | ---: | ---: | ---: | ---: | ---: |
| Vol Left, \% | $23 \%$ | $100 \%$ | $0 \%$ | $0 \%$ | $0 \%$ |
| Vol Thru, \% | $77 \%$ | $0 \%$ | $0 \%$ | $100 \%$ | $0 \%$ |
| Vol Right, \% | $0 \%$ | $0 \%$ | $100 \%$ | $0 \%$ | $100 \%$ |
| Sign Control | Stop | Stop | Stop | Stop | Stop |
| Traffic Vol by Lane | 430 | 650 | 30 | 220 | 810 |
| LT Vol | 100 | 650 | 0 | 0 | 0 |
| Through Vol | 330 | 0 | 0 | 220 | 0 |
| RT Vol | 0 | 0 | 30 | 0 | 810 |
| Lane Flow Rate | 443 | 670 | 31 | 227 | 835 |
| Geometry Grp | 4 | 7 | 7 | 7 | 7 |
| Degree of Util (X) | 0.92 | 1.518 | 0.06 | 0.476 | 1.59 |
| Departure Headway (Hd) | 9.301 | 8.801 | 7.558 | 9.001 | 8.27 |
| Convergence, Y/N | Yes | Yes | Yes | Yes | Yes |
| Cap | 395 | 422 | 477 | 404 | 451 |
| Service Time | 7.301 | 6.501 | 5.258 | 6.701 | 5.97 |
| HCM Lane V/C Ratio | 1.122 | 1.588 | 0.065 | 0.562 | 1.851 |
| HCM Control Delay | 58.9 | 268 | 10.7 | 19.6 | 297.1 |
| HCM Lane LOS | F | F | B | C | F |
| HCM 95th-tile Q | 9.8 | 33.4 | 0.2 | 2.5 | 38.8 |


|  | 4 |  | $\checkmark$ | $\checkmark$ |  | 4 | 4 | $\dagger$ | $p$ |  | $\dagger$ | $\pm$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | ${ }^{7}$ | $\uparrow$ |  | ${ }^{7}$ | $\uparrow$ |  | * | $\uparrow$ |  |  | \& |  |
| Traffic Volume (veh/h) | 10 | 560 | 20 | 20 | 410 | 10 | 300 | 10 | 40 | 10 | 0 | 10 |
| Future Volume (veh/h) | 10 | 560 | 20 | 20 | 410 | 10 | 300 | 10 | 40 | 10 | 0 | 10 |
| Initial $Q(Q b)$, veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 |  | 1.00 | 1.00 |  | 1.00 | 1.00 |  | 1.00 | 1.00 |  | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach |  | No |  |  | No |  |  | No |  |  | No |  |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 11 | 622 | 22 | 22 | 456 | 11 | 326 | 11 | 43 | 11 | 0 | 11 |
| Peak Hour Factor | 0.90 | 0.90 | 0.92 | 0.92 | 0.90 | 0.90 | 0.92 | 0.92 | 0.92 | 0.90 | 0.92 | 0.90 |
| Percent Heavy Veh, \% | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 419 | 768 | 27 | 298 | 778 | 19 | 616 | 98 | 382 | 325 | 47 | 221 |
| Arrive On Green | 0.43 | 0.43 | 0.43 | 0.43 | 0.43 | 0.43 | 0.29 | 0.29 | 0.29 | 0.29 | 0.00 | 0.29 |
| Sat Flow, veh/h | 926 | 1795 | 64 | 786 | 1819 | 44 | 1404 | 333 | 1303 | 594 | 159 | 753 |
| Grp Volume(v), veh/h | 11 | 0 | 644 | 22 | 0 | 467 | 326 | 0 | 54 | 22 | 0 | 0 |
| Grp Sat Flow(s), veh/h/ln | 926 | 0 | 1859 | 786 | 0 | 1862 | 1404 | 0 | 1636 | 1506 | 0 | 0 |
| Q Serve(g_s), s | 0.3 | 0.0 | 10.9 | 0.9 | 0.0 | 6.9 | 7.2 | 0.0 | 0.9 | 0.0 | 0.0 | 0.0 |
| Cycle Q Clear(g_c), s | 7.2 | 0.0 | 10.9 | 11.8 | 0.0 | 6.9 | 7.5 | 0.0 | 0.9 | 0.3 | 0.0 | 0.0 |
| Prop In Lane | 1.00 |  | 0.03 | 1.00 |  | 0.02 | 1.00 |  | 0.80 | 0.50 |  | 0.50 |
| Lane Grp Cap(c), veh/h | 419 | 0 | 795 | 298 | 0 | 796 | 616 | 0 | 480 | 593 | 0 | 0 |
| V/C Ratio(X) | 0.03 | 0.00 | 0.81 | 0.07 | 0.00 | 0.59 | 0.53 | 0.00 | 0.11 | 0.04 | 0.00 | 0.00 |
| Avail Cap(c_a), veh/h | 540 | 0 | 1037 | 401 | 0 | 1039 | 987 | 0 | 912 | 978 | 0 | 0 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 0.00 |
| Uniform Delay (d), s/veh | 10.6 | 0.0 | 9.0 | 14.1 | 0.0 | 7.8 | 11.6 | 0.0 | 9.3 | 9.1 | 0.0 | 0.0 |
| Incr Delay (d2), s/veh | 0.0 | 0.0 | 3.8 | 0.1 | 0.0 | 0.7 | 0.7 | 0.0 | 0.1 | 0.0 | 0.0 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| \%ile BackOfQ(50\%),veh/In | 0.1 | 0.0 | 3.4 | 0.1 | 0.0 | 1.8 | 1.9 | 0.0 | 0.2 | 0.1 | 0.0 | 0.0 |
| Unsig. Movement Delay, s/veh |  |  |  |  |  |  |  |  |  |  |  |  |
| LnGrp Delay(d),s/veh | 10.6 | 0.0 | 12.7 | 14.3 | 0.0 | 8.5 | 12.3 | 0.0 | 9.4 | 9.1 | 0.0 | 0.0 |
| LnGrp LOS | B | A | B | B | A | A | B | A | A | A | A | A |
| Approach Vol, veh/h |  | 655 |  |  | 489 |  |  | 380 |  |  | 22 |  |
| Approach Delay, s/veh |  | 12.7 |  |  | 8.8 |  |  | 11.9 |  |  | 9.1 |  |
| Approach LOS |  | B |  |  | A |  |  | B |  |  | A |  |
| Timer - Assigned Phs |  | 2 |  | 4 |  | 6 |  | 8 |  |  |  |  |
| Phs Duration ( $\mathrm{G}+\mathrm{Y}+\mathrm{Rc}$ ), s |  | 15.5 |  | 20.3 |  | 15.5 |  | 20.3 |  |  |  |  |
| Change Period (Y+Rc), s |  | 5.0 |  | 5.0 |  | 5.0 |  | 5.0 |  |  |  |  |
| Max Green Setting (Gmax), s |  | 20.0 |  | 20.0 |  | 20.0 |  | 20.0 |  |  |  |  |
| Max Q Clear Time (g_c+11), s |  | 9.5 |  | 12.9 |  | 2.3 |  | 13.8 |  |  |  |  |
| Green Ext Time (p_c), s |  | 1.0 |  | 2.4 |  | 0.0 |  | 1.5 |  |  |  |  |
| Intersection Summary |  |  |  |  |  |  |  |  |  |  |  |  |
| HCM 6th Ctrl Delay |  |  | 11.2 |  |  |  |  |  |  |  |  |  |
| HCM 6th LOS |  |  | B |  |  |  |  |  |  |  |  |  |

HCM 6th Signalized Intersection Summary
3: US 101 NB Ramps \& Railroad Ave
09/29/2023

|  | 4 | $\rightarrow$ | $\geqslant$ | $\checkmark$ | $\Perp$ | 4 | 4 | $\dagger$ | $p$ | - | $\dagger$ | $\downarrow$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | ${ }^{1}$ | 4 |  |  | 4 | F゙ |  | ${ }_{4}{ }^{1}$ | 「' |  |  |  |
| Traffic Volume (veh/h) | 360 | 250 | 0 | 0 | 90 | 10 | 350 | 0 | 50 | 0 | 0 | 0 |
| Future Volume (veh/h) | 360 | 250 | 0 | 0 | 90 | 10 | 350 | 0 | 50 | 0 | 0 | 0 |
| Initial $Q(Q b)$, veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |  |  |  |
| Ped-Bike Adj(A_pbT) | 1.00 |  | 1.00 | 1.00 |  | 1.00 | 1.00 |  | 1.00 |  |  |  |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |  |  |  |
| Work Zone On Approach |  | No |  |  | No |  |  | No |  |  |  |  |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 0 | 0 | 1870 | 1870 | 1870 | 1870 | 1870 |  |  |  |
| Adj Flow Rate, veh/h | 391 | 269 | 0 | 0 | 97 | 11 | 376 | 0 | 54 |  |  |  |
| Peak Hour Factor | 0.92 | 0.93 | 0.93 | 0.93 | 0.93 | 0.92 | 0.93 | 0.92 | 0.93 |  |  |  |
| Percent Heavy Veh, \% | 2 | 2 | 0 | 0 | 2 | 2 | 2 | 2 | 2 |  |  |  |
| Cap, veh/h | 480 | 896 | 0 | 0 | 200 | 170 | 495 | 0 | 441 |  |  |  |
| Arrive On Green | 0.27 | 0.48 | 0.00 | 0.00 | 0.11 | 0.11 | 0.28 | 0.00 | 0.28 |  |  |  |
| Sat Flow, veh/h | 1781 | 1870 | 0 | 0 | 1870 | 1585 | 1781 | 0 | 1585 |  |  |  |
| Grp Volume(v), veh/h | 391 | 269 | 0 | 0 | 97 | 11 | 376 | 0 | 54 |  |  |  |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1870 | 0 | 0 | 1870 | 1585 | 1781 | 0 | 1585 |  |  |  |
| Q Serve(g_s), s | 8.0 | 3.4 | 0.0 | 0.0 | 1.9 | 0.2 | 7.6 | 0.0 | 1.0 |  |  |  |
| Cycle Q Clear(g_c), s | 8.0 | 3.4 | 0.0 | 0.0 | 1.9 | 0.2 | 7.6 | 0.0 | 1.0 |  |  |  |
| Prop In Lane | 1.00 |  | 0.00 | 0.00 |  | 1.00 | 1.00 |  | 1.00 |  |  |  |
| Lane Grp Cap(c), veh/h | 480 | 896 | 0 | 0 | 200 | 170 | 495 | 0 | 441 |  |  |  |
| V/C Ratio(X) | 0.81 | 0.30 | 0.00 | 0.00 | 0.48 | 0.06 | 0.76 | 0.00 | 0.12 |  |  |  |
| Avail Cap(c_a), veh/h | 729 | 1817 | 0 | 0 | 861 | 729 | 797 | 0 | 709 |  |  |  |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |  |  |  |
| Upstream Filter(I) | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 |  |  |  |
| Uniform Delay (d), s/veh | 13.4 | 6.2 | 0.0 | 0.0 | 16.4 | 15.7 | 12.9 | 0.0 | 10.5 |  |  |  |
| Incr Delay (d2), s/veh | 4.3 | 0.2 | 0.0 | 0.0 | 1.8 | 0.2 | 2.4 | 0.0 | 0.1 |  |  |  |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |  |  |  |
| \%ile BackOfQ(50\%),veh/In | 3.0 | 0.8 | 0.0 | 0.0 | 0.8 | 0.1 | 2.2 | 0.0 | 0.2 |  |  |  |
| Unsig. Movement Delay, s/veh |  |  |  |  |  |  |  |  |  |  |  |  |
| LnGrp Delay(d),s/veh | 17.6 | 6.4 | 0.0 | 0.0 | 18.3 | 15.9 | 15.3 | 0.0 | 10.7 |  |  |  |
| LnGrp LOS | B | A | A | A | B | B | B | A | B |  |  |  |
| Approach Vol, veh/h |  | 660 |  |  | 108 |  |  | 430 |  |  |  |  |
| Approach Delay, s/veh |  | 13.1 |  |  | 18.0 |  |  | 14.7 |  |  |  |  |
| Approach LOS |  | B |  |  | B |  |  | B |  |  |  |  |
| Timer - Assigned Phs |  | 2 |  | 4 |  |  | 7 | 8 |  |  |  |  |
| Phs Duration (G+Y+Rc), s |  | 15.9 |  | 23.2 |  |  | 14.5 | 8.7 |  |  |  |  |
| Change Period ( $\mathrm{Y}+\mathrm{Rc}$ ), s |  | 5.0 |  | 4.5 |  |  | 4.0 | 4.5 |  |  |  |  |
| Max Green Setting (Gmax), s |  | 17.5 |  | 38.0 |  |  | 16.0 | 18.0 |  |  |  |  |
| Max Q Clear Time (g_c+11), s |  | 9.6 |  | 5.4 |  |  | 10.0 | 3.9 |  |  |  |  |
| Green Ext Time (p_c), s |  | 1.3 |  | 1.6 |  |  | 0.7 | 0.3 |  |  |  |  |
| Intersection Summary |  |  |  |  |  |  |  |  |  |  |  |  |
| HCM 6th Ctrl Delay |  |  | 14.1 |  |  |  |  |  |  |  |  |  |
| HCM 6th LOS |  |  | B |  |  |  |  |  |  |  |  |  |


|  | 4 | $\rightarrow$ | 7 | 7 |  | 4 | 4 | $\dagger$ | $p$ |  | $\frac{1}{1}$ | $\downarrow$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | ${ }^{1}$ | $\uparrow$ |  | ${ }^{1}$ | $\uparrow$ |  | ${ }^{1}$ | $\uparrow$ |  | ${ }^{1 /}$ | 4 | 「 |
| Traffic Volume (veh/h) | 70 | 110 | 60 | 10 | 40 | 70 | 40 | 520 | 10 | 50 | 250 | 40 |
| Future Volume (veh/h) | 70 | 110 | 60 | 10 | 40 | 70 | 40 | 520 | 10 | 50 | 250 | 40 |
| Initial Q $(Q b)$, veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 |  | 1.00 | 1.00 |  | 1.00 | 1.00 |  | 0.97 | 1.00 |  | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach |  | No |  |  | No |  |  | No |  |  | No |  |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 71 | 112 | 61 | 10 | 41 | 71 | 41 | 531 | 10 | 51 | 255 | 41 |
| Peak Hour Factor | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 |
| Percent Heavy Veh, \% | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 96 | 185 | 101 | 19 | 73 | 127 | 65 | 679 | 13 | 76 | 707 | 585 |
| Arrive On Green | 0.05 | 0.16 | 0.16 | 0.01 | 0.12 | 0.12 | 0.04 | 0.37 | 0.37 | 0.04 | 0.38 | 0.38 |
| Sat Flow, veh/h | 1781 | 1139 | 620 | 1781 | 615 | 1064 | 1781 | 1829 | 34 | 1781 | 1870 | 1549 |
| Grp Volume(v), veh/h | 71 | 0 | 173 | 10 | 0 | 112 | 41 | 0 | 541 | 51 | 255 | 41 |
| Grp Sat Flow(s), veh/h/ln | 1781 | 0 | 1759 | 1781 | 0 | 1679 | 1781 | 0 | 1863 | 1781 | 1870 | 1549 |
| Q Serve(g_s), s | 1.6 | 0.0 | 3.8 | 0.2 | 0.0 | 2.6 | 0.9 | 0.0 | 10.6 | 1.2 | 4.0 | 0.7 |
| Cycle Q Clear(g_c), s | 1.6 | 0.0 | 3.8 | 0.2 | 0.0 | 2.6 | 0.9 | 0.0 | 10.6 | 1.2 | 4.0 | 0.7 |
| Prop In Lane | 1.00 |  | 0.35 | 1.00 |  | 0.63 | 1.00 |  | 0.02 | 1.00 |  | 1.00 |
| Lane Grp Cap(c), veh/h | 96 | 0 | 286 | 19 | 0 | 200 | 65 | 0 | 692 | 76 | 707 | 585 |
| V/C Ratio(X) | 0.74 | 0.00 | 0.60 | 0.53 | 0.00 | 0.56 | 0.63 | 0.00 | 0.78 | 0.67 | 0.36 | 0.07 |
| Avail Cap(c_a), veh/h | 173 | 0 | 1165 | 173 | 0 | 1112 | 259 | 0 | 1252 | 173 | 1166 | 966 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 19.2 | 0.0 | 16.0 | 20.3 | 0.0 | 17.1 | 19.6 | 0.0 | 11.5 | 19.4 | 9.2 | 8.2 |
| Incr Delay (d2), s/veh | 10.5 | 0.0 | 2.0 | 21.7 | 0.0 | 2.4 | 9.8 | 0.0 | 2.0 | 9.6 | 0.3 | 0.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| \%ile BackOfQ(50\%),veh/ln | 0.8 | 0.0 | 1.4 | 0.2 | 0.0 | 0.9 | 0.5 | 0.0 | 3.0 | 0.6 | 1.2 | 0.2 |
| Unsig. Movement Delay, s/veh |  |  |  |  |  |  |  |  |  |  |  |  |
| LnGrp Delay(d),s/veh | 29.7 | 0.0 | 18.1 | 42.0 | 0.0 | 19.6 | 29.4 | 0.0 | 13.5 | 29.0 | 9.5 | 8.2 |
| LnGrp LOS | C | A | B | D | A | B | C | A | B | C | A | A |
| Approach Vol, veh/h |  | 244 |  |  | 122 |  |  | 582 |  |  | 347 |  |
| Approach Delay, s/veh |  | 21.4 |  |  | 21.4 |  |  | 14.6 |  |  | 12.3 |  |
| Approach LOS |  | C |  |  | C |  |  | B |  |  | B |  |
| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |  |  |  |  |
| Phs Duration (G+Y+Rc), s | 5.8 | 19.8 | 4.4 | 11.2 | 5.5 | 20.1 | 6.2 | 9.4 |  |  |  |  |
| Change Period ( $\mathrm{Y}+\mathrm{Rc}$ ), s | 4.0 | 4.5 | 4.0 | 4.5 | 4.0 | 4.5 | 4.0 | 4.5 |  |  |  |  |
| Max Green Setting (Gmax), s | 4.0 | 27.7 | 4.0 | 27.3 | 6.0 | 25.7 | 4.0 | 27.3 |  |  |  |  |
| Max Q Clear Time (g_c+11), s | 3.2 | 12.6 | 2.2 | 5.8 | 2.9 | 6.0 | 3.6 | 4.6 |  |  |  |  |
| Green Ext Time (p_c), s | 0.0 | 2.7 | 0.0 | 0.9 | 0.0 | 1.4 | 0.0 | 0.5 |  |  |  |  |
| Intersection Summary |  |  |  |  |  |  |  |  |  |  |  |  |
| HCM 6th Ctrl Delay |  |  | 15.9 |  |  |  |  |  |  |  |  |  |
| HCM 6th LOS |  |  | B |  |  |  |  |  |  |  |  |  |



|  | $\stackrel{*}{ }$ | $\rightarrow$ | $\checkmark$ | 7 |  | 4 | 4 | 4 | $p$ | $\pm$ | $\dagger$ | 4 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | ${ }^{7}$ | $\uparrow$ |  |  | \& |  | * | 4 | 「' | ${ }^{*}$ | 4 | F |
| Traffic Volume (veh/h) | 60 | 10 | 220 | 0 | 10 | 10 | 280 | 1080 | 10 | 10 | 670 | 70 |
| Future Volume (veh/h) | 60 | 10 | 220 | 0 | 10 | 10 | 280 | 1080 | 10 | 10 | 670 | 70 |
| Initial $Q(Q b)$, veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 |  | 1.00 | 1.00 |  | 1.00 | 1.00 |  | 0.98 | 1.00 |  | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach |  | No |  |  | No |  |  | No |  |  | No |  |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 62 | 10 | 229 | 0 | 10 | 10 | 292 | 1125 | 10 | 10 | 698 | 73 |
| Peak Hour Factor | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 |
| Percent Heavy Veh, \% | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 321 | 12 | 270 | 0 | 151 | 151 | 333 | 1170 | 971 | 22 | 844 | 715 |
| Arrive On Green | 0.18 | 0.18 | 0.18 | 0.00 | 0.18 | 0.18 | 0.19 | 0.63 | 0.63 | 0.01 | 0.45 | 0.45 |
| Sat Flow, veh/h | 1392 | 67 | 1528 | 0 | 858 | 858 | 1781 | 1870 | 1551 | 1781 | 1870 | 1585 |
| Grp Volume(v), veh/h | 62 | 0 | 239 | 0 | 0 | 20 | 292 | 1125 | 10 | 10 | 698 | 73 |
| Grp Sat Flow(s),veh/h/ln | 1392 | 0 | 1595 | 0 | 0 | 1716 | 1781 | 1870 | 1551 | 1781 | 1870 | 1585 |
| Q Serve(g_s), s | 3.1 | 0.0 | 11.7 | 0.0 | 0.0 | 0.8 | 12.9 | 45.7 | 0.2 | 0.5 | 26.4 | 2.1 |
| Cycle Q Clear(g_c), s | 3.9 | 0.0 | 11.7 | 0.0 | 0.0 | 0.8 | 12.9 | 45.7 | 0.2 | 0.5 | 26.4 | 2.1 |
| Prop In Lane | 1.00 |  | 0.96 | 0.00 |  | 0.50 | 1.00 |  | 1.00 | 1.00 |  | 1.00 |
| Lane Grp Cap(c), veh/h | 321 | 0 | 281 | 0 | 0 | 303 | 333 | 1170 | 971 | 22 | 844 | 715 |
| V/C Ratio(X) | 0.19 | 0.00 | 0.85 | 0.00 | 0.00 | 0.07 | 0.88 | 0.96 | 0.01 | 0.45 | 0.83 | 0.10 |
| Avail Cap(c_a), veh/h | 385 | 0 | 355 | 0 | 0 | 382 | 396 | 1202 | 997 | 110 | 902 | 764 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(l) | 1.00 | 0.00 | 1.00 | 0.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 29.4 | 0.0 | 32.3 | 0.0 | 0.0 | 27.8 | 32.0 | 14.2 | 5.7 | 39.7 | 19.4 | 12.8 |
| Incr Delay (d2), s/veh | 0.3 | 0.0 | 14.5 | 0.0 | 0.0 | 0.1 | 17.2 | 17.3 | 0.0 | 13.7 | 6.1 | 0.1 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| \%ile BackOfQ(50\%),veh/ln | 1.0 | 0.0 | 5.2 | 0.0 | 0.0 | 0.3 | 6.7 | 19.3 | 0.0 | 0.3 | 11.2 | 0.7 |
| Unsig. Movement Delay, s/veh |  |  |  |  |  |  |  |  |  |  |  |  |
| LnGrp Delay(d),s/veh | 29.7 | 0.0 | 46.7 | 0.0 | 0.0 | 27.8 | 49.1 | 31.5 | 5.7 | 53.3 | 25.6 | 12.8 |
| LnGrp LOS | C | A | D | A | A | C | D | C | A | D | C | B |
| Approach Vol, veh/h |  | 301 |  |  | 20 |  |  | 1427 |  |  | 781 |  |
| Approach Delay, s/veh |  | 43.2 |  |  | 27.8 |  |  | 34.9 |  |  | 24.7 |  |
| Approach LOS |  | D |  |  | C |  |  | C |  |  | C |  |
| Timer - Assigned Phs | 1 | 2 |  | 4 | 5 | 6 |  | 8 |  |  |  |  |
| Phs Duration (G+Y+Rc), s | 6.0 | 55.6 |  | 19.3 | 20.1 | 41.5 |  | 19.3 |  |  |  |  |
| Change Period (Y+Rc), s | 5.0 | 5.0 |  | 5.0 | 5.0 | 5.0 |  | 5.0 |  |  |  |  |
| Max Green Setting (Gmax), s | 5.0 | 52.0 |  | 18.0 | 18.0 | 39.0 |  | 18.0 |  |  |  |  |
| Max Q Clear Time (g_c+11), s | 2.5 | 47.7 |  | 13.7 | 14.9 | 28.4 |  | 2.8 |  |  |  |  |
| Green Ext Time (p_c), s | 0.0 | 2.9 |  | 0.5 | 0.3 | 3.4 |  | 0.0 |  |  |  |  |
| Intersection Summary |  |  |  |  |  |  |  |  |  |  |  |  |
| HCM 6th Ctrl Delay |  |  | 32.7 |  |  |  |  |  |  |  |  |  |
| HCM 6th LOS |  |  | C |  |  |  |  |  |  |  |  |  |


|  | $\rangle$ |  |  | $\dagger$ |  | 4 | 4 | $\uparrow$ | $p$ |  | $\downarrow$ | $\downarrow$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  | ${ }_{4}$ |  |  | 4 | 「 | \% | $\hat{\square}$ |  | \% | $\hat{\square}$ |  |
| Traffic Volume (veh/h) | 10 | 30 | 10 | 10 | 140 | 500 | 10 | 820 | 10 | 280 | 540 | 20 |
| Future Volume (veh/h) | 10 | 30 | 10 | 10 | 140 | 500 | 10 | 820 | 10 | 280 | 540 | 20 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 |  | 1.00 | 1.00 |  | 1.00 | 1.00 |  | 0.98 | 1.00 |  | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach |  | No |  |  | No |  |  | No |  |  | No |  |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 10 | 31 | 10 | 10 | 143 | 510 | 10 | 837 | 10 | 286 | 551 | 20 |
| Peak Hour Factor | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 |
| Percent Heavy Veh, \% | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 86 | 243 | 70 | 47 | 418 | 652 | 68 | 847 | 10 | 321 | 1086 | 39 |
| Arrive On Green | 0.23 | 0.23 | 0.23 | 0.23 | 0.23 | 0.23 | 0.04 | 0.46 | 0.46 | 0.18 | 0.61 | 0.61 |
| Sat Flow, veh/h | 192 | 1053 | 303 | 46 | 1807 | 1585 | 1781 | 1844 | 22 | 1781 | 1792 | 65 |
| Grp Volume(v), veh/h | 51 | 0 | 0 | 153 | 0 | 510 | 10 | 0 | 847 | 286 | 0 | 571 |
| Grp Sat Flow(s),veh/h/ln | 1548 | 0 | 0 | 1853 | 0 | 1585 | 1781 | 0 | 1866 | 1781 | 0 | 1857 |
| Q Serve(g_s), s | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 24.1 | 0.6 | 0.0 | 46.9 | 16.4 | 0.0 | 18.2 |
| Cycle Q Clear (g_c), s | 2.3 | 0.0 | 0.0 | 7.1 | 0.0 | 24.1 | 0.6 | 0.0 | 46.9 | 16.4 | 0.0 | 18.2 |
| Prop In Lane | 0.20 |  | 0.20 | 0.07 |  | 1.00 | 1.00 |  | 0.01 | 1.00 |  | 0.04 |
| Lane Grp Cap (c), veh/h | 399 | 0 | 0 | 465 | 0 | 652 | 68 | 0 | 857 | 321 | 0 | 1125 |
| V/C Ratio(X) | 0.13 | 0.00 | 0.00 | 0.33 | 0.00 | 0.78 | 0.15 | 0.00 | 0.99 | 0.89 | 0.00 | 0.51 |
| Avail Cap(c_a), veh/h | 399 | 0 | 0 | 465 | 0 | 652 | 68 | 0 | 857 | 418 | 0 | 1227 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(l) | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 31.7 | 0.0 | 0.0 | 33.6 | 0.0 | 26.6 | 48.5 | 0.0 | 27.9 | 41.8 | 0.0 | 11.7 |
| Incr Delay (d2), s/veh | 0.1 | 0.0 | 0.0 | 0.4 | 0.0 | 6.2 | 1.0 | 0.0 | 27.8 | 17.1 | 0.0 | 0.4 |
| Initial Q Delay (d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| \%ile BackOfQ(50\%),veh/ln | 1.0 | 0.0 | 0.0 | 3.2 | 0.0 | 11.4 | 0.3 | 0.0 | 26.8 | 8.5 | 0.0 | 6.8 |
| Unsig. Movement Delay, s/veh |  |  |  |  |  |  |  |  |  |  |  |  |
| LnGrp Delay(d),s/veh | 31.9 | 0.0 | 0.0 | 34.0 | 0.0 | 32.8 | 49.5 | 0.0 | 55.7 | 58.9 | 0.0 | 12.1 |
| LnGrp LOS | C | A | A | C | A | C | D | A | , | E | A | B |
| Approach Vol, veh/h |  | 51 |  |  | 663 |  |  | 857 |  |  | 857 |  |
| Approach Delay, s/veh |  | 31.9 |  |  | 33.1 |  |  | 55.6 |  |  | 27.7 |  |
| Approach LOS |  | C |  |  | C |  |  | E |  |  | C |  |
| Timer - Assigned Phs | 1 | 2 |  | 4 | 5 | 6 |  | 8 |  |  |  |  |
| Phs Duration ( $\mathrm{G}+\mathrm{Y}+\mathrm{Rc}$ ), s | 23.3 | 52.4 |  | 28.6 | 8.0 | 67.7 |  | 28.6 |  |  |  |  |
| Change Period ( $\mathrm{Y}+\mathrm{Rc}$ ), s | 4.5 | 4.5 |  | 4.5 | 4.0 | 4.5 |  | 4.5 |  |  |  |  |
| Max Green Setting (Gmax), s | 24.5 | 47.9 |  | 24.1 | 4.0 | 68.9 |  | 24.1 |  |  |  |  |
| Max Q Clear Time (g_c+1), s | 18.4 | 48.9 |  | 4.3 | 2.6 | 20.2 |  | 26.1 |  |  |  |  |
| Green Ext Time (p_c), s | 0.4 | 0.0 |  | 0.2 | 0.0 | 4.0 |  | 0.0 |  |  |  |  |
| Intersection Summary |  |  |  |  |  |  |  |  |  |  |  |  |
| HCM 6th Ctrl DelayHCM 6th LOS |  |  | 39.1 |  |  |  |  |  |  |  |  |  |
|  |  |  | D |  |  |  |  |  |  |  |  |  |


|  | $\dagger$ |  | 4 | $p$ |  | $\dagger$ |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Movement | WBL | WBR | NBT | NBR | SBL | SBT |  |
| Lane Configurations | \% | F | $\uparrow$ | 「 | ${ }^{7}$ | $\uparrow$ |  |
| Traffic Volume (veh/h) | 590 | 30 | 470 | 870 | 30 | 280 |  |
| Future Volume (veh/h) | 590 | 30 | 470 | 870 | 30 | 280 |  |
| Initial $Q(Q b)$, veh | 0 | 0 | 0 | 0 | 0 | 0 |  |
| Ped-Bike Adj(A_pbT) | 1.00 | 1.00 |  | 0.98 | 1.00 |  |  |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |  |
| Work Zone On Approach | No |  | No |  |  | No |  |
| Adj Sat Flow, veh/h/n | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |  |
| Adj Flow Rate, veh/h | 615 | 31 | 490 | 906 | 31 | 292 |  |
| Peak Hour Factor | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 |  |
| Percent Heavy Veh, \% | 2 | 2 | 2 | 2 | 2 | 2 |  |
| Cap, veh/h | 677 | 603 | 734 | 1210 | 47 | 899 |  |
| Arrive On Green | 0.38 | 0.38 | 0.39 | 0.39 | 0.03 | 0.48 |  |
| Sat Flow, veh/h | 1781 | 1585 | 1870 | 1547 | 1781 | 1870 |  |
| Grp Volume(v), veh/h | 615 | 31 | 490 | 906 | 31 | 292 |  |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1585 | 1870 | 1547 | 1781 | 1870 |  |
| Q Serve(g_s), s | 21.1 | 0.8 | 13.9 | 20.8 | 1.1 | 6.2 |  |
| Cycle Q Clear(g_c), s | 21.1 | 0.8 | 13.9 | 20.8 | 1.1 | 6.2 |  |
| Prop In Lane | 1.00 | 1.00 |  | 1.00 | 1.00 |  |  |
| Lane Grp Cap(c), veh/h | 677 | 603 | 734 | 1210 | 47 | 899 |  |
| V/C Ratio(X) | 0.91 | 0.05 | 0.67 | 0.75 | 0.66 | 0.32 |  |
| Avail Cap(c_a), veh/h | 827 | 736 | 781 | 1249 | 276 | 1186 |  |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |  |
| Upstream Filter(l) | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |  |
| Uniform Delay (d), s/veh | 19.0 | 12.7 | 16.2 | 4.0 | 31.2 | 10.3 |  |
| Incr Delay (d2), s/veh | 12.1 | 0.0 | 2.0 | 2.5 | 14.6 | 0.2 |  |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |  |
| \%ile BackOfQ(50\%),veh/ln | 10.2 | 0.3 | 5.1 | 13.6 | 0.6 | 2.0 |  |
| Unsig. Movement Delay, s/veh |  |  |  |  |  |  |  |
| LnGrp Delay(d),s/veh | 31.1 | 12.7 | 18.2 | 6.5 | 45.8 | 10.5 |  |
| LnGrp LOS | C | B | B | A | D | B |  |
| Approach Vol, veh/h | 646 |  | 1396 |  |  | 323 |  |
| Approach Delay, s/veh | 30.2 |  | 10.6 |  |  | 13.9 |  |
| Approach LOS | C |  | B |  |  | B |  |
| Timer - Assigned Phs | 1 | 2 |  |  |  | 6 | 8 |
| Phs Duration ( $\mathrm{G}+\mathrm{Y}+\mathrm{Rc}$ ), $s$ | 5.7 | 29.9 |  |  |  | 35.6 | 29.1 |
| Change Period ( $Y+R \mathrm{Cc}$ ), $s$ | 4.0 | 4.5 |  |  |  | 4.5 | 4.5 |
| Max Green Setting (Gmax), s | 10.0 | 27.0 |  |  |  | 41.0 | 30.0 |
| Max Q Clear Time (g_c+11), s | 3.1 | 22.8 |  |  |  | 8.2 | 23.1 |
| Green Ext Time (p_c), s | 0.0 | 2.6 |  |  |  | 1.5 | 1.4 |
| Intersection Summary |  |  |  |  |  |  |  |
| HCM 6th Ctrl DelayHCM 6th LOS |  |  | 16.4 |  |  |  |  |
|  |  |  |  |


|  | 4 | $\rightarrow$ |  | 7 | - |  | 4 | 4 | $p$ |  | $\downarrow$ | $\downarrow$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  | $\dagger$ |  |  | $\dagger$ |  | ${ }^{7}$ | $\uparrow$ |  | \% | $\uparrow$ |  |
| Traffic Volume (veh/h) | 30 | 10 | 110 | 10 | 10 | 10 | 100 | 610 | 10 | 0 | 320 | 20 |
| Future Volume (veh/h) | 30 | 10 | 110 | 10 | 10 | 10 | 100 | 610 | 10 | 0 | 320 | 20 |
| Initial $Q(Q b)$, veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 |  | 1.00 | 1.00 |  | 1.00 | 1.00 |  | 1.00 | 1.00 |  | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach |  | No |  |  | No |  |  | No |  |  | No |  |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 33 | 11 | 120 | 11 | 11 | 11 | 109 | 663 | 11 | 0 | 348 | 22 |
| 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 |
| Percent Heavy Veh, \% | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 183 | 29 | 179 | 215 | 123 | 87 | 143 | 959 | 16 | 6 | 533 | 34 |
| Arrive On Green | 0.15 | 0.15 | 0.15 | 0.15 | 0.15 | 0.15 | 0.08 | 0.52 | 0.52 | 0.00 | 0.31 | 0.31 |
| Sat Flow, veh/h | 236 | 188 | 1157 | 336 | 794 | 565 | 1781 | 1834 | 30 | 1781 | 1741 | 110 |
| Grp Volume(v), veh/h | 164 | 0 | 0 | 33 | 0 | 0 | 109 | 0 | 674 | 0 | 0 | 370 |
| Grp Sat Flow(s),veh/h/ln | 1581 | 0 | 0 | 1695 | 0 | 0 | 1781 | 0 | 1865 | 1781 | 0 | 1851 |
| Q Serve(g_s), s | 1.7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.8 | 0.0 | 8.0 | 0.0 | 0.0 | 5.1 |
| Cycle Q Clear (g_c), s | 2.9 | 0.0 | 0.0 | 0.5 | 0.0 | 0.0 | 1.8 | 0.0 | 8.0 | 0.0 | 0.0 | 5.1 |
| Prop In Lane | 0.20 |  | 0.73 | 0.33 |  | 0.33 | 1.00 |  | 0.02 | 1.00 |  | 0.06 |
| Lane Grp Cap (c), veh/h | 392 | 0 | 0 | 425 | 0 | 0 | 143 | 0 | 974 | 6 | 0 | 567 |
| V/C Ratio(X) | 0.42 | 0.00 | 0.00 | 0.08 | 0.00 | 0.00 | 0.76 | 0.00 | 0.69 | 0.00 | 0.00 | 0.65 |
| Avail Cap(c_a), veh/h | 1578 | 0 | 0 | 1592 | 0 | 0 | 424 | 0 | 1932 | 242 | 0 | 1729 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(l) | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 1.00 | 0.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 11.7 | 0.0 | 0.0 | 10.7 | 0.0 | 0.0 | 13.3 | 0.0 | 5.3 | 0.0 | 0.0 | 8.8 |
| Incr Delay (d2), s/veh | 0.7 | 0.0 | 0.0 | 0.1 | 0.0 | 0.0 | 8.2 | 0.0 | 0.9 | 0.0 | 0.0 | 1.3 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| \%ile BackOfQ(50\%),veh/ln | 0.7 | 0.0 | 0.0 | 0.1 | 0.0 | 0.0 | 0.8 | 0.0 | 0.6 | 0.0 | 0.0 | 1.2 |
| Unsig. Movement Delay, s/veh |  |  |  |  |  |  |  |  |  |  |  |  |
| LnGrp Delay(d),s/veh | 12.4 | 0.0 | 0.0 | 10.8 | 0.0 | 0.0 | 21.4 | 0.0 | 6.1 | 0.0 | 0.0 | 10.1 |
| LnGrp LOS | B | A | A | B | A | A | C | A | A | A | A | B |
| Approach Vol, veh/h |  | 164 |  |  | 33 |  |  | 783 |  |  | 370 |  |
| Approach Delay, s/veh |  | 12.4 |  |  | 10.8 |  |  | 8.3 |  |  | 10.1 |  |
| Approach LOS |  | B |  |  | B |  |  | A |  |  | B |  |
| Timer - Assigned Phs | 1 | 2 |  | 4 | 5 | 6 |  | 8 |  |  |  |  |
| Phs Duration ( $\mathrm{G}+\mathrm{Y}+\mathrm{Rc}$ ), s | 0.0 | 19.9 |  | 9.6 | 6.4 | 13.5 |  | 9.6 |  |  |  |  |
| Change Period ( $\mathrm{Y}+\mathrm{Rc}$ ), s | 4.0 | 4.5 |  | 5.0 | 4.0 | 4.5 |  | 5.0 |  |  |  |  |
| Max Green Setting (Gmax), s | 4.0 | 30.5 |  | 27.0 | 7.0 | 27.5 |  | 27.0 |  |  |  |  |
| Max Q Clear Time (g_c+1), s | 0.0 | 10.0 |  | 4.9 | 3.8 | 7.1 |  | 2.5 |  |  |  |  |
| Green Ext Time (p_c), s | 0.0 | 4.1 |  | 0.8 | 0.1 | 1.9 |  | 0.1 |  |  |  |  |
| Intersection Summary |  |  |  |  |  |  |  |  |  |  |  |  |
| HCM 6th Ctrl Delay |  |  | 9.3 |  |  |  |  |  |  |  |  |  |
| HCM 6th LOS |  |  | A |  |  |  |  |  |  |  |  |  |

HCM 6th Signalized Intersection Summary
14：Corona Rd \＆N McDowell Blvd
09／29／2023

|  | 4 | $\rightarrow$ | 7 | 7 | － | 4 | 4 | $\uparrow$ | $p$ |  | 1 | $\downarrow$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | \％ | 中 ${ }^{\text {a }}$ |  | \％ | 性 |  | ${ }^{7}$ | 个 | F | ${ }^{7}$ | $\uparrow$ | F |
| Traffic Volume（veh／h） | 100 | 260 | 120 | 20 | 200 | 250 | 90 | 350 | 30 | 310 | 420 | 150 |
| Future Volume（veh／h） | 100 | 260 | 120 | 20 | 200 | 250 | 90 | 350 | 30 | 310 | 420 | 150 |
| Initial $Q(Q b)$ ，veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped－Bike Adj（A＿pbT） | 1.00 |  | 0.97 | 1.00 |  | 0.98 | 1.00 |  | 0.99 | 1.00 |  | 1.00 |
| Parking Bus，Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach |  | No |  |  | No |  |  | No |  |  | No |  |
| Adj Sat Flow，veh／h／ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate，veh／h | 112 | 292 | 135 | 22 | 225 | 281 | 101 | 393 | 34 | 348 | 472 | 169 |
| Peak Hour Factor | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 |
| Percent Heavy Veh，\％ | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap，veh／h | 200 | 696 | 313 | 91 | 404 | 353 | 196 | 454 | 461 | 382 | 649 | 728 |
| Arrive On Green | 0.11 | 0.29 | 0.29 | 0.05 | 0.23 | 0.23 | 0.11 | 0.24 | 0.24 | 0.21 | 0.35 | 0.35 |
| Sat Flow，veh／h | 1781 | 2361 | 1060 | 1781 | 1777 | 1551 | 1781 | 1870 | 1563 | 1781 | 1870 | 1585 |
| Grp Volume（v），veh／h | 112 | 218 | 209 | 22 | 225 | 281 | 101 | 393 | 34 | 348 | 472 | 169 |
| Grp Sat Flow（s），veh／h／ln | 1781 | 1777 | 1645 | 1781 | 1777 | 1551 | 1781 | 1870 | 1563 | 1781 | 1870 | 1585 |
| Q Serve（g＿s），s | 5.5 | 9.1 | 9.5 | 1.1 | 10.4 | 15.8 | 4.9 | 18.6 | 1.5 | 17.6 | 20.4 | 6.0 |
| Cycle Q Clear（g＿c），s | 5.5 | 9.1 | 9.5 | 1.1 | 10.4 | 15.8 | 4.9 | 18.6 | 1.5 | 17.6 | 20.4 | 6.0 |
| Prop In Lane | 1.00 |  | 0.64 | 1.00 |  | 1.00 | 1.00 |  | 1.00 | 1.00 |  | 1.00 |
| Lane Grp Cap（c），veh／h | 200 | 524 | 485 | 91 | 404 | 353 | 196 | 454 | 461 | 382 | 649 | 728 |
| V／C Ratio（X） | 0.56 | 0.42 | 0.43 | 0.24 | 0.56 | 0.80 | 0.52 | 0.87 | 0.07 | 0.91 | 0.73 | 0.23 |
| Avail Cap（c＿a），veh／h | 212 | 659 | 610 | 212 | 640 | 558 | 212 | 625 | 603 | 404 | 833 | 884 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter（l） | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay（d），s／veh | 38.9 | 26.2 | 26.4 | 42.1 | 31.6 | 33.7 | 38.8 | 33.6 | 23.5 | 35.5 | 26.4 | 15.1 |
| Incr Delay（d2），s／veh | 2.9 | 0.5 | 0.6 | 1.3 | 1.2 | 4.2 | 2.1 | 9.2 | 0.1 | 23.8 | 2.3 | 0.2 |
| Initial Q Delay（d3），s／veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| \％ile BackOfQ（50\％），veh／ln | 2.5 | 3.9 | 3.7 | 0.5 | 4.5 | 6.2 | 2.2 | 9.3 | 0.5 | 10.0 | 9.2 | 2.1 |
| Unsig．Movement Delay，s／veh |  |  |  |  |  |  |  |  |  |  |  |  |
| LnGrp Delay（d），s／veh | 41.8 | 26.7 | 27.0 | 43.5 | 32.8 | 38.0 | 40.9 | 42.8 | 23.6 | 59.3 | 28.7 | 15.3 |
| LnGrp LOS | D | C | C | D | C | D | D | D | C | E | C | B |
| Approach Vol，veh／h |  | 539 |  |  | 528 |  |  | 528 |  |  | 989 |  |
| Approach Delay，s／veh |  | 30.0 |  |  | 36.0 |  |  | 41.2 |  |  | 37.2 |  |
| Approach LOS |  | C |  |  | D |  |  | D |  |  | D |  |


| Timer－Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| Phs Duration $(G+Y+R c), s$ | 23.8 | 27.4 | 8.7 | 32.6 | 14.2 | 37.0 | 15.0 | 26.3 |
| Change Period $(\mathrm{Y}+\mathrm{Rc})$ ，s | 4.0 | 4.9 | 4.0 | ${ }^{*} 5.3$ | 4.0 | $* 4.9$ | 4.6 | 5.3 |
| Max Green Setting（Gmax），s | 21.0 | 30.9 | 11.0 | $* 34$ | 11.0 | $* 41$ | 11.0 | 33.3 |
| Max Q Clear Time（g＿c＋1），s | 19.6 | 20.6 | 3.1 | 11.5 | 6.9 | 22.4 | 7.5 | 17.8 |
| Green Ext Time（p＿c），s | 0.2 | 1.7 | 0.0 | 2.6 | 0.1 | 3.5 | 0.1 | 2.9 |

Intersection Summary

| HCM 6th Ctrl Delay | 36.2 |
| :--- | ---: |
| HCM 6th LOS | $D$ |

## Notes

＊HCM 6th computational engine requires equal clearance times for the phases crossing the barrier．

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Lane Configurations |  | ¢ |  |  | $\uparrow$ | 「 | ${ }^{7}$ | $\hat{\beta}$ |  | ${ }^{7}$ | $\hat{\dagger}$ |  |
| Traffic Volume (veh/h) | 20 | 10 | 10 | 30 | 10 | 230 | 30 | 1110 | 150 | 180 | 700 | 0 |
| Future Volume (veh/h) | 20 | 10 | 10 | 30 | 10 | 230 | 30 | 1110 | 150 | 180 | 700 | 0 |
| Initial $Q(Q b)$, veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 |  | 1.00 | 1.00 |  | 1.00 | 1.00 |  | 0.98 | 1.00 |  | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach |  | No |  |  | No |  |  | No |  |  | No |  |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 21 | 10 | 10 | 31 | 10 | 237 | 31 | 1144 | 155 | 186 | 722 | 0 |
| Peak Hour Factor | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 |
| Percent Heavy Veh, \% | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 107 | 51 | 39 | 180 | 52 | 193 | 40 | 1095 | 148 | 190 | 1432 | 0 |
| Arrive On Green | 0.12 | 0.12 | 0.12 | 0.12 | 0.12 | 0.12 | 0.02 | 0.68 | 0.68 | 0.11 | 0.77 | 0.00 |
| Sat Flow, veh/h | 578 | 416 | 320 | 1129 | 430 | 1585 | 1781 | 1607 | 218 | 1781 | 1870 | 0 |
| Grp Volume(v), veh/h | 41 | 0 | 0 | 41 | 0 | 237 | 31 | 0 | 1299 | 186 | 722 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1314 | 0 | 0 | 1559 | 0 | 1585 | 1781 | 0 | 1825 | 1781 | 1870 | 0 |
| Q Serve(g_s), s | 1.6 | 0.0 | 0.0 | 0.0 | 0.0 | 18.3 | 2.6 | 0.0 | 102.2 | 15.6 | 22.1 | 0.0 |
| Cycle Q Clear(g_c), s | 4.7 | 0.0 | 0.0 | 3.1 | 0.0 | 18.3 | 2.6 | 0.0 | 102.2 | 15.6 | 22.1 | 0.0 |
| Prop In Lane | 0.51 |  | 0.24 | 0.76 |  | 1.00 | 1.00 |  | 0.12 | 1.00 |  | 0.00 |
| Lane Grp Cap(c), veh/h | 197 | 0 | 0 | 232 | 0 | 193 | 40 | 0 | 1243 | 190 | 1432 | 0 |
| V/C Ratio(X) | 0.21 | 0.00 | 0.00 | 0.18 | 0.00 | 1.23 | 0.78 | 0.00 | 1.04 | 0.98 | 0.50 | 0.00 |
| Avail Cap(c_a), veh/h | 201 | 0 | 0 | 232 | 0 | 193 | 71 | 0 | 1243 | 190 | 1432 | 0 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(l) | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 0.00 |
| Uniform Delay (d), s/veh | 59.7 | 0.0 | 0.0 | 59.2 | 0.0 | 65.8 | 73.0 | 0.0 | 23.9 | 66.8 | 6.7 | 0.0 |
| Incr Delay (d2), s/veh | 0.5 | 0.0 | 0.0 | 0.4 | 0.0 | 138.6 | 27.5 | 0.0 | 38.0 | 59.0 | 0.3 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| \%ile BackOfQ(50\%),veh/ln | 1.5 | 0.0 | 0.0 | 1.4 | 0.0 | 14.7 | 1.5 | 0.0 | 52.0 | 10.1 | 7.4 | 0.0 |
| Unsig. Movement Delay, s/veh |  |  |  |  |  |  |  |  |  |  |  |  |
| LnGrp Delay(d),s/veh | 60.2 | 0.0 | 0.0 | 59.5 | 0.0 | 204.4 | 100.5 | 0.0 | 61.9 | 125.8 | 7.0 | 0.0 |
| LnGrp LOS | E | A | A | E | A | F | F | A | F | F | A | A |
| Approach Vol, veh/h |  | 41 |  |  | 278 |  |  | 1330 |  |  | 908 |  |
| Approach Delay, s/veh |  | 60.2 |  |  | 183.0 |  |  | 62.8 |  |  | 31.3 |  |
| Approach LOS |  | E |  |  | F |  |  | E |  |  | C |  |


| Timer - Assigned Phs | 1 | 2 | 4 | 5 | 6 | 8 |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: |
| Phs Duration $(G+Y+R c)$, s | 20.0 | 107.2 | 22.8 | 7.3 | 119.9 | 22.8 |
| Change Period $(\mathrm{Y}+\mathrm{Rc})$, s | 4.0 | 5.0 | $* 4.5$ | 4.0 | 5.0 | 4.5 |
| Max Green Setting (Gmax), s | 16.0 | 102.2 | $* 19$ | 6.0 | 112.2 | 18.3 |
| Max Q Clear Time (g_c+1), s | 17.6 | 104.2 | 6.7 | 4.6 | 24.1 | 20.3 |
| Green Ext Time (p_c), s | 0.0 | 0.0 | 0.1 | 0.0 | 5.4 | 0.0 |

## Intersection Summary

| HCM 6th Ctrl Delay | 64.7 |
| :--- | ---: |
| HCM 6th LOS | E |

## Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Lane Configurations | \％ | $\uparrow$ | 「 | \％ | $\uparrow$ | 「 | \％ | 个 $\uparrow$ | 「 | ${ }^{7}$ | 性 |  |
| Traffic Volume（veh／h） | 20 | 40 | 100 | 460 | 20 | 230 | 50 | 760 | 320 | 140 | 640 | 10 |
| Future Volume（veh／h） | 20 | 40 | 100 | 460 | 20 | 230 | 50 | 760 | 320 | 140 | 640 | 10 |
| Initial $Q(Q b)$ ，veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped－Bike Adj（A＿pbT） | 1.00 |  | 0.98 | 1.00 |  | 1.00 | 1.00 |  | 1.00 | 1.00 |  | 0.98 |
| Parking Bus，Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach |  | No |  |  | No |  |  | No |  |  | No |  |
| Adj Sat Flow，veh／h／ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate，veh／h | 21 | 42 | 105 | 499 | 0 | 242 | 53 | 800 | 337 | 147 | 674 | 11 |
| 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 |
| Percent Heavy Veh，\％ | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap，veh／h | 212 | 222 | 186 | 691 | 0 | 306 | 152 | 1183 | 835 | 209 | 1305 | 21 |
| Arrive On Green | 0.12 | 0.12 | 0.12 | 0.19 | 0.00 | 0.19 | 0.09 | 0.33 | 0.33 | 0.12 | 0.36 | 0.36 |
| Sat Flow，veh／h | 1781 | 1870 | 1560 | 3563 | 0 | 1578 | 1781 | 3554 | 1585 | 1781 | 3577 | 58 |
| Grp Volume（v），veh／h | 21 | 42 | 105 | 499 | 0 | 242 | 53 | 800 | 337 | 147 | 335 | 350 |
| Grp Sat Flow（s），veh／h／n | 1781 | 1870 | 1560 | 1781 | 0 | 1578 | 1781 | 1777 | 1585 | 1781 | 1777 | 1858 |
| Q Serve（g＿s），s | 0.9 | 1.7 | 5.2 | 10.8 | 0.0 | 12.0 | 2.3 | 15.9 | 10.5 | 6.5 | 12.1 | 12.1 |
| Cycle Q Clear（g＿c），s | 0.9 | 1.7 | 5.2 | 10.8 | 0.0 | 12.0 | 2.3 | 15.9 | 10.5 | 6.5 | 12.1 | 12.1 |
| Prop In Lane | 1.00 |  | 1.00 | 1.00 |  | 1.00 | 1.00 |  | 1.00 | 1.00 |  | 0.03 |
| Lane Grp Cap（c），veh／h | 212 | 222 | 186 | 691 | 0 | 306 | 152 | 1183 | 835 | 209 | 648 | 678 |
| V／C Ratio（X） | 0.10 | 0.19 | 0.57 | 0.72 | 0.00 | 0.79 | 0.35 | 0.68 | 0.40 | 0.70 | 0.52 | 0.52 |
| Avail Cap（c＿a），veh／h | 671 | 705 | 588 | 1732 | 0 | 767 | 433 | 1512 | 982 | 433 | 756 | 791 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter（l） | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay（d），s／veh | 32.3 | 32.7 | 34.2 | 31.1 | 0.0 | 31.6 | 35.5 | 23.6 | 11.7 | 34.9 | 20.4 | 20.5 |
| Incr Delay（d2），s／veh | 0.1 | 0.2 | 1.0 | 0.5 | 0.0 | 1.8 | 0.5 | 1.3 | 0.5 | 1.6 | 1.1 | 1.0 |
| Initial Q Delay（d3），s／veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| \％ile BackOfQ（50\％），veh／In | 0.4 | 0.8 | 1.9 | 4.4 | 0.0 | 4.5 | 1.0 | 6.5 | 5.3 | 2.8 | 4.8 | 5.0 |
| Unsig．Movement Delay，s／veh |  |  |  |  |  |  |  |  |  |  |  |  |
| LnGrp Delay（d），s／veh | 32.4 | 32.8 | 35.2 | 31.6 | 0.0 | 33.3 | 36.0 | 24.9 | 12.2 | 36.5 | 21.5 | 21.5 |
| LnGrp LOS | C | C | D | C | A | C | D | C | B | D | C | C |
| Approach Vol，veh／h |  | 168 |  |  | 741 |  |  | 1190 |  |  | 832 |  |
| Approach Delay，s／veh |  | 34.3 |  |  | 32.2 |  |  | 21.8 |  |  | 24.2 |  |
| Approach LOS |  | C |  |  | C |  |  | C |  |  | C |  |


| Timer－Assigned Phs | 1 | 2 | 4 | 5 | 6 | 8 |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: |
| Phs Duration $(G+Y+R c), s$ | 13.9 | 32.5 | 14.6 | 11.2 | 35.1 | 21.3 |
| Change Period $(\mathrm{Y}+\mathrm{Rc})$ ， s | ${ }^{*} 4.2$ | 5.1 | ${ }^{*} 4.8$ | ${ }^{*} 4.2$ | 5.1 | 5.4 |
| Max Green Setting（Gmax），s | ${ }^{*} 20$ | 35.0 | $* 31$ | ${ }^{*} 20$ | 35.0 | 40.0 |
| Max Q Clear Time（g＿c＋11），s | 8.5 | 17.9 | 7.2 | 4.3 | 14.1 | 14.0 |
| Green Ext Time（p＿c），s | 0.1 | 9.4 | 0.3 | 0.0 | 6.4 | 1.3 |

## Intersection Summary

| HCM 6th Ctrl Delay | 25.8 |
| :--- | ---: |
| HCM 6th LOS | C |

## Notes

User approved volume balancing among the lanes for turning movement．
＊HCM 6 th computational engine requires equal clearance times for the phases crossing the barrier．


## Notes

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.


## Notes

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary
19：Petaluma Blvd／Petaluma Blvd \＆Stony Point Rd／Industrial Ave
09／29／2023

|  | $\dagger$ |  |  | 7 | － |  | 4 | 4 | $p$ |  | $\downarrow$ | $\checkmark$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | \％ | 4 | \％ | \％ | 4 | 「 | \％${ }^{*}$ | 性 |  | ${ }^{7}$ | 个个 | F |
| Traffic Volume（veh／h） | 380 | 100 | 270 | 10 | 170 | 130 | 270 | 770 | 0 | 80 | 710 | 460 |
| Future Volume（veh／h） | 380 | 100 | 270 | 10 | 170 | 130 | 270 | 770 | 0 | 80 | 710 | 460 |
| Initial $Q(Q b)$ ，veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped－Bike Adj（A＿pbT） | 1.00 |  | 1.00 | 1.00 |  | 1.00 | 1.00 |  | 1.00 | 1.00 |  | 1.00 |
| Parking Bus，Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach |  | No |  |  | No |  |  | No |  |  | No |  |
| Adj Sat Flow，veh／h／n | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate，veh／h | 396 | 104 | 281 | 10 | 177 | 135 | 281 | 802 | 0 | 83 | 740 | 479 |
| Peak Hour Factor | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 |
| Percent Heavy Veh，\％ | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap，veh／h | 430 | 664 | 728 | 17 | 235 | 199 | 360 | 1336 | 0 | 107 | 1164 | 901 |
| Arrive On Green | 0.24 | 0.36 | 0.36 | 0.01 | 0.13 | 0.13 | 0.10 | 0.38 | 0.00 | 0.06 | 0.33 | 0.33 |
| Sat Flow，veh／h | 1781 | 1870 | 1585 | 1781 | 1870 | 1581 | 3456 | 3647 | 0 | 1781 | 3554 | 1584 |
| Grp Volume（v），veh／h | 396 | 104 | 281 | 10 | 177 | 135 | 281 | 802 | 0 | 83 | 740 | 479 |
| Grp Sat Flow（s），veh／h／ln | 1781 | 1870 | 1585 | 1781 | 1870 | 1581 | 1728 | 1777 | 0 | 1781 | 1777 | 1584 |
| Q Serve（g＿s），s | 21.0 | 3.7 | 11.3 | 0.5 | 8.9 | 7.9 | 7.7 | 17.6 | 0.0 | 4.5 | 17.1 | 18.1 |
| Cycle Q Clear（g＿c），s | 21.0 | 3.7 | 11.3 | 0.5 | 8.9 | 7.9 | 7.7 | 17.6 | 0.0 | 4.5 | 17.1 | 18.1 |
| Prop In Lane | 1.00 |  | 1.00 | 1.00 |  | 1.00 | 1.00 |  | 0.00 | 1.00 |  | 1.00 |
| Lane Grp Cap（c），veh／h | 430 | 664 | 728 | 17 | 235 | 199 | 360 | 1336 | 0 | 107 | 1164 | 901 |
| V／C Ratio（X） | 0.92 | 0.16 | 0.39 | 0.58 | 0.75 | 0.68 | 0.78 | 0.60 | 0.00 | 0.78 | 0.64 | 0.53 |
| Avail Cap（c＿a），veh／h | 551 | 675 | 737 | 551 | 694 | 587 | 891 | 2016 | 0 | 367 | 2016 | 1281 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter（l） | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay（d），s／veh | 35.9 | 21.3 | 17.2 | 47.8 | 40.9 | 40.5 | 42.3 | 24.4 | 0.0 | 44.9 | 27.7 | 12.9 |
| Incr Delay（d2），s／veh | 16.2 | 0.1 | 0.2 | 10.7 | 3.6 | 3.0 | 1.4 | 0.6 | 0.0 | 4.5 | 0.8 | 0.7 |
| Initial Q Delay（d3），s／veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| \％ile BackOfQ（50\％），veh／ln | 10.5 | 1.5 | 4.0 | 0.3 | 4.2 | 3.2 | 3.2 | 7.0 | 0.0 | 2.0 | 6.9 | 6.0 |
| Unsig．Movement Delay，s／veh |  |  |  |  |  |  |  |  |  |  |  |  |
| LnGrp Delay（d），s／veh | 52.1 | 21.4 | 17.5 | 58.5 | 44.6 | 43.5 | 43.7 | 25.0 | 0.0 | 49.4 | 28.5 | 13.6 |
| LnGrp LOS | D | C | B | E | D | D | D | C | A | D | C | B |
| Approach Vol，veh／h |  | 781 |  |  | 322 |  |  | 1083 |  |  | 1302 |  |
| Approach Delay，s／veh |  | 35.5 |  |  | 44.6 |  |  | 29.9 |  |  | 24.4 |  |
| Approach LOS |  | D |  |  | D |  |  | C |  |  | C |  |
| Timer－Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |  |  |  |  |
| Phs Duration（ $\mathrm{G}+\mathrm{Y}+\mathrm{Rc}$ ），$s$ | 10.0 | 41.9 | 5.1 | 39.8 | 14.7 | 37.3 | 27.4 | 17.6 |  |  |  |  |
| Change Period（ $Y+R \mathrm{Cc}$ ），$s$ | ＊ 4.2 | 5.5 | ＊ 4.2 | 5.4 | 4.6 | ＊ 5.5 | 4.0 | ＊ 5.4 |  |  |  |  |
| Max Green Setting（Gmax），s | ＊20 | 55.0 | ＊ 30 | 35.0 | 25.0 | ＊55 | 30.0 | ＊36 |  |  |  |  |
| Max Q Clear Time（g＿c＋11），s | 6.5 | 19.6 | 2.5 | 13.3 | 9.7 | 20.1 | 23.0 | 10.9 |  |  |  |  |
| Green Ext Time（p＿c），s | 0.1 | 8.4 | 0.0 | 1.0 | 0.4 | 11.6 | 0.4 | 1.1 |  |  |  |  |
| Intersection Summary |  |  |  |  |  |  |  |  |  |  |  |  |
| HCM 6th Ctrl Delay |  |  | 30.4 |  |  |  |  |  |  |  |  |  |
| HCM 6th LOS |  |  | C |  |  |  |  |  |  |  |  |  |
| Notes |  |  |  |  |  |  |  |  |  |  |  |  |

＊HCM 6th computational engine requires equal clearance times for the phases crossing the barrier．

|  | 4 | $\rightarrow$ |  | $\downarrow$ |  |  | 4 | 4 | $p$ |  | $\downarrow$ | $\downarrow$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  | ¢ |  |  |  |  | \% | $\hat{1}$ |  | * | $\dagger$ |  |
| Traffic Volume (veh/h) | 20 | 90 | 30 | 0 | 0 | 0 | 90 | 520 | 10 | 170 | 360 | 10 |
| Future Volume (veh/h) | 20 | 90 | 30 | 0 | 0 | 0 | 90 | 520 | 10 | 170 | 360 | 10 |
| Initial $Q(Q b)$, veh | 0 | 0 | 0 |  |  |  | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 |  | 1.00 |  |  |  | 1.00 |  | 1.00 | 1.00 |  | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 |  |  |  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach |  | No |  |  |  |  |  | No |  |  | No |  |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 |  |  |  | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 21 | 94 | 31 |  |  |  | 94 | 542 | 10 | 177 | 375 | 0 |
| Peak Hour Factor | 0.96 | 0.96 | 0.96 |  |  |  | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 |
| Percent Heavy Veh, \% | 2 | 2 | 2 |  |  |  | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 29 | 130 | 43 |  |  |  | 149 | 694 | 13 | 231 | 795 |  |
| Arrive On Green | 0.11 | 0.11 | 0.11 |  |  |  | 0.08 | 0.38 | 0.38 | 0.13 | 0.42 | 0.00 |
| Sat Flow, veh/h | 257 | 1152 | 380 |  |  |  | 1781 | 1831 | 34 | 1781 | 1870 | 0 |
| Grp Volume(v), veh/h | 146 | 0 | 0 |  |  |  | 94 | 0 | 552 | 177 | 375 | 0 |
| Grp Sat Flow(s),veh/h/n | 1789 | 0 | 0 |  |  |  | 1781 | 0 | 1864 | 1781 | 1870 | 0 |
| Q Serve(g_s), s | 2.9 | 0.0 | 0.0 |  |  |  | 1.9 | 0.0 | 9.7 | 3.6 | 5.3 | 0.0 |
| Cycle Q Clear(g_c), s | 2.9 | 0.0 | 0.0 |  |  |  | 1.9 | 0.0 | 9.7 | 3.6 | 5.3 | 0.0 |
| Prop In Lane | 0.14 |  | 0.21 |  |  |  | 1.00 |  | 0.02 | 1.00 |  | 0.00 |
| Lane Grp Cap (c), veh/h | 202 | 0 | 0 |  |  |  | 149 | 0 | 707 | 231 | 795 |  |
| V/C Ratio(X) | 0.72 | 0.00 | 0.00 |  |  |  | 0.63 | 0.00 | 0.78 | 0.77 | 0.47 |  |
| Avail Cap(c_a), veh/h | 851 | 0 | 0 |  |  |  | 385 | 0 | 1180 | 482 | 1285 |  |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 |  |  |  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(l) | 1.00 | 0.00 | 0.00 |  |  |  | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 0.00 |
| Uniform Delay (d), s/veh | 15.8 | 0.0 | 0.0 |  |  |  | 16.4 | 0.0 | 10.1 | 15.6 | 7.7 | 0.0 |
| Incr Delay (d2), s/veh | 4.8 | 0.0 | 0.0 |  |  |  | 4.3 | 0.0 | 1.9 | 5.3 | 0.4 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 |  |  |  | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| \%ile BackOfQ(50\%),veh/ln | 1.1 | 0.0 | 0.0 |  |  |  | 0.7 | 0.0 | 2.2 | 1.3 | 1.0 | 0.0 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
| LnGrp Delay(d),s/veh | 20.7 | 0.0 | 0.0 |  |  |  | 20.7 | 0.0 | 12.1 | 20.8 | 8.1 | 0.0 |
| LnGrp LOS | C | A | A |  |  |  | C | A | B | C | A |  |
| Approach Vol, veh/h |  | 146 |  |  |  |  |  | 646 |  |  | 552 |  |
| Approach Delay, s/veh |  | 20.7 |  |  |  |  |  | 13.3 |  |  | 12.2 |  |
| Approach LOS |  | C |  |  |  |  |  | B |  |  | B |  |
| Timer - Assigned Phs | 1 | 2 |  | 4 | 5 | 6 |  |  |  |  |  |  |
| Phs Duration ( $\mathrm{G}+\mathrm{Y}+\mathrm{Rc}$ ), s | 8.8 | 19.0 |  | 9.2 | 7.1 | 20.7 |  |  |  |  |  |  |
| Change Period ( $\mathrm{Y}+\mathrm{Rc}$ ), s | 4.0 | 5.0 |  | 5.0 | 4.0 | 5.0 |  |  |  |  |  |  |
| Max Green Setting (Gmax), s | 10.0 | 23.4 |  | 17.6 | 8.0 | 25.4 |  |  |  |  |  |  |
| Max Q Clear Time (g_c+1), s | 5.6 | 11.7 |  | 4.9 | 3.9 | 7.3 |  |  |  |  |  |  |
| Green Ext Time (p_c), s | 0.2 | 2.4 |  | 0.5 | 0.1 | 1.7 |  |  |  |  |  |  |
| Intersection Summary |  |  |  |  |  |  |  |  |  |  |  |  |
| HCM 6th Ctrl Delay 13.6 <br> HCM 6th LOS B |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |

## Notes

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

|  | $\stackrel{ }{*}$ | $\rightarrow$ | $\geqslant$ | 7 |  |  | 4 | 4 | $p$ | * | $\downarrow$ | $\downarrow$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  | $\uparrow$ | 「 |  | $\dagger$ |  | \% | $\hat{\beta}$ |  | ${ }^{*}$ | $\uparrow$ | F |
| Traffic Volume (veh/h) | 60 | 0 | 80 | 5 | 5 | 15 | 130 | 1000 | 10 | 10 | 640 | 50 |
| Future Volume (veh/h) | 60 | 0 | 80 | 5 | 5 | 15 | 130 | 1000 | 10 | 10 | 640 | 50 |
| Initial $Q(Q b)$, veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 |  | 1.00 | 1.00 |  | 1.00 | 1.00 |  | 0.98 | 1.00 |  | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach |  | No |  |  | No |  |  | No |  |  | No |  |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 62 | 0 | 83 | 5 | 5 | 16 | 135 | 1042 | 10 | 10 | 667 | 52 |
| Peak Hour Factor | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 |
| Percent Heavy Veh, \% | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 144 | 0 | 128 | 7 | 7 | 23 | 174 | 1127 | 11 | 18 | 976 | 827 |
| Arrive On Green | 0.08 | 0.00 | 0.08 | 0.02 | 0.02 | 0.02 | 0.10 | 0.61 | 0.61 | 0.01 | 0.52 | 0.52 |
| Sat Flow, veh/h | 1781 | 0 | 1585 | 321 | 321 | 1027 | 1781 | 1849 | 18 | 1781 | 1870 | 1585 |
| Grp Volume(v), veh/h | 62 | 0 | 83 | 26 | 0 | 0 | 135 | 0 | 1052 | 10 | 667 | 52 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 0 | 1585 | 1669 | 0 | 0 | 1781 | 0 | 1867 | 1781 | 1870 | 1585 |
| Q Serve(g_s), s | 2.3 | 0.0 | 3.5 | 1.1 | 0.0 | 0.0 | 5.1 | 0.0 | 34.6 | 0.4 | 18.2 | 1.1 |
| Cycle Q Clear(g_c), s | 2.3 | 0.0 | 3.5 | 1.1 | 0.0 | 0.0 | 5.1 | 0.0 | 34.6 | 0.4 | 18.2 | 1.1 |
| Prop In Lane | 1.00 |  | 1.00 | 0.19 |  | 0.62 | 1.00 |  | 0.01 | 1.00 |  | 1.00 |
| Lane Grp Cap(c), veh/h | 144 | 0 | 128 | 38 | 0 | 0 | 174 | 0 | 1138 | 18 | 976 | 827 |
| V/C Ratio(X) | 0.43 | 0.00 | 0.65 | 0.68 | 0.00 | 0.00 | 0.77 | 0.00 | 0.92 | 0.55 | 0.68 | 0.06 |
| Avail Cap(c_a), veh/h | 570 | 0 | 508 | 255 | 0 | 0 | 415 | 0 | 1263 | 104 | 976 | 827 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(l) | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 0.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 30.1 | 0.0 | 30.6 | 33.3 | 0.0 | 0.0 | 30.2 | 0.0 | 12.0 | 33.9 | 12.2 | 8.1 |
| Incr Delay (d2), s/veh | 2.0 | 0.0 | 5.4 | 19.5 | 0.0 | 0.0 | 7.2 | 0.0 | 10.8 | 24.0 | 2.0 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| \%ile BackOfQ(50\%),veh/ln | 1.0 | 0.0 | 1.5 | 0.6 | 0.0 | 0.0 | 2.3 | 0.0 | 12.8 | 0.3 | 6.3 | 0.3 |
| Unsig. Movement Delay, s/veh |  |  |  |  |  |  |  |  |  |  |  |  |
| LnGrp Delay(d),s/veh | 32.1 | 0.0 | 36.0 | 52.8 | 0.0 | 0.0 | 37.4 | 0.0 | 22.8 | 57.9 | 14.2 | 8.1 |
| LnGrp LOS | C | A | D | D | A | A | D | A | C | E | B | A |
| Approach Vol, veh/h |  | 145 |  |  | 26 |  |  | 1187 |  |  | 729 |  |
| Approach Delay, s/veh |  | 34.3 |  |  | 52.8 |  |  | 24.5 |  |  | 14.3 |  |
| Approach LOS |  | C |  |  | D |  |  | C |  |  | B |  |
| Timer - Assigned Phs | 1 | 2 |  | 4 | 5 | 6 |  | 8 |  |  |  |  |
| Phs Duration ( $\mathrm{G}+\mathrm{Y}+\mathrm{Rc}$ ), s | 4.7 | 47.4 |  | 9.6 | 10.7 | 41.4 |  | 7.1 |  |  |  |  |
| Change Period ( $\mathrm{Y}+\mathrm{Rc}$ ), s | 4.0 | 5.5 |  | 4.0 | 4.0 | 5.5 |  | 5.5 |  |  |  |  |
| Max Green Setting (Gmax), s | 4.0 | 46.5 |  | 22.0 | 16.0 | 34.5 |  | 10.5 |  |  |  |  |
| Max Q Clear Time (g_c+11), s | 2.4 | 36.6 |  | 5.5 | 7.1 | 20.2 |  | 3.1 |  |  |  |  |
| Green Ext Time (p_c), s | 0.0 | 5.3 |  | 0.4 | 0.2 | 3.7 |  | 0.0 |  |  |  |  |
| Intersection Summary |  |  |  |  |  |  |  |  |  |  |  |  |
| HCM 6th Ctrl Delay |  |  | 22.0 |  |  |  |  |  |  |  |  |  |
| HCM 6th LOS |  |  | C |  |  |  |  |  |  |  |  |  |




|  | $\stackrel{ }{*}$ | $\rightarrow$ | 7 | $\checkmark$ |  | 4 | 4 | 4 | $p$ | $\checkmark$ | $\downarrow$ | $\downarrow$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | ${ }^{4}$ | 4 | 「 |  | $\uparrow$ | 7 | \% | 性 |  | \% ${ }^{\text {\% }}$ | $\hat{\dagger}$ |  |
| Traffic Volume (veh/h) | 10 | 390 | 10 | 0 | 280 | 530 | 10 | 350 | 70 | 560 | 220 | 10 |
| Future Volume (veh/h) | 10 | 390 | 10 | 0 | 280 | 530 | 10 | 350 | 70 | 560 | 220 | 10 |
| Initial $Q(Q b)$, veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 |  | 0.97 | 1.00 |  | 1.00 | 1.00 |  | 0.98 | 1.00 |  | 0.98 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach |  | No |  |  | No |  |  | No |  |  | No |  |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 0 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 11 | 415 | 11 | 0 | 298 | 564 | 11 | 372 | 74 | 596 | 234 | 11 |
| Peak Hour Factor | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 |
| Percent Heavy Veh, \% | 2 | 2 | 2 | 0 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 19 | 816 | 672 | 0 | 691 | 584 | 19 | 638 | 126 | 624 | 684 | 32 |
| Arrive On Green | 0.01 | 0.44 | 0.44 | 0.00 | 0.37 | 0.37 | 0.01 | 0.22 | 0.22 | 0.18 | 0.39 | 0.39 |
| Sat Flow, veh/h | 1781 | 1870 | 1542 | 0 | 1870 | 1581 | 1781 | 2947 | 580 | 3456 | 1770 | 83 |
| Grp Volume(v), veh/h | 11 | 415 | 11 | 0 | 298 | 564 | 11 | 223 | 223 | 596 | 0 | 245 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1870 | 1542 | 0 | 1870 | 1581 | 1781 | 1777 | 1750 | 1728 | 0 | 1854 |
| Q Serve(g_s), s | 0.5 | 13.0 | 0.3 | 0.0 | 9.7 | 28.3 | 0.5 | 9.1 | 9.3 | 13.8 | 0.0 | 7.6 |
| Cycle Q Clear(g_c), s | 0.5 | 13.0 | 0.3 | 0.0 | 9.7 | 28.3 | 0.5 | 9.1 | 9.3 | 13.8 | 0.0 | 7.6 |
| Prop In Lane | 1.00 |  | 1.00 | 0.00 |  | 1.00 | 1.00 |  | 0.33 | 1.00 |  | 0.04 |
| Lane Grp Cap(c), veh/h | 19 | 816 | 672 | 0 | 691 | 584 | 19 | 385 | 379 | 624 | 0 | 716 |
| V/C Ratio(X) | 0.57 | 0.51 | 0.02 | 0.00 | 0.43 | 0.97 | 0.57 | 0.58 | 0.59 | 0.96 | 0.00 | 0.34 |
| Avail Cap(c_a), veh/h | 126 | 927 | 764 | 0 | 691 | 584 | 88 | 698 | 688 | 624 | 0 | 972 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(l) | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 39.8 | 16.5 | 13.0 | 0.0 | 19.1 | 25.0 | 39.8 | 28.4 | 28.5 | 32.8 | 0.0 | 17.6 |
| Incr Delay (d2), s/veh | 23.8 | 0.5 | 0.0 | 0.0 | 0.4 | 28.6 | 23.8 | 1.4 | 1.5 | 25.4 | 0.0 | 0.3 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| \%ile BackOfQ(50\%),veh/ln | 0.3 | 5.4 | 0.4 | 0.0 | 4.2 | 25.3 | 0.3 | 3.9 | 3.9 | 7.8 | 0.0 | 3.1 |
| Unsig. Movement Delay, s/veh |  |  |  |  |  |  |  |  |  |  |  |  |
| LnGrp Delay (d),s/veh | 63.6 | 17.0 | 13.0 | 0.0 | 19.5 | 53.5 | 63.6 | 29.8 | 29.9 | 58.3 | 0.0 | 17.8 |
| LnGrp LOS | E | B | B | A | B | D | E | C | C | E | A | B |
| Approach Vol, veh/h |  | 437 |  |  | 862 |  |  | 457 |  |  | 841 |  |
| Approach Delay, s/veh |  | 18.1 |  |  | 41.8 |  |  | 30.7 |  |  | 46.5 |  |
| Approach LOS |  | B |  |  | D |  |  | C |  |  | D |  |
| Timer - Assigned Phs | 1 | 2 |  | 4 | 5 | 6 | 7 | 8 |  |  |  |  |
| Phs Duration ( $G+Y+R \mathrm{C})$, $s$ | 19.1 | 22.0 |  | 39.8 | 5.4 | 35.7 | 5.4 | 34.4 |  |  |  |  |
| Change Period ( $\mathrm{Y}+\mathrm{Rc}$ ), s | 4.5 | 4.5 |  | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |  |  |  |  |
| Max Green Setting (Gmax), s | 14.6 | 31.8 |  | 40.1 | 4.0 | 42.4 | 5.7 | 29.9 |  |  |  |  |
| Max Q Clear Time (g_c+11), s | 15.8 | 11.3 |  | 15.0 | 2.5 | 9.6 | 2.5 | 30.3 |  |  |  |  |
| Green Ext Time (p_c), s | 0.0 | 2.6 |  | 2.9 | 0.0 | 1.5 | 0.0 | 0.0 |  |  |  |  |
| Intersection Summary |  |  |  |  |  |  |  |  |  |  |  |  |
| HCM 6th Ctrl Delay |  |  | 37.4 |  |  |  |  |  |  |  |  |  |
| HCM 6th LOS |  |  | D |  |  |  |  |  |  |  |  |  |


| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Lane Configurations | \% ${ }^{\text {\% }}$ | $\uparrow$ | F | \% | $\hat{6}$ |  | ${ }^{7 *}$ | F |  | \% | $\uparrow$ | F |
| Traffic Volume (veh/h) | 330 | 150 | 820 | 40 | 100 | 50 | 680 | 270 | 40 | 30 | 100 | 380 |
| Future Volume (veh/h) | 330 | 150 | 820 | 40 | 100 | 50 | 680 | 270 | 40 | 30 | 100 | 380 |
| Initial $Q(Q b)$, veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 |  | 1.00 | 1.00 |  | 1.00 | 1.00 |  | 0.98 | 1.00 |  | 0.99 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach |  | No |  |  | No |  |  | No |  |  | No |  |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 344 | 156 | 0 | 42 | 104 | 52 | 708 | 281 | 42 | 31 | 104 | 396 |
| Peak Hour Factor | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 |
| Percent Heavy Veh, \% | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 475 | 257 |  | 194 | 128 | 64 | 763 | 884 | 132 | 65 | 691 | 796 |
| Arrive On Green | 0.14 | 0.14 | 0.00 | 0.11 | 0.11 | 0.11 | 0.22 | 0.56 | 0.56 | 0.04 | 0.37 | 0.37 |
| Sat Flow, veh/h | 3456 | 1870 | 1585 | 1781 | 1175 | 588 | 3456 | 1584 | 237 | 1781 | 1870 | 1564 |
| Grp Volume(v), veh/h | 344 | 156 | 0 | 42 | 0 | 156 | 708 | 0 | 323 | 31 | 104 | 396 |
| Grp Sat Flow(s),veh/h/n | 1728 | 1870 | 1585 | 1781 | 0 | 1763 | 1728 | 0 | 1821 | 1781 | 1870 | 1564 |
| Q Serve(g_s), s | 10.5 | 8.6 | 0.0 | 2.4 | 0.0 | 9.5 | 22.1 | 0.0 | 10.5 | 1.9 | 4.1 | 18.4 |
| Cycle Q Clear(g_c), s | 10.5 | 8.6 | 0.0 | 2.4 | 0.0 | 9.5 | 22.1 | 0.0 | 10.5 | 1.9 | 4.1 | 18.4 |
| Prop In Lane | 1.00 |  | 1.00 | 1.00 |  | 0.33 | 1.00 |  | 0.13 | 1.00 |  | 1.00 |
| Lane Grp Cap(c), veh/h | 475 | 257 |  | 194 | 0 | 192 | 763 | 0 | 1017 | 65 | 691 | 796 |
| V/C Ratio(X) | 0.72 | 0.61 |  | 0.22 | 0.00 | 0.81 | 0.93 | 0.00 | 0.32 | 0.48 | 0.15 | 0.50 |
| Avail Cap(c_a), veh/h | 801 | 434 |  | 308 | 0 | 304 | 770 | 0 | 1017 | 372 | 691 | 796 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(l) | 0.82 | 0.82 | 0.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 45.4 | 44.6 | 0.0 | 44.7 | 0.0 | 47.9 | 42.0 | 0.0 | 13.0 | 52.0 | 23.2 | 17.9 |
| Incr Delay (d2), s/veh | 2.5 | 2.7 | 0.0 | 0.2 | 0.0 | 4.0 | 17.6 | 0.0 | 0.8 | 11.3 | 0.2 | 1.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| \%ile BackOfQ(50\%),veh/In | 4.6 | 4.1 | 0.0 | 1.1 | 0.0 | 4.4 | 11.2 | 0.0 | 4.4 | 1.0 | 1.8 | 8.9 |
| Unsig. Movement Delay, s/veh |  |  |  |  |  |  |  |  |  |  |  |  |
| LnGrp Delay(d),s/veh | 47.9 | 47.3 | 0.0 | 44.9 | 0.0 | 52.0 | 59.6 | 0.0 | 13.9 | 63.2 | 23.4 | 18.9 |
| LnGrp LOS | D | D |  | D | A | D | E | A | B | E | C | B |
| Approach Vol, veh/h |  | 500 |  |  | 198 |  |  | 1031 |  |  | 531 |  |
| Approach Delay, s/veh |  | 47.7 |  |  | 50.5 |  |  | 45.3 |  |  | 22.4 |  |
| Approach LOS |  | D |  |  | D |  |  | D |  |  | C |  |


| Timer - Assigned Phs | 1 | 2 | 4 | 5 | 6 | 8 |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: |
| Phs Duration $(G+Y+R c)$, s | 8.0 | 65.9 | 19.6 | 28.8 | 45.1 | 16.5 |
| Change Period $(\mathrm{Y}+\mathrm{Rc})$, s | 4.0 | 4.5 | 4.5 | 4.5 | $* 4.5$ | 4.5 |
| Max Green Setting (Gmax), s | 23.0 | 25.0 | 25.5 | 24.5 | $* 24$ | 19.0 |
| Max Q Clear Time (g_c+11), s | 3.9 | 12.5 | 12.5 | 24.1 | 20.4 | 11.5 |
| Green Ext Time (p_c), s | 0.1 | 2.1 | 2.5 | 0.2 | 1.2 | 0.4 |

## Intersection Summary

| HCM 6th Ctrl Delay | 40.9 |
| :--- | ---: |
| HCM 6th LOS | $D$ |

## Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

|  | 4 | $\rightarrow$ |  | 7 |  |  | 4 | $\uparrow$ | $p$ |  | $\downarrow$ | $\downarrow$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | \％ | 个个 |  |  | 个个 | T「＂ | ＊＊ | $\hat{\beta}$ |  |  |  |  |
| Traffic Volume（veh／h） | 320 | 1040 | 0 | 0 | 620 | 550 | 170 | 0 | 260 | 0 | 0 | 0 |
| Future Volume（veh／h） | 320 | 1040 | 0 | 0 | 620 | 550 | 170 | 0 | 260 | 0 | 0 | 0 |
| Initial $Q(Q b)$ ，veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |  |  |  |
| Ped－Bike Adj（A＿pbT） | 1.00 |  | 1.00 | 1.00 |  | 1.00 | 1.00 |  | 1.00 |  |  |  |
| Parking Bus，Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |  |  |  |
| Work Zone On Approach |  | No |  |  | No |  |  | No |  |  |  |  |
| Adj Sat Flow，veh／h／ln | 1870 | 1870 | 0 | 0 | 1870 | 1870 | 1870 | 1870 | 1870 |  |  |  |
| Adj Flow Rate，veh／h | 348 | 1061 | 0 | 0 | 633 | 598 | 173 | 0 | 265 |  |  |  |
| Peak Hour Factor | 0.92 | 0.98 | 0.98 | 0.98 | 0.98 | 0.92 | 0.98 | 0.92 | 0.98 |  |  |  |
| Percent Heavy Veh，\％ | 2 | 2 | 0 | 0 | 2 | 2 | 2 | 2 | 2 |  |  |  |
| Cap，veh／h | 376 | 1774 | 0 | 0 | 863 | 678 | 1448 | 0 | 664 |  |  |  |
| Arrive On Green | 0.42 | 1.00 | 0.00 | 0.00 | 0.24 | 0.24 | 0.42 | 0.00 | 0.42 |  |  |  |
| Sat Flow，veh／h | 1781 | 3647 | 0 | 0 | 3647 | 2790 | 3456 | 0 | 1585 |  |  |  |
| Grp Volume（v），veh／h | 348 | 1061 | 0 | 0 | 633 | 598 | 173 | 0 | 265 |  |  |  |
| Grp Sat Flow（s），veh／h／ln | 1781 | 1777 | 0 | 0 | 1777 | 1395 | 1728 | 0 | 1585 |  |  |  |
| Q Serve（g＿s），s | 20.4 | 0.1 | 0.0 | 0.0 | 18.0 | 22.7 | 3.4 | 0.0 | 12.8 |  |  |  |
| Cycle Q Clear（g＿c），s | 20.4 | 0.1 | 0.0 | 0.0 | 18.0 | 22.7 | 3.4 | 0.0 | 12.8 |  |  |  |
| Prop In Lane | 1.00 |  | 0.00 | 0.00 |  | 1.00 | 1.00 |  | 1.00 |  |  |  |
| Lane Grp Cap（c），veh／h | 376 | 1774 | 0 | 0 | 863 | 678 | 1448 | 0 | 664 |  |  |  |
| V／C Ratio（X） | 0.93 | 0.60 | 0.00 | 0.00 | 0.73 | 0.88 | 0.12 | 0.00 | 0.40 |  |  |  |
| Avail Cap（c＿a），veh／h | 534 | 2132 | 0 | 0 | 905 | 710 | 1448 | 0 | 664 |  |  |  |
| HCM Platoon Ratio | 2.00 | 2.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |  |  |  |
| Upstream Filter（l） | 0.80 | 0.80 | 0.00 | 0.00 | 0.65 | 0.65 | 1.00 | 0.00 | 1.00 |  |  |  |
| Uniform Delay（d），s／veh | 31.0 | 0.0 | 0.0 | 0.0 | 38.4 | 40.1 | 19.5 | 0.0 | 22.3 |  |  |  |
| Incr Delay（d2），s／veh | 15.1 | 0.3 | 0.0 | 0.0 | 1.9 | 8.4 | 0.2 | 0.0 | 1.8 |  |  |  |
| Initial Q Delay（d3），s／veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |  |  |  |
| \％ile BackOfQ（50\％），veh／ln | 8.1 | 0.1 | 0.0 | 0.0 | 7.9 | 8.4 | 1.3 | 0.0 | 4.7 |  |  |  |
| Unsig．Movement Delay，s／veh |  |  |  |  |  |  |  |  |  |  |  |  |
| LnGrp Delay（d），s／veh | 46.1 | 0.3 | 0.0 | 0.0 | 40.3 | 48.5 | 19.7 | 0.0 | 24.1 |  |  |  |
| LnGrp LOS | D | A | A | A | D | D | B | A | C |  |  |  |
| Approach Vol，veh／h |  | 1409 |  |  | 1231 |  |  | 438 |  |  |  |  |
| Approach Delay，s／veh |  | 11.6 |  |  | 44.3 |  |  | 22.4 |  |  |  |  |
| Approach LOS |  | B |  |  | D |  |  | C |  |  |  |  |
| Timer－Assigned Phs |  | 2 |  | 4 |  |  | 7 | 8 |  |  |  |  |
| Phs Duration（ $\mathrm{G}+\mathrm{Y}+\mathrm{Rc}$ ）， s |  | 50.1 |  | 59.9 |  |  | 28.2 | 31.7 |  |  |  |  |
| Change Period（ $Y+R \mathrm{c}$ ）， s |  | 4.0 |  | 5.0 |  |  | 5.0 | 5.0 |  |  |  |  |
| Max Green Setting（Gmax），s |  | 35.0 |  | 66.0 |  |  | 33.0 | 28.0 |  |  |  |  |
| Max Q Clear Time（g＿c＋1），s |  | 14.8 |  | 2.1 |  |  | 22.4 | 24.7 |  |  |  |  |
| Green Ext Time（p＿c），s |  | 1.9 |  | 9.9 |  |  | 0.8 | 2.0 |  |  |  |  |
| Intersection Summary |  |  |  |  |  |  |  |  |  |  |  |  |
| HCM 6th Ctrr Delay |  |  | 26.2 |  |  |  |  |  |  |  |  |  |
| HCM 6th LOS |  |  | C |  |  |  |  |  |  |  |  |  |


|  | 4 | $\rightarrow$ |  | 7 |  |  |  | $\uparrow$ | $p$ |  | $\downarrow$ | $\downarrow$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  | 个个 | 「 | \％ | 性 |  |  |  |  | \％${ }^{1 / 4}$ | $\dagger$ |  |
| Traffic Volume（veh／h） | 0 | 720 | 260 | 190 | 560 | 0 | 0 | 0 | 0 | 600 | 10 | 70 |
| Future Volume（veh／h） | 0 | 720 | 260 | 190 | 560 | 0 | 0 | 0 | 0 | 600 | 10 | 70 |
| Initial $Q(Q b)$ ，veh | 0 | 0 | 0 | 0 | 0 | 0 |  |  |  | 0 | 0 | 0 |
| Ped－Bike Adj（A＿pbT） | 1.00 |  | 0.97 | 1.00 |  | 1.00 |  |  |  | 1.00 |  | 1.00 |
| Parking Bus，Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |  |  |  | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach |  | No |  |  | No |  |  |  |  |  | No |  |
| Adj Sat Flow，veh／h／ln | 0 | 1870 | 1870 | 1870 | 1870 | 0 |  |  |  | 1870 | 1870 | 1870 |
| Adj Flow Rate，veh／h | 0 | 727 | 263 | 192 | 566 | 0 |  |  |  | 606 | 10 | 71 |
| Peak Hour Factor | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 | 0.99 |  |  |  | 0.99 | 0.99 | 0.99 |
| Percent Heavy Veh，\％ | 0 | 2 | 2 | 2 | 2 | 0 |  |  |  | 2 | 2 | 2 |
| Cap，veh／h | 0 | 917 | 398 | 219 | 1482 | 0 |  |  |  | 1732 | 100 | 710 |
| Arrive On Green | 0.00 | 0.26 | 0.26 | 0.25 | 0.83 | 0.00 |  |  |  | 0.50 | 0.50 | 0.50 |
| Sat Flow，veh／h | 0 | 3647 | 1544 | 1781 | 3647 | 0 |  |  |  | 3456 | 199 | 1416 |
| Grp Volume（v），veh／h | 0 | 727 | 263 | 192 | 566 | 0 |  |  |  | 606 | 0 | 81 |
| Grp Sat Flow（s），veh／h／ln | 0 | 1777 | 1544 | 1781 | 1777 | 0 |  |  |  | 1728 | 0 | 1615 |
| Q Serve（g＿s），s | 0.0 | 21.0 | 16.8 | 11.4 | 4.3 | 0.0 |  |  |  | 11.7 | 0.0 | 2.9 |
| Cycle Q Clear（g＿c），s | 0.0 | 21.0 | 16.8 | 11.4 | 4.3 | 0.0 |  |  |  | 11.7 | 0.0 | 2.9 |
| Prop In Lane | 0.00 |  | 1.00 | 1.00 |  | 0.00 |  |  |  | 1.00 |  | 0.88 |
| Lane Grp Cap（c），veh／h | 0 | 917 | 398 | 219 | 1482 | 0 |  |  |  | 1732 | 0 | 810 |
| V／C Ratio（X） | 0.00 | 0.79 | 0.66 | 0.88 | 0.38 | 0.00 |  |  |  | 0.35 | 0.00 | 0.10 |
| Avail Cap（c＿a），veh／h | 0 | 1276 | 554 | 259 | 1922 | 0 |  |  |  | 1732 | 0 | 810 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 2.00 | 2.00 | 1.00 |  |  |  | 1.00 | 1.00 | 1.00 |
| Upstream Filter（l） | 0.00 | 1.00 | 1.00 | 0.80 | 0.80 | 0.00 |  |  |  | 1.00 | 0.00 | 1.00 |
| Uniform Delay（d），s／veh | 0.0 | 38.1 | 36.5 | 40.7 | 5.7 | 0.0 |  |  |  | 16.6 | 0.0 | 14.4 |
| Incr Delay（d2），s／veh | 0.0 | 2.4 | 1.9 | 20.6 | 0.1 | 0.0 |  |  |  | 0.6 | 0.0 | 0.2 |
| Initial Q Delay（d3），s／veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |  |  |  | 0.0 | 0.0 | 0.0 |
| \％ile BackOfQ（50\％），veh／ln | 0.0 | 9.2 | 6.4 | 5.6 | 1.3 | 0.0 |  |  |  | 4.3 | 0.0 | 1.0 |
| Unsig．Movement Delay，s／veh |  |  |  |  |  |  |  |  |  |  |  |  |
| LnGrp Delay（d），s／veh | 0.0 | 40.4 | 38.4 | 61.3 | 5.8 | 0.0 |  |  |  | 17.2 | 0.0 | 14.7 |
| LnGrp LOS | A | D | D | E | A | A |  |  |  | B | A | B |
| Approach Vol，veh／h |  | 990 |  |  | 758 |  |  |  |  |  | 687 |  |
| Approach Delay，s／veh |  | 39.9 |  |  | 19.9 |  |  |  |  |  | 16.9 |  |
| Approach LOS |  | D |  |  | B |  |  |  |  |  | B |  |
| Timer－Assigned Phs |  |  | 3 | 4 |  | 6 |  | 8 |  |  |  |  |
| Phs Duration（ $G+Y+R \mathrm{c}$ ），$s$ |  |  | 17.5 | 32.9 |  | 59.6 |  | 50.4 |  |  |  |  |
| Change Period（ $Y+R \mathrm{c}$ ）， s |  |  | 4.0 | 4.5 |  | 4.5 |  | 4.5 |  |  |  |  |
| Max Green Setting（Gmax），s |  |  | 16.0 | 39.5 |  | 41.5 |  | 59.5 |  |  |  |  |
| Max Q Clear Time（g＿c＋1），s |  |  | 13.4 | 23.0 |  | 13.7 |  | 6.3 |  |  |  |  |
| Green Ext Time（p＿c），s |  |  | 0.1 | 5.4 |  | 2.6 |  | 4.2 |  |  |  |  |
| Intersection Summary |  |  |  |  |  |  |  |  |  |  |  |  |
| HCM 6th Ctrr Delay |  |  | 27.2 |  |  |  |  |  |  |  |  |  |
| HCM 6th LOS |  |  | C |  |  |  |  |  |  |  |  |  |


|  | $\rangle$ | $\rightarrow$ | \% | 7 |  | 4 | 4 | $\uparrow$ | $p$ |  | $\downarrow$ | $\downarrow$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | \% | 4 | " | \% | $\uparrow$ |  |  | $\uparrow$ | " |  | \$ |  |
| Traffic Volume (veh/h) | 0 | 320 | 110 | 400 | 590 | 0 | 170 | 0 | 440 | 0 | 0 | 0 |
| Future Volume (veh/h) | 0 | 320 | 110 | 400 | 590 | 0 | 170 | 0 | 440 | 0 | 0 | 0 |
| Initial $Q(Q b)$, veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 |  | 1.00 | 1.00 |  | 1.00 | 1.00 |  | 1.00 | 1.00 |  | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach |  | No |  |  | No |  |  | No |  |  | No |  |
| Adj Sat Flow, veh/h/n | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 0 | 337 | 116 | 421 | 621 | 0 | 179 | 0 | 463 | 0 | 0 | 0 |
| Peak Hour Factor | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.92 | 0.95 | 0.95 |
| Percent Heavy Veh, \% | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 3 | 421 | 356 | 463 | 1018 | 0 | 564 | 0 | 511 | 0 | 603 | 0 |
| Arrive On Green | 0.00 | 0.22 | 0.22 | 0.26 | 0.54 | 0.00 | 0.32 | 0.00 | 0.32 | 0.00 | 0.00 | 0.00 |
| Sat Flow, veh/h | 1781 | 1870 | 1585 | 1781 | 1870 | 0 | 1418 | 0 | 1585 | 0 | 1870 | 0 |
| Grp Volume(v), veh/h | 0 | 337 | 116 | 421 | 621 | 0 | 179 | 0 | 463 | 0 | 0 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1870 | 1585 | 1781 | 1870 | 0 | 1418 | 0 | 1585 | 0 | 1870 | 0 |
| Q Serve(g_s), s | 0.0 | 11.5 | 4.1 | 15.5 | 15.3 | 0.0 | 6.6 | 0.0 | 18.9 | 0.0 | 0.0 | 0.0 |
| Cycle Q Clear(g_c), s | 0.0 | 11.5 | 4.1 | 15.5 | 15.3 | 0.0 | 6.6 | 0.0 | 18.9 | 0.0 | 0.0 | 0.0 |
| Prop In Lane | 1.00 |  | 1.00 | 1.00 |  | 0.00 | 1.00 |  | 1.00 | 0.00 |  | 0.00 |
| Lane Grp Cap(c), veh/h | 3 | 421 | 356 | 463 | 1018 | 0 | 564 | 0 | 511 | 0 | 603 | 0 |
| V/C Ratio(X) | 0.00 | 0.80 | 0.33 | 0.91 | 0.61 | 0.00 | 0.32 | 0.00 | 0.91 | 0.00 | 0.00 | 0.00 |
| Avail Cap(c_a), veh/h | 132 | 693 | 587 | 475 | 1053 | 0 | 611 | 0 | 564 | 0 | 665 | 0 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(l) | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 0.00 | 1.00 | 0.00 | 0.00 | 0.00 |
| Uniform Delay (d), s/veh | 0.0 | 24.7 | 21.9 | 24.2 | 10.5 | 0.0 | 17.7 | 0.0 | 21.9 | 0.0 | 0.0 | 0.0 |
| Incr Delay (d2), s/veh | 0.0 | 3.6 | 0.5 | 21.1 | 1.0 | 0.0 | 0.3 | 0.0 | 17.3 | 0.0 | 0.0 | 0.0 |
| Initial Q Delay(d3),s/veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| \%ile BackOfQ(50\%),veh/ln | 0.0 | 4.9 | 1.4 | 8.4 | 4.9 | 0.0 | 2.0 | 0.0 | 8.9 | 0.0 | 0.0 | 0.0 |
| Unsig. Movement Delay, s/veh |  |  |  |  |  |  |  |  |  |  |  |  |
| LnGrp Delay(d),s/veh | 0.0 | 28.3 | 22.4 | 45.3 | 11.5 | 0.0 | 18.0 | 0.0 | 39.2 | 0.0 | 0.0 | 0.0 |
| LnGrp LOS | A | C | C | D | B | A | B | A | D | A | A | A |
| Approach Vol, veh/h |  | 453 |  |  | 1042 |  |  | 642 |  |  | 0 |  |
| Approach Delay, s/veh |  | 26.8 |  |  | 25.1 |  |  | 33.3 |  |  | 0.0 |  |
| Approach LOS |  | C |  |  | C |  |  | C |  |  |  |  |
| Timer - Assigned Phs | 1 | 2 |  | 4 | 5 | 6 |  | 8 |  |  |  |  |
| Phs Duration ( $\mathrm{G}+\mathrm{Y}+\mathrm{Rc}$ ), s | 0.0 | 41.7 |  | 25.8 | 21.5 | 20.2 |  | 25.8 |  |  |  |  |
| Change Period ( $\mathrm{Y}+\mathrm{Rc}$ ), s | 4.0 | 5.0 |  | 4.0 | 4.0 | 5.0 |  | 4.0 |  |  |  |  |
| Max Green Setting (Gmax), s | 5.0 | 38.0 |  | 24.0 | 18.0 | 25.0 |  | 24.0 |  |  |  |  |
| Max Q Clear Time (g_c+11), s | 0.0 | 17.3 |  | 20.9 | 17.5 | 13.5 |  | 0.0 |  |  |  |  |
| Green Ext Time (p_c), s | 0.0 | 3.7 |  | 0.9 | 0.1 | 1.7 |  | 0.0 |  |  |  |  |
| Intersection Summary |  |  |  |  |  |  |  |  |  |  |  |  |
| HCM 6th Ctrl Delay |  |  | 27.9 |  |  |  |  |  |  |  |  |  |
| HCM 6th LOS |  |  | C |  |  |  |  |  |  |  |  |  |



* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



|  | 4 |  | ， | 7 | 4 | 4 | 4 | 4 | \％ |  | $\downarrow$ | 4 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | ${ }^{1 /}$ | 㻢 |  | ${ }^{1}$ | 㻢 |  | ${ }^{7}$ | 㻢 |  | ${ }^{1}$ | 㻢 |  |
| Traffic Volume（veh／h） | 170 | 170 | 200 | 60 | 90 | 20 | 160 | 310 | 90 | 50 | 340 | 150 |
| Future Volume（veh／h） | 170 | 170 | 200 | 60 | 90 | 20 | 160 | 310 | 90 | 50 | 340 | 150 |
| Initial $Q(Q b)$ ，veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped－Bike Adj（A＿pbT） | 1.00 |  | 1.00 | 1.00 |  | 1.00 | 1.00 |  | 0.99 | 1.00 |  | 0.99 |
| Parking Bus，Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach |  | No |  |  | No |  |  | No |  |  | No |  |
| Adj Sat Flow，veh／h／ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate，veh／h | 177 | 177 | 208 | 62 | 94 | 21 | 167 | 323 | 94 | 52 | 354 | 156 |
| Peak Hour Factor | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 |
| Percent Heavy Veh，\％ | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap，veh／h | 228 | 375 | 335 | 104 | 411 | 89 | 215 | 847 | 242 | 92 | 583 | 252 |
| Arrive On Green | 0.13 | 0.21 | 0.21 | 0.06 | 0.14 | 0.14 | 0.12 | 0.31 | 0.31 | 0.05 | 0.24 | 0.24 |
| Sat Flow，veh／h | 1781 | 1777 | 1585 | 1781 | 2904 | 630 | 1781 | 2718 | 777 | 1781 | 2403 | 1040 |
| Grp Volume（v），veh／h | 177 | 177 | 208 | 62 | 56 | 59 | 167 | 209 | 208 | 52 | 260 | 250 |
| Grp Sat Flow（s），veh／h／ln | 1781 | 1777 | 1585 | 1781 | 1777 | 1757 | 1781 | 1777 | 1719 | 1781 | 1777 | 1666 |
| Q Serve（g＿s），s | 4.7 | 4.3 | 5.8 | 1.7 | 1.4 | 1.5 | 4.5 | 4.5 | 4.6 | 1.4 | 6.4 | 6.6 |
| Cycle Q Clear（g＿c），s | 4.7 | 4.3 | 5.8 | 1.7 | 1.4 | 1.5 | 4.5 | 4.5 | 4.6 | 1.4 | 6.4 | 6.6 |
| Prop In Lane | 1.00 |  | 1.00 | 1.00 |  | 0.36 | 1.00 |  | 0.45 | 1.00 |  | 0.62 |
| Lane Grp Cap（c），veh／h | 228 | 375 | 335 | 104 | 251 | 249 | 215 | 554 | 535 | 92 | 431 | 404 |
| V／C Ratio（X） | 0.78 | 0.47 | 0.62 | 0.60 | 0.22 | 0.24 | 0.78 | 0.38 | 0.39 | 0.56 | 0.60 | 0.62 |
| Avail Cap（c＿a），veh／h | 400 | 1305 | 1164 | 400 | 1305 | 1291 | 363 | 1269 | 1227 | 363 | 1269 | 1190 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter（l） | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay（d），s／veh | 20.7 | 16.9 | 17.5 | 22.5 | 18.7 | 18.7 | 20.9 | 13.2 | 13.2 | 22.7 | 16.5 | 16.5 |
| Incr Delay（d2），s／veh | 5.6 | 0.9 | 1.9 | 5.4 | 0.4 | 0.5 | 5.9 | 0.4 | 0.5 | 5.3 | 1.4 | 1.5 |
| Initial Q Delay（d3），s／veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| \％ile BackOfQ（50\％），veh／In | 2.1 | 1.6 | 2.1 | 0.8 | 0.5 | 0.6 | 2.0 | 1.6 | 1.6 | 0.7 | 2.4 | 2.4 |
| Unsig．Movement Delay，s／veh |  |  |  |  |  |  |  |  |  |  |  |  |
| LnGrp Delay（d），s／veh | 26.3 | 17.9 | 19.4 | 28.0 | 19.1 | 19.2 | 26.8 | 13.6 | 13.7 | 28.0 | 17.8 | 18.1 |
| LnGrp LOS | C | B | B | C | B | B | C | B | B | C | B | B |
| Approach Vol，veh／h |  | 562 |  |  | 177 |  |  | 584 |  |  | 562 |  |
| Approach Delay，s／veh |  | 21.1 |  |  | 22.2 |  |  | 17.4 |  |  | 18.9 |  |
| Approach LOS |  | C |  |  | C |  |  | B |  |  | B |  |
| Timer－Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |  |  |  |  |
| Phs Duration（ $G+Y+R \mathrm{c}$ ），$s$ | 6.5 | 20.3 | 6.8 | 15.4 | 9.9 | 16.9 | 10.3 | 11.9 |  |  |  |  |
| Change Period（ $\mathrm{Y}+\mathrm{Rc}$ ），s | 4.0 | 5.0 | 4.0 | 5.0 | 4.0 | 5.0 | 4.0 | 5.0 |  |  |  |  |
| Max Green Setting（Gmax），s | 10.0 | 35.0 | 11.0 | 36.0 | 10.0 | 35.0 | 11.0 | 36.0 |  |  |  |  |
| Max Q Clear Time（g＿c＋11），s | 3.4 | 6.6 | 3.7 | 7.8 | 6.5 | 8.6 | 6.7 | 3.5 |  |  |  |  |
| Green Ext Time（p＿c），s | 0.0 | 2.6 | 0.1 | 2.5 | 0.1 | 3.3 | 0.2 | 0.6 |  |  |  |  |
| Intersection Summary |  |  |  |  |  |  |  |  |  |  |  |  |
| HCM 6th Ctrl Delay |  |  | 19.4 |  |  |  |  |  |  |  |  |  |
| HCM 6th LOS |  |  | B |  |  |  |  |  |  |  |  |  |


|  | $\dagger$ | $\rightarrow$ |  | 7 | － |  | 4 | 4 | $p$ |  | $\downarrow$ | $\checkmark$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | \％${ }^{*}$ | 个4 | \％ | \％ | 个4 | 「 | \％${ }^{*}$ | 个4 | 「 | \％${ }^{1+1}$ | 个个 | F |
| Traffic Volume（veh／h） | 230 | 410 | 250 | 80 | 420 | 250 | 240 | 310 | 60 | 160 | 350 | 180 |
| Future Volume（veh／h） | 230 | 410 | 250 | 80 | 420 | 250 | 240 | 310 | 60 | 160 | 350 | 180 |
| Initial $Q(Q b)$ ，veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped－Bike Adj（A＿pbT） | 1.00 |  | 0.97 | 1.00 |  | 0.97 | 1.00 |  | 0.97 | 1.00 |  | 0.97 |
| Parking Bus，Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach |  | No |  |  | No |  |  | No |  |  | No |  |
| Adj Sat Flow，veh／h／n | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate，veh／h | 264 | 471 | 287 | 92 | 483 | 287 | 276 | 356 | 69 | 184 | 402 | 207 |
| Peak Hour Factor | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 | 0.87 |
| Percent Heavy Veh，\％ | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap，veh／h | 357 | 1161 | 673 | 119 | 1033 | 572 | 369 | 1059 | 565 | 271 | 884 | 545 |
| Arrive On Green | 0.10 | 0.33 | 0.33 | 0.07 | 0.29 | 0.29 | 0.11 | 0.30 | 0.30 | 0.08 | 0.25 | 0.25 |
| Sat Flow，veh／h | 3456 | 3554 | 1541 | 1781 | 3554 | 1538 | 3456 | 3554 | 1539 | 3456 | 3554 | 1534 |
| Grp Volume（v），veh／h | 264 | 471 | 287 | 92 | 483 | 287 | 276 | 356 | 69 | 184 | 402 | 207 |
| Grp Sat Flow（s），veh／h／ln | 1728 | 1777 | 1541 | 1781 | 1777 | 1538 | 1728 | 1777 | 1539 | 1728 | 1777 | 1534 |
| Q Serve（g＿s），s | 6.3 | 8.8 | 2.2 | 4.3 | 9.5 | 12.3 | 6.6 | 6.7 | 2.5 | 4.4 | 8.2 | 4.8 |
| Cycle Q Clear（g＿c），s | 6.3 | 8.8 | 2.2 | 4.3 | 9.5 | 12.3 | 6.6 | 6.7 | 2.5 | 4.4 | 8.2 | 4.8 |
| Prop In Lane | 1.00 |  | 1.00 | 1.00 |  | 1.00 | 1.00 |  | 1.00 | 1.00 |  | 1.00 |
| Lane Grp Cap（c），veh／h | 357 | 1161 | 673 | 119 | 1033 | 572 | 369 | 1059 | 565 | 271 | 884 | 545 |
| V／C Ratio（X） | 0.74 | 0.41 | 0.43 | 0.77 | 0.47 | 0.50 | 0.75 | 0.34 | 0.12 | 0.68 | 0.46 | 0.38 |
| Avail Cap（c＿a），veh／h | 607 | 1882 | 986 | 313 | 1882 | 939 | 607 | 1882 | 921 | 607 | 1882 | 976 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter（l） | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay（d），s／veh | 37.2 | 22.3 | 5.9 | 39.2 | 24.8 | 20.9 | 37.0 | 23.4 | 18.0 | 38.3 | 27.2 | 7.8 |
| Incr Delay（d2），s／veh | 3.0 | 0.2 | 0.4 | 10.0 | 0.3 | 0.7 | 3.0 | 0.2 | 0.1 | 3.0 | 0.4 | 0.4 |
| Initial Q Delay（d3），s／veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| \％ile BackOfQ（50\％），veh／ln | 2.8 | 3.6 | 1.7 | 2.2 | 3.9 | 4.4 | 2.9 | 2.8 | 0.9 | 2.0 | 3.4 | 2.0 |
| Unsig．Movement Delay，s／veh |  |  |  |  |  |  |  |  |  |  |  |  |
| LnGrp Delay（d），s／veh | 40.2 | 22.5 | 6.3 | 49.1 | 25.2 | 21.6 | 40.1 | 23.6 | 18.1 | 41.2 | 27.5 | 8.3 |
| LnGrp LOS | D | C | A | D | C | C | D | C | B | D | C | A |
| Approach Vol，veh／h |  | 1022 |  |  | 862 |  |  | 701 |  |  | 793 |  |
| Approach Delay，s／veh |  | 22.5 |  |  | 26.5 |  |  | 29.5 |  |  | 25.7 |  |
| Approach LOS |  | C |  |  | C |  |  | C |  |  | C |  |
| Timer－Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |  |  |  |  |
| Phs Duration（ $\mathrm{G}+\mathrm{Y}+\mathrm{Rc}$ ），$s$ | 10.7 | 31.2 | 9.7 | 33.7 | 14.9 | 27.0 | 12.8 | 30.6 |  |  |  |  |
| Change Period（ $Y+R \mathrm{Cc}$ ），$s$ | 4.0 | 5.8 | 4.0 | 5.8 | 5.8 | ＊ 5.8 | 4.0 | 5.8 |  |  |  |  |
| Max Green Setting（Gmax），s | 15.0 | 45.2 | 15.0 | 45.2 | 15.0 | ＊45 | 15.0 | 45.2 |  |  |  |  |
| Max Q Clear Time（g＿c＋11），s | 6.4 | 8.7 | 6.3 | 10.8 | 8.6 | 10.2 | 8.3 | 14.3 |  |  |  |  |
| Green Ext Time（p＿c），s | 0.4 | 2.8 | 0.1 | 4.7 | 0.5 | 3.7 | 0.5 | 4.7 |  |  |  |  |
| Intersection Summary |  |  |  |  |  |  |  |  |  |  |  |  |
| HCM 6th Ctrl Delay |  |  | 25.7 |  |  |  |  |  |  |  |  |  |
| HCM 6th LOS |  |  | C |  |  |  |  |  |  |  |  |  |
| Notes |  |  |  |  |  |  |  |  |  |  |  |  |

＊HCM 6th computational engine requires equal clearance times for the phases crossing the barrier．

HCM 6th Signalized Intersection Summary
39：Maurice Ave／Snyder Ln \＆Cotati Ave
09／29／2023

|  | 4 | $\rightarrow$ |  | $\dagger$ | 4 | 4 | 4 | 4 | 1 |  | $\downarrow$ | $\downarrow$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | ${ }^{7}$ | 个4 | 「 | \％ | 个4 | 「 | \％ | $\hat{1}$ |  | ${ }^{4}$ | $\uparrow$ | F |
| Traffic Volume（veh／h） | 470 | 330 | 80 | 20 | 520 | 440 | 50 | 130 | 20 | 250 | 190 | 510 |
| Future Volume（veh／h） | 470 | 330 | 80 | 20 | 520 | 440 | 50 | 130 | 20 | 250 | 190 | 510 |
| Initial Q（Qb），veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped－Bike Adj（A＿pbT） | 1.00 |  | 0.97 | 1.00 |  | 0.98 | 1.00 |  | 0.95 | 1.00 |  | 0.98 |
| Parking Bus，Adj | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach |  | No |  |  | No |  |  | No |  |  | No |  |
| Adj Sat Flow，veh／h／ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate，veh／h | 485 | 340 | 82 | 21 | 536 | 454 | 52 | 134 | 21 | 258 | 196 | 526 |
| Peak Hour Factor | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 |
| Percent Heavy Veh，\％ | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap，veh／h | 360 | 1636 | 767 | 39 | 995 | 674 | 68 | 291 | 46 | 270 | 559 | 784 |
| Arrive On Green | 0.20 | 0.46 | 0.46 | 0.02 | 0.28 | 0.28 | 0.04 | 0.19 | 0.19 | 0.15 | 0.30 | 0.30 |
| Sat Flow，veh／h | 1781 | 3554 | 1534 | 1781 | 3554 | 1547 | 1781 | 1566 | 245 | 1781 | 1870 | 1548 |
| Grp Volume（v），veh／h | 485 | 340 | 82 | 21 | 536 | 454 | 52 | 0 | 155 | 258 | 196 | 526 |
| Grp Sat Flow（s），veh／h／ln | 1781 | 1777 | 1534 | 1781 | 1777 | 1547 | 1781 | 0 | 1811 | 1781 | 1870 | 1548 |
| Q Serve（g＿s），s | 20.0 | 5.6 | 2.8 | 1.2 | 12.6 | 23.3 | 2.9 | 0.0 | 7.5 | 14.2 | 8.1 | 25.4 |
| Cycle Q Clear（g＿c），s | 20.0 | 5.6 | 2.8 | 1.2 | 12.6 | 23.3 | 2.9 | 0.0 | 7.5 | 14.2 | 8.1 | 25.4 |
| Prop In Lane | 1.00 |  | 1.00 | 1.00 |  | 1.00 | 1.00 |  | 0.14 | 1.00 |  | 1.00 |
| Lane Grp Cap（c），veh／h | 360 | 1636 | 767 | 39 | 995 | 674 | 68 | 0 | 336 | 270 | 559 | 784 |
| V／C Ratio（X） | 1.35 | 0.21 | 0.11 | 0.53 | 0.54 | 0.67 | 0.76 | 0.00 | 0.46 | 0.95 | 0.35 | 0.67 |
| Avail Cap（c＿a），veh／h | 360 | 1636 | 767 | 360 | 1046 | 696 | 360 | 0 | 698 | 270 | 626 | 839 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter（l） | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay（d），s／veh | 39.4 | 15.9 | 13.1 | 47.8 | 30.2 | 22.6 | 47.1 | 0.0 | 35.8 | 41.6 | 27.1 | 18.6 |
| Incr Delay（d2），s／veh | 173.0 | 0.1 | 0.1 | 10.7 | 0.5 | 2.5 | 15.6 | 0.0 | 1.0 | 42.3 | 0.4 | 1.9 |
| Initial Q Delay（d3），s／veh | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| \％ile BackOfQ（50\％），veh／ln | 25.9 | 2.3 | 1.0 | 0.6 | 5.4 | 8.6 | 1.6 | 0.0 | 3.4 | 9.3 | 3.6 | 9.0 |

Unsig．Movement Delay，s／veh

| LnGrp Delay（d），s／veh | 212.5 | 16.0 | 13.2 | 58.5 | 30.7 | 25.0 | 62.7 | 0.0 | 36.8 | 83.9 | 27.5 | 20.5 |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| LnGrp LOS | F | B | B | E | C | C | E | A | D | F | C | C |
| Approach Vol，veh／h |  | 907 |  |  | 1011 |  |  | 207 |  | 980 |  |  |
| Approach Delay，s／veh |  | 120.8 |  |  | 28.7 |  |  | 43.3 |  | 38.6 |  |  |
| Approach LOS | F |  |  | C |  |  | D |  | D |  |  |  |


| Timer－Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| Phs Duration $(G+Y+R c)$ ，s | 19.0 | 23.3 | 6.2 | 50.4 | 7.8 | 34.5 | 24.0 | 32.6 |
| Change Period $(\mathrm{Y}+\mathrm{Rc})$ ，s | 4.0 | 4.9 | 4.0 | 4.9 | 4.0 | 4.9 | 4.0 | 4.9 |
| Max Green Setting（Gmax），s | 15.0 | 38.1 | 20.0 | 29.1 | 20.0 | 33.1 | 20.0 | 29.1 |
| Max Q Clear Time（g＿c＋11），s | 16.2 | 9.5 | 3.2 | 7.6 | 4.9 | 27.4 | 22.0 | 25.3 |
| Green Ext Time（p＿C），s | 0.0 | 0.9 | 0.0 | 2.4 | 0.1 | 1.7 | 0.0 | 1.9 |

Intersection Summary

| HCM 6th Ctrl Delay | 59.7 |
| :--- | ---: |
| HCM 6th LOS | $E$ |

## Notes

User approved pedestrian interval to be less than phase max green．
User approved changes to right turn type．



| Intersection |  |  |  |  |  |  |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: |
| Int Delay, s/veh | 2.7 |  |  |  |  |  |
| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
| Lane Configurations | $\mathbf{T}$ | $\mathbf{7}$ | $\mathbf{4}$ | $\mathbf{7}$ | $\mathbf{1}$ | 4 |
| Traffic Vol, veh/h | 30 | 140 | 480 | 20 | 30 | 280 |
| Future Vol, veh/h | 30 | 140 | 480 | 20 | 30 | 280 |
| Conflicting Peds, \#/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | 25 | - | 25 | 75 | - |
| Veh in Median Storage, \# | 0 | - | 0 | - | - | 0 |
| Grade, \% | 0 | - | 0 | - | - | 0 |
| Peak Hour Factor | 97 | 97 | 97 | 97 | 97 | 97 |
| Heavy Vehicles, \% | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 31 | 144 | 495 | 21 | 31 | 289 |



| Intersection |  |  |  |  |  |  |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: |
| Int Delay, s/veh | 2.3 |  |  |  |  |  |
| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
| Lane Configurations | Mr |  | $\mathbf{F}$ |  |  | 4 |
| Traffic Vol, veh/h | 60 | 10 | 830 | 70 | 10 | 560 |
| Future Vol, veh/h | 60 | 10 | 830 | 70 | 10 | 560 |
| Conflicting Peds, \#/hr | 0 | 0 | 0 | 1 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | - | - | - | - | - |
| Veh in Median Storage, \# | 0 | - | 0 | - | - | 0 |
| Grade, \% | 0 | - | 0 | - | - | 0 |
| Peak Hour Factor | 98 | 98 | 98 | 98 | 98 | 98 |
| Heavy Vehicles, \% | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 61 | 10 | 847 | 71 | 10 | 571 |


| Major/Minor | Minor1 |  | Major1 |  | Major2 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Conflicting Flow All | 1475 | 884 | 0 | 0 | 919 | 0 |
| Stage 1 | 884 | - | - | - | - | - |
| Stage 2 | 591 | - | - | - | - | - |
| Critical Hdwy | 6.42 | 6.22 | - | - | 4.12 | - |
| Critical Hdwy Stg 1 | 5.42 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.42 | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 3.318 | - | - | 2.218 | - |
| Pot Cap-1 Maneuver | 139 | 344 | - | - | 743 | - |
| Stage 1 | 404 | - | - | - | - | - |
| Stage 2 | 553 | - | - | - | - | - |
| Platoon blocked, \% |  |  | - | - |  | - |
| Mov Cap-1 Maneuver | 136 | 344 | - | - | 742 | - |
| Mov Cap-2 Maneuver | 136 | - | - | - | - | - |
| Stage 1 | 404 | - | - | - | - | - |
| Stage 2 | 542 | - | - | - | - | - |
|  |  |  |  |  |  |  |
| Approach | WB |  | NB |  | SB |  |
| HCM Control Delay, s | 49.6 |  | 0 |  | 0.2 |  |
| HCM LOS | E |  |  |  |  |  |
|  |  |  |  |  |  |  |
| Minor Lane/Major Mvmt |  | NBT | NBRWBLn1 |  | SBL | SBT |
| Capacity (veh/h) |  | - | - | 149 | 742 | - |
| HCM Lane V/C Ratio |  | - | - | 0.479 | 0.014 | - |
| HCM Control Delay (s) |  | - | - | 49.6 | 9.9 | - |
| HCM Lane LOS |  | - | - | E | A | - |
| HCM 95th \%tile Q(veh) |  | - | - | 2.2 | 0 | - |


| Intersection |  |  |  |  |  |  |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: |
| Int Delay, s/veh | 6 |  |  |  |  |  |
| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
| Lane Configurations | 个 |  |  | 4 | I | $\mathbf{T}$ |
| Traffic Vol, veh/h | 420 | 0 | 0 | 400 | 100 | 280 |
| Future Vol, veh/h | 420 | 0 | 0 | 400 | 100 | 280 |
| Conflicting Peds, \#/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Stop | Stop |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | - | - | - | - | 0 | 80 |
| Veh in Median Storage, \# | 0 | - | - | 0 | 0 | - |
| Grade, \% | 0 | - | - | 0 | 0 | - |
| Peak Hour Factor | 90 | 90 | 90 | 90 | 90 | 90 |
| Heavy Vehicles, \% | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 467 | 0 | 0 | 444 | 111 | 311 |


| Major/Minor M | Major1 |  | Major2 |  | Minor1 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Conflicting Flow All | 0 | - | - | - | 911 | 467 |
| Stage 1 | - | - | - | - | 467 | - |
| Stage 2 | - | - | - | - | 444 | - |
| Critical Hdwy | - | - | - | - | 6.42 | 6.22 |
| Critical Hdwy Stg 1 | - | - | - | - | 5.42 | - |
| Critical Hdwy Stg 2 | - | - | - | - | 5.42 | - |
| Follow-up Hdwy | - | - | - | - | 3.518 | 3.318 |
| Pot Cap-1 Maneuver | - | 0 | 0 | - | 304 | 596 |
| Stage 1 | - | 0 | 0 | - | 631 | - |
| Stage 2 | - | 0 | 0 | - | 646 | - |
| Platoon blocked, \% | - |  |  | - |  |  |
| Mov Cap-1 Maneuver | - | - | - | - | 304 | 596 |
| Mov Cap-2 Maneuver | - | - | - | - | 304 | - |
| Stage 1 | - | - | - | - | 631 | - |
| Stage 2 | - | - | - | - | 646 | - |
|  |  |  |  |  |  |  |
| Approach | EB |  | WB |  | NB |  |
| HCM Control Delay, s | 0 |  | 0 |  | 19 |  |
| HCM LOS |  |  |  |  | C |  |
|  |  |  |  |  |  |  |
| Minor Lane/Major Mvmt |  | NBLn1 NBLn2 EBT WBT |  |  |  |  |
| Capacity (veh/h) |  | 304596 |  | - | - |  |
| HCM Lane V/C Ratio |  | 0.3650 .522 |  | - | - |  |
| HCM Control Delay (s) |  | 23.5 | 17.4 | - | - |  |
| HCM Lane LOS |  | C | C | - | - |  |
| HCM 95th \%tile Q(veh) |  | 1.6 | 3 | - | - |  |


| Intersection |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Int Delay, s/veh | 38.8 |  |  |  |  |  |  |  |  |  |  |  |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  | ${ }_{1} 1$ | 「 |  | $\ddagger$ |  |  |  |  |  | $\uparrow$ | 「 |
| Traffic Vol, veh/h | 10 | 160 | 30 | 110 | 370 | 20 | 0 | 0 | 0 | 270 | 50 | 150 |
| Future Vol, veh/h | 10 | 160 | 30 | 110 | 370 | 20 | 0 | 0 | 0 | 270 | 50 | 150 |
| Conflicting Peds, \#/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | 25 | - | - | - | - | - | - | - | - | 25 |
| Veh in Median Storage, \# | \# | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, \% | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 |
| Heavy Vehicles, \% | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 11 | 168 | 32 | 116 | 389 | 21 | 0 | 0 | 0 | 284 | 53 | 158 |





## Appendix E. Online Map Comments

This section provides the public comments submitted by members of the public for specific locations shown on the project website map.

The study included a project website with an Interactive Project Map that allowed members of the public to leave location-specific comments. Figures E. 1 and E. 2 provide excerpts showing the online map (zoomed out) and the interactive map instructions. Comments were asked to specify the topic of each comment, from four categories: Driving comments (those related to motor vehicle traffic), Bicycling comments, Walking comments, and General comments.

A total of 695 comments were submitted. As shown on Figure E.3, most comments (over 400) were traffic-focused and thus within the Driving category.

Figure E. 1 Interactive Map (Initial View)


Figure E. 2 Interactive Map Instructions
 Interactive Map

Thank you for your interest in the Penngrove Traffic Study!
To leave your feedback drag one of these icons at the top of the page to a point in the map to leave a
comment, suggestion or concern.
7) $\begin{gathered}\text { Diving } \\ \text { Comnent }\end{gathered}$
(*) Waking Pedestion a. Bigcing (P) General

You may also attach/upload images if you think it will help us better understand your perspective. All comments will remain anonymous but all comments will be made public once the comment period for this phase of outreach closes.

If you would like to toggle comment markers on and off, click this icon in the top right corner of your screen.

```
< Q N B
```

Figure E. 3 Responses by Category Topic


## Interactive Map - Online Comments

The tables on the following pages provide the comments received on the interactive map. For each comment, the date and type of comment is shown. At the time of publication, comments can also be reviewed by directly viewing the online map:

Penngrove Traffic Study Interactive Map | Social Pinpoint (mysocialpinpoint.com)

| Created on | Type | Comment | \|Lastname | Latitude | Longitude | View on map |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 12/14/2022 19:17 | General Comment | So many issues here, dangerous and quite frustrating to deal with. Too many students means too many cars. This school does not have the infrastructure for the amount of students and is not set up to be renovated to allow this many. I have had numerous close calls with pedestrians running across Adobe, crossing at top of hill in the school, students walking from bus on none existing shoulder, and not to mention it takes over 20 minutes to drop off or pickup from our house on Bannon. | Scarpete | 38.29984 | -122.667 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/364544 |
| 12/14/2022 19:19 | Driving Comment | Need to lower speed limit back down. Numerous accidents and speeding. And no, a round-about is not the answer! | Scarpete | 38.29707 | -122.659 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/364546 |
| 12/14/2022 19:27 | Driving Comment | This is a BUSY intersection with people needing to turn left (and right) from all 4 quadrants. ORH does not have a stop sign and people travel at $45+$ mph which is the speed limit. Turning left from Ely to ORH or trying to go straight across on ELY is DANGEROUS. When Palace of Fruit reopens, the danger will be greater. The new housing developments in RP and the local school traffic create lots of cars at this intersection. <br> A traffic circle would be best at this location. | Howell | 38.28307 | -122.667 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/364548 |
| 12/14/2022 21:48 | Driving Comment | Agreed. <br> Raising the speed limit was asinine. <br> I walk this street nearly every night and I can't count the number of cars l've seen going North and South fly through this stop sign at $50 \mathrm{mph}+$ as well as twice seeing two cars racing, side by side, from the light at Petaluma Hill rd, going side by side though the stop sign at over 70 mph . It's only a matter of time till someone is killed, and at those speeds, the car will end up in someone's house. | Pinnow | 38.29707 | -122.659 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/364546/discus s |
| 12/14/2022 21:50 | Driving Comment | Raising the speed limit was asinine. | Pinnow | 38.29707 | -122.659 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/364546/discus S |


| Created on | Type | Comment | Lastname | Latitude | Longitude | View on map |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 12/14/2022 21:54 | Driving Comment | I walk this street nightly and have seen more cars than I can count blow through the stop sign at $50 \mathrm{mph}+$. Twice l've seen two cars racing, side by side, coming from Petaluma Hill Rd, and flying through the stop sign, again, side by side, doing well over 70 mph . It's only a matter of time till someone gets killed, and at those speeds, the car is going to end up in someone's house. CHP is next to worthless, sitting for 20 min one time if you call in the complaint. | Pinnow | 38.29707 | -122.659 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/364546/discus s |
| 12/14/2022 22:00 | Driving Comment | With new tract homes in Rohnert Park and Santa Rosa, the Davis/Dutch Lane cut through at morning and afternoon rush hours is absurd. Impatient drivers, ignoring the speed bumps, and flying past pedestrians. <br> Dutch Lane needs to be a dead end street at Davis. The cut through traffic was bad 20yrs ago, it's ridiculous today. | Pinnow | 38.30243 | -122.655 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/364563 |
| 12/14/2022 22:06 | Bicycling Comment | There should be a bike lane going North and South the full length of Adobe. Bike riders contribute to the local economy more so than drivers because they buy what they need along the way vs carrying it in their car. Penngrove could be a great destination, but there is literally no safe way to get here. | Pinnow | 38.29133 | -122.65 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/364565 |
| 12/14/2022 22:07 | Bicycling Comment | There should be a bike lane going North and South the full length of Petaluma Hill Rd. Bike riders contribute to the local economy more so than drivers because they buy what they need along the way vs carrying it in their car. Penngrove could be a great destination, but there is literally no safe way to get here. | Pinnow | 38.31146 | -122.666 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/364566 |


| Created on | Type |  | Comment | Lastname | Latitude |
| :--- | :--- | :--- | :--- | :--- | :--- | Longitude View on map


| Created on | Type | Comment | Lastname | Latitude | Longitude | View on map |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 12/15/2022 8:23 | Driving Comment | My neighbor, at the age of 70, just passed. We were talking just prior to her passing about the conditions of Dutch and Brand Lane. She was raised on the property at the corner of Brand and Dutch Lanes. She told me, and others have confirmed it, that Dutch nor Brand have EVER been re-paved or regularly maintained. The only time our chuck holes are repaired is when I call. | Gustin | 38.30499 | -122.657 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/364592 |
| 12/15/2022 8:25 | Driving Comment | You allowing THOUSANDS of new houses to fatten the politicians paychecks, retirements and raise outrageous amounts of taxes. However - Petaluma Hill Road is not being IMPROVED. The traffic is impossible for about 4 to 5 hours a day. Residents of the area are finding it difficult to leave our residents due to the traffic on Old Adobe and Petaluma Hill Road. | Gustin | 38.30806 | -122.666 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/364593 |
| 12/15/2022 8:28 | Driving Comment | Residents find it difficult at best to get out onto the MAIN STREET of Penngrove for about 5 hours a day. Morning then again in the Evening. This small street is not meant as a THOROFARE .. it is commonly backed up from the corner of Old Redwood Highway to the intersection of Old Adobe Rd and Petaluma Hill Road in the afternoons, and from that intersection to East Railroad Ave in the Mornings. | Gustin | 38.2963 | -122.666 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/364594 |
| 12/15/2022 9:47 | Driving Comment | Keep the speed limit at 45MPH from Santa Rosa City limit to Formschlag Ln, then 30MPH to Adobe Rd. This will help safety and maybe act as a deterrent for commuters. CHP patrols would help. |  | 38.30806 | -122.666 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/364593/discus S |
| 12/15/2022 9:52 | Driving Comment | 45 MPH from Cotati City limit to Petaluma City limit, slowing to 35 MPH from Penngrove Ave to Palm Ave would help with safety and help be a deterrent to commuters. CHP patrols would help |  | 38.30678 | -122.687 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/323028/discus S |
| 12/15/2022 9:56 | Driving Comment | The speed limit should be 45 MPH from Freitas Rd to Jacobsen Ln and the lowered to 35 MPH from Jacobsen Ln to Petaluma Hill Rd. The will help with safety and a hopefully be a deterrent to commuters. CHP patrols would help. |  | 38.29707 | -122.659 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/364546/discus s |


| Created on | Type | Comment | Lastname | Latitude | Longitude | View on map |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 12/15/2022 9:57 | Driving Comment | CHP patrols |  | 38.30243 | -122.655 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/364563/discus s |
| 12/15/2022 10:00 | General Comment | Has anyone asked the school district how many kids are being brought to Penngrove school from other districts ? Are they creating their own problem ? |  | 38.29984 | -122.667 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/364544/discus s |
| 12/15/2022 11:46 | Driving Comment | With the increase of the speed limit it also increased the noise. Behind a home on Adobe and its sounds like a freeway |  | 38.29707 | -122.659 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/364546/discus s |
| 12/15/2022 22:26 | Driving Comment | Traffic should not be going 50 mph northbound through this intersection. Bikers and walkers use this intersection often and there is no safe provision for its use. Please slow traffic before Fern moving northbound through here to 40 . That is the speed I find is the fastest safe speed through here. |  | 38.31112 | -122.693 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/364791 |
| 12/15/2022 22:29 | Driving Comment | Please stop cut through traffic using this neighborhood. Locals stop at the stop sign, the commuters cutting through do not stop at the stop signs. I see this every few days when I am out walking. It's dangerous |  | 38.30425 | -122.654 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/364792 |
| 12/15/2022 22:31 | Driving Comment | I can not even count how many times I have been driven off the road by someone flying through this narrow, awfully maintained horror of a road. |  | 38.31328 | -122.675 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/364793 |
| 12/15/2022 22:35 | Driving Comment | Here is an extremely narrow road, on a blind hilltop with a curve in the road. This was already deadly and dangerous before whatever is bringing 20-30 large hauling trucks through here EVERY SINGLE DAY for a few years now started. This road is not fit for cars, and needs to be widened and repaired even for cars, it should be engineered for the trucks that are using it to find out what would consitute safe usage by large trucks of that size and frequency. On a winding hilltop narrow road. |  | 38.30663 | -122.651 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/364794 |


| Created on | Type | Comment | Lastname | Latitude | Longitude | View on map |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 12/15/2022 22:38 | Driving Comment | Why are commuters passing through priority? We cant even turn left to get in and out of the to the store or post office as needed as residents here. We have to drive the whole way around the town just to enter the parking lot of the local store or post office??? Please make left turn legal and safe in and out of the post office and store and limit commuter pass through, if possible |  | 38.29772 | -122.666 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/364796 |
| 12/15/2022 22:41 | Walking/Pe destrian Comment | This small road should be limited to local use only. I have never lived anywhere in my 60 years so unsafe to walk. What a beautiful place to walk but totally unsafe even during the day, and unthinkable at night |  | 38.29964 | -122.657 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/364797 |
| 12/15/2022 22:42 | Bicycling Comment | Correct, and also no safe way to get out of here or around here. |  | 38.29133 | -122.65 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/364565/discus s |
| 12/16/2022 8:48 | Driving Comment | Due to the increased housing north and south along Petaluma Hil, it has become increasingly difficult to enter and exit the Canon Manor neighborhood via Petaluma Hill. The speeds and narrowness of only one lane in each direction is frankly dangerous given the amount traffic. | Isaza | 38.32965 | -122.666 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/364834 |
| 12/16/2022 8:53 | Driving Comment | This intersection should be your number one priority. It's a choke point during the week. With school traffic and commuter funneling down to either go straight through town or turn onto old adobe it can be unbearable. This actually causes drivers to find alternate routes that just causes surrounding surface streets to become congested and overloaded also. | Isaza | 38.29968 | -122.666 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/364835 |
| 12/16/2022 8:55 | Driving Comment | This intersection is in need of traffic control of some sort. It is virtually impossible to make a left turn from Railroad onto Pet hill in the morning. | Isaza | 38.31409 | -122.666 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/364836 |
| 12/16/2022 9:00 | Driving Comment | This intersection in the morning and evenings has become a completely congested disaster. I'm surprised with a critical facility like a Fire protection that this continues to be allowed without any correction. | Isaza | 38.2952 | -122.667 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/364838 |


| Created on | Type | Comment | Lastname | Latitude | Longitude | View on map |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 12/16/2022 9:06 | General Comment | In a perfect world it would be nice to completely bypass the main drag of Penngrove. This very issue was alleviated via a fly over/bypass in Cloverdale. Clearly it was a highway in Cloverdale, but this area has become like a highway. The existing town was not built to handle the loads of traffic and people it now experiences. Also, it should be noted this same condition was encountered decades ago on HWY 101 through Novato to the south. | Isaza | 38.29744 | -122.667 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/364839 |
| 12/16/2022 18:42 | Driving Comment | WE CAN'T GET OUT!! My wife is afraid of the back-toback both direct traffic non- stop from 6-10 and 3-6! She goes out the longer back way to be safe! I tend more to plow into the traffic with my horn saying "GO BACK TO THE FLIPPIN' FREEWAY!". Tactfully of course. <br> You committed in the General Plan to address this obvious coming problem and you have not! Instead the county and RP allowed 2 major sub-divisions to be built adding to the problem with NO attempt to mitigate the problem! | Konanz | 38.32733 | -122.668 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/364937 |
| 12/17/2022 5:55 | $\begin{aligned} & \text { Walking/Pe } \\ & \text { destrian } \\ & \text { Comment } \end{aligned}$ | Living in Penngrove gives me multiple opportunities to witness firsthand the congestion and delays that occur most days. | Grimes | 38.28416 | -122.665 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/364986 |
| 12/17/2022 11:14 | Driving Comment | The turning lane into William Drive is the same lane for Roberts Road and often both directions are trying to use the lane at the same time which makes it dangerous. I am not sure what you are doing to change our in and out points in Cannon Manor. We are a private area and the roads need to remain closed to through traffic |  | 38.32965 | -122.666 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/364834/discus s |


| Created on | Type | Comment | Lastname | Latitude | Longitude | View on map |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 12/17/2022 15:32 | Driving Comment | It's gotten to be difficult to enter or exit Canon manor on PH Road, particularly during rush hours. There are too many cars moving too fast to make the turn. Also, the backup at the intersection of Adobe and PHR near the elementary school is making it impossible to go that direction. People are going around the backed up parents picking up / dropping off kids at the school by going straight from the left turn lane. I've seen traffic backed up almost as far as Railroad. | stuart | 38.32806 | -122.668 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/365021 |
| 12/17/2022 16:43 | General Comment | While the illegal parking on the Gravity Hill area of Lichau Road has decreased due to increased patrolling, there is still many sunset and night parkers on this narrow section of road and people milling around that creates a hazard and makes it difficult for emergency vehicles to get up the hill. Fires have started here due to careless smoking by occupants of illegally parked cars and of course littering. More signage along with a fine for parking within 6 feet of center would help. | LaBarre | 38.34209 | -122.618 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/365023 |
| 12/17/2022 21:24 | Driving Comment | Agreed. The Railroad/Old Redwood Highway is a VERY dangerous intersection. I lived 1/4 mile away in perfect eyeshot and heard many collisions over the years. So many, that I refuse to take railroad and hang a left onto Old Redwood. Something for greater visibility West Railroad side is necessary in order to have a clear view of traffic coming from Fern direction as well as slow down of traffic at Fern. |  | 38.31112 | -122.693 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/364791/discus S |
| 12/17/2022 21:31 | General Comment | Rules of parking in to be clear here. There needs to be better signage noting that pedestrians or cyclists are coming and going there.Perhaps a warning of the concrete divides that some drivers don't see when trying to avoid a cyclist. | Chadwick | 38.31437 | -122.681 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/365036 |
| 12/17/2022 21:33 | Bicycling Comment | Something considered to make this crossing of Petaluma Hill Road safer. Especially for cyclists. | Chadwick | 38.3143 | -122.667 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/365037 |


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| 12/17/2022 21:34 | Driving Comment | Clear speed limit postings since this is county there is no speed limit. Pedestrians get mad at people driving the nearby posted speed limit and or course greater speeds. | Chadwick | 38.31798 | -122.687 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/365038 |
| 12/17/2022 21:38 | General Comment | Somewhere along this road visibility disappears and the road suddenly narrows. This has been dangerous since at least 1986. Please fix the road in general and make it safer for pedestrians. | Chadwick | 38.31405 | -122.662 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/365039 |
| 12/17/2022 21:45 | Driving Comment | The most dangerous intersection in the area. Create greater visibility and get northbound to slowdown at Fern | Chadwick | 38.31428 | -122.694 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/365040 |
| 12/17/2022 22:52 | General Comment | The west side of Cotati, including the parts in the County, West of 101 have no bus service, and many of the bus stops are up to a mile away in the eastern part of Cotati. | ALDERMA | 38.32678 | -122.717 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/365041 |
| 12/17/2022 22:54 | General Comment | The local bus route 10 through Cotati only goes one way from the hub to the SMART Station and on to SSU, and stops by 5:30 p.m. A route that goes the other way through Cotati would be helpful, i.e. SSU, train station, and Cotati Hub. | ALDERMA | 38.33466 | -122.684 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/365042 |
| 12/17/2022 22:57 | Walking/Pe destrian Comment | West School Street hill in Cotati is very steep that goes down to West Sierra Avenue, limiting the access to the Water Road GGT transit stop. | ALDERMA | 38.3222 | -122.713 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/365043 |
| 12/17/2022 23:03 | Walking/Pe destrian Comment | There is a private park trail from Maple Ave to near Burger King on 116. It would be nice if the county/city tried to purchase this trail from the HOA to provide safe pedestrian access. The 116/West Cotati Avenue turn is very dangerous to walk anywhere near. | ALDERMA | 38.33044 | -122.714 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/365044 |
| 12/17/2022 23:06 | General Comment | The route 26 bus stops on 116 are highly dangerous to stand near, i.e. the one in front of Shamrock Materials. There is no where to sit. In many years, I have never seen a rider use these stops on 116 down to Stoney Point Road. | ALDERMA | 38.33191 | -122.72 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/365045 |
| 12/17/2022 23:13 | General Comment | No Sonoma County Transit service from the Hub to the Water Road/West Sierra stop, which is near two senior MHPs. No parking and uneven pavement/sidewalks to the Hub. | ALDERMA | 38.32132 | -122.712 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/365046 |


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| 12/17/2022 23:15 | Walking/Pe destrian Comment | Just a note, there is a pedestrian tunnel under 101 at this location. It is well used and links the west and east side of Cotati where it is flat and easy to access. | ALDERMA | 38.32511 | -122.712 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/365047 |
| 12/17/2022 23:18 | General Comment | The local bus route 10 through Cotati only goes one way from the hub to the SMART Station and on to SSU, and stops by 5:30 p.m. A route that goes the other way through Cotati would be helpful, i.e. SSU, train station, and Cotati Hub. | ALDERMA | 38.32604 | -122.706 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/365048 |
| 12/17/2022 23:22 | Walking/Pe destrian Comment | There are no sidewalks on 116 from Stoney Point road to the 101 on ramps in Cotati. Most of the drivers use the ravines of the road to get around cars trying to turn, etc., so it is not safe for anyone to walk from 116/101 down to Stoney Pt. Road/116. | ALDERMA | 38.33102 | -122.713 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/365049 |
| 12/17/2022 23:27 | Driving Comment | The Rancho Adobe fire district doesn't have the monies to build new fire houses, which are all in need of replacement and updating (i.e. no ladder trucks available because they are not able to house the ladder truck. It would be wonderful to build a new fire station in Penngrove that had easy access to the area. | ALDERMA | 38.2952 | -122.667 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/364838/discus s |
| 12/17/2022 23:34 | Driving Comment | Just a reminder, that in 2012, we residents of Cotati banned roundabouts by a ballot measure. It's not so much about roundabouts themselves, but a 2009 General Plan that had unsafe and unrealistic street designs (i.e. filling in the Hub of Cotati as one large roundabout). Come up with a decent and safe alternative in Cotati, and the roundabout ban likely could be repealed. | ALDERMA | 38.32679 | -122.707 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/365050 |
| 12/18/2022 7:35 | Driving Comment | I wholeheartedly agree!! I have been thinking this for years. Especially with all of the additional homes in southern RP and more planned in the future, on/off ramps here would be essential. |  | 38.30193 | -122.708 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/364568/discus s |


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| 12/18/2022 7:44 | Driving Comment | I drive through this intersection at least 4 times every weekday (N/S on Old Redwood). Every time I pass through I feel like closing my eyes and crossing my fingers! Of course I don't, but I am on high alert, ready for someone to suddenly pull out or cross in front of me. Very dangerous for all involved. There have been several accidents as well because they are always repairing the guardrail on the SW corner. |  | 38.31413 | -122.694 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/365087 |
| 12/18/2022 7:50 | Driving Comment | Dangerous intersection! Turning left from 116 onto W Cotati Ave often requires stopping on 116 while cars and large trucks fly by on the unpaved shoulder, coming within inches of my car. Dedicated turn lane is a must. Also, at night the turn is impossible to see. There are reflectors on the stop sign, but once you are close enough to turn, the reflectors are useless. |  | 38.33139 | -122.719 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/365088 |
| 12/19/2022 10:02 | Bicycling <br> Comment | I agree. Furthermore, the section of Adobe between Corona and Frances Way, going over the hill has almost no shoulder. This causes cyclists to have to ride in the traffic lanes at a point where there is little visibility for motorists coming over the hill. I am surprised that there have been no fatalities. |  | 38.29133 | -122.65 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/364565/discus s |
| 12/19/2022 12:55 | Driving Comment | This intersection needs a traffic light. Crossing Pet Hill Rd or turning left onto Pet Hill Rd is like trying to thread a needle. Very dangerous. | Harries | 38.31432 | -122.667 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/365208 |
| 12/19/2022 13:13 | Driving Comment | I completely agree with this comment. There needs to be a traffic signal installed here and perhaps reconstruction of the intersection to increase roadway width and improve visibility. Northbound vehicles on ORH almost always cross the double yellow into the eastbound turn pocket because of the slight curve and narrow roadway. It's hard to see south when trying to cross or turn from westbound Railroad. That eastbound approach also seems too steep. | Harries | 38.31413 | -122.694 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/365087/discus S |
| 12/19/2022 13:14 | Driving Comment | Yep |  | 38.30193 | -122.708 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/364568/discus S |


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| 12/19/2022 13:19 | Bicycling Comment | Pet Hill Road should have an adjacent Class I bike path. I'd like to ride along Pet Hill Rd but won't because it is simply too dangerous to ride along the shoulder. Because of where I live this means that I ALWAYS drive to/from my house. It would be nice to feel like there is a safe option. |  | 38.32445 | -122.666 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/365209 |
| 12/19/2022 13:58 | Driving Comment | When someone's house burns down and/or a life is lost because the Penngrove FD cannot get out of their parking lot nor make their way up through town and the county gets sued for big bucks, THEN changes will happen! Money talks. | Konanz | 38.2952 | -122.667 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/364838/discus S |
| 12/19/2022 14:43 | Bicycling Comment | I agree 100\%. We need more Class IV bike lanes. |  | 38.29133 | -122.65 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/364565/discus S |
| 12/19/2022 14:44 | Driving Comment | Need better protected intersections here. |  | 38.2952 | -122.667 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/364838/discus s |
| 12/19/2022 20:44 | Bicycling Comment | I see cyclists and pedestrians on Corona all the time and anticipate more when the Smart station opens. Are there plans to add a bike lane and sidewalk up to Ely? It's currently very unsafe. | Bellinger | 38.27226 | -122.652 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/365251 |
| 12/19/2022 20:45 | Bicycling Comment | Kids who live on Ely this side of Corona have no safe way to bike or walk to school. This is especially important in the winter months, when the morning sun lines up with Ely and reduces visibility. Recreational cyclists also frequently ride Ely. | Bellinger | 38.27492 | -122.652 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/365252 |
| 12/19/2022 20:47 | Driving Comment | Love the idea of a traffic circle here. Something definitely needs to be done - l've seen super unsafe behavior here and waited 15 minutes to turn from Ely onto ORH. | Bellinger | 38.28307 | -122.667 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/364548/discus s |
| 12/19/2022 20:50 | Driving Comment | Can we at least add a separate lane for right turns from Ely onto ORH, so those folks don't have to wait behind people trying to turn left? | Bellinger | 38.28385 | -122.667 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/365254 |
| 12/19/2022 20:51 | General Comment | I wonder if more sidewalks and bike lanes in Penngrove might mean fewer cars. | Bellinger | 38.29984 | -122.667 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/364544/discus s |


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| 12/19/2022 20:53 | Bicycling Comment | Biking through downtown Penngrove is dangerous there's free private vehicle storage on both sides of the street and no room for bikes, so dooring is a real threat. And the angle of the tracks means you need extra room to cross without your wheels getting stuck, which is tough to negotiate. | Bellinger | 38.29687 | -122.666 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/365255 |
| 12/19/2022 20:58 | Driving Comment | Lived here for years, never had to wait for more than 10 seconds at this roundabout. Brilliant traffic engineering. More of these, please. | Bellinger | 38.26888 | -122.655 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/365257 |
| 12/20/2022 9:05 | General Comment | With the amount of new housing still to come on the West side of Petaluma Hill Road it will need a major upgrade, as will the surrounding arteries. Hopefully it is done before all the new traffic materializes. It also needs state of the art bike \& pedestrian access, safety \& connectivity to surrounding communities. | Savage | 38.31065 | -122.666 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/365298 |
| 12/20/2022 11:35 | Bicycling Comment | I agree that bike lanes should be added to Adobe. Not only would this create a better connection to Penngrove, it would also enable cyclists to more easily connect to Petaluma Hill Road and points north. |  | 38.29133 | -122.65 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/364565/discus s |
| 12/20/2022 19:48 | Driving Comment | Actually, I think this is a perfect intersection for a round about. It's already a 5-way stop, and most drivers don't seem to know how to yield/proceed at such an intersection. Of course, they don't know what to do at a 4-way stop either. | Jones | 38.29707 | -122.659 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/364546/discus s |
| 12/20/2022 20:01 | General Comment | As more housing is built, the existing delays to enter PHR from the residential side streets becomes more acute. This was poor planning years ago that we must now live with. We need more controlled intersections because RP, with the county's approval, has overbuilt for the existing roads. And, there is no room for more. Mistakes all around. Existing traffic controls are not coordinated. The entire county and all cities need a coordinated traffic controller, and programmer, STAT. | Jones | 38.32642 | -122.667 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/365382 |
| 12/21/2022 12:07 | Driving Comment | This intersection should have a traffic light. Drivers turning onto ORH from Ely need a safer way to do so. | Sullivan | 38.28371 | -122.667 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/365471 |


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| 12/21/2022 12:10 | Driving Comment | This intersection needs a traffic light. The current crosswalk across ORH has no protection for pedestrians (other than the lighted signs). <br> The traffic light should also help to reconfigure the nearby intersection of ORH at Penngrove Ave., where drivers headed from Cotati to Petaluma on ORH mistake the turn lane from ORH to Penngrove Ave. | Sullivan | 38.29946 | -122.674 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/365475 |
| 12/21/2022 12:11 | Walking/Pe destrian Comment | We should have a sidewalk for pedestrians all along the length of Adobe Road, from ORH to Petaluma Hill Road to ensure the safety of pedestrians walking to and from Penngrove Elementary. | Sullivan | 38.29968 | -122.673 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/365476 |
| 12/21/2022 12:15 | Driving Comment | The speed limit should be reduced to 40 mph along ORH from McDowell to the town of Cotati. This stretch of ORH serves as a county bus route, requiring pedestrians to walk along the road to and from the bus stops. ORH is also designated as a bicycle route on either side of the road. The speed limit should be lowered to ensure the safety of all pedestrians and bicyclists. | Sullivan | 38.27551 | -122.669 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/365477 |
| 12/21/2022 12:17 | Driving Comment | This intersection is SO dangerous that a traffic light is required to allow those turning from Railroad onto ORH to do so safely. | Sullivan | 38.31425 | -122.694 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/365479 |
| 12/21/2022 12:20 | Walking/Pe destrian Comment | A sidewalk is needed on the east side of Main Street to allow pedestrians walking along this side of the road to do so safely. | Sullivan | 38.29829 | -122.666 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/365481 |
| 12/21/2022 12:22 | Driving Comment | Something needs to be done to make this intersection safer for students, parents, and other pedestrians, especially during drop-offs and pick-ups for school children. | Sullivan | 38.29962 | -122.667 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/365482 |


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| 12/28/2022 8:00 | General Comment | It's absurd to blame the school for its attendance. This intersection has been a problem since my child attended the school 10 years ago. Increased traffic pressure on Petaluma Hill Road from expansion of housing in Rohnert Park to the north is part of the problem with congestion. That is only going to increase. No safe sidewalks for children walking to school requires that parents drive their kids to school from close by. | Tweten | 38.29984 | -122.667 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/364544/discus s |
| 12/28/2022 8:01 | Walking/Pe destrian Comment | Sidewalks are needed on at least one side of Petaluma Hill Road for pedestrian traffic to/from school and into town. | Tweten | 38.30031 | -122.666 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/366272 |
| 12/28/2022 8:02 | Walking/Pe destrian Comment | Sidewalks needed on at least one side of Old Adobe Road from Bannon Lane all the way to Old Redwood Highway. | Tweten | 38.29967 | -122.664 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/366273 |
| 12/28/2022 8:06 | Driving Comment | Traffic light plus right-turn signal from the north. Improve E railroad and make it the main thoroughfare to Old Redwood. Redirect traffic away from downtown Penngrove. | Tweten | 38.31438 | -122.667 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/366274 |
| 12/28/2022 8:07 | Driving Comment | Yes to traffic light. | Tweten | 38.31425 | -122.694 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/365479/discus s |
| 12/28/2022 8:09 | Driving Comment | There are 2 left-turn lanes in a row here. People are constantly getting in the left-turn lane for Rainshine, realizing their mistake, and then continuing straight ahead to the left-turn for Old Adobe. This is a constant traffic hazard as they either veer into the faster lane or into the oncoming lane to correct the mistake. | Tweten | 38.29998 | -122.674 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/366275 |
| 12/28/2022 15:11 | Driving Comment | I second this. | McBrien | 38.27551 | -122.669 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/365477/discus s |
| 12/28/2022 15:12 | Walking/Pe destrian Comment | Agreed! | McBrien | 38.29968 | -122.673 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/365476/discus s |


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| 12/28/2022 15:26 | Driving Comment | The lack of coordinated North/South lights makes this a traffic snarl. Either coordinate the North/South traffic with a single green and green arrow, or better still, put in a round about. <br> Also, a separate Pet Hill entrance only to the Penngrove school along with an Exit only to Adobe from the school would facilitate traffic. | Tweten | 38.29981 | -122.666 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/366382 |
| 12/28/2022 15:30 | Walking/Pe destrian Comment | I live $1 / 2$ mile from Penngrove Elementary. Due to the lack of sidewalks and high speed limits, walking to the school is unsafe. The school population has grown significantly, and traffic at drop-off and pickup times is maddening. A neighbor of mine has to leave her house 30 minutes before school lets out because the traffic is so bad. I have 2 young kids and this issue has forced me to consider sending them to school elsewhere. | McBrien | 38.29968 | -122.673 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/365476/discus s |
| 12/28/2022 15:31 | Driving Comment | Traffic light and turn lanes North/South absolutely needed. The guardrail on the Southeast corner is replaced several times a year due to accidents!! | Tweten | 38.31425 | -122.694 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/365479/discus s |
| 12/28/2022 15:35 | Driving Comment | This is another choke point for locals and commuters alike similar to Old Adobe and Pet Hill Rd. <br> This would be another excellent location for a Round About. Traffic is slowed, commuters are discouraged by the regulated nature of it and locals can get into and out of down town | Tweten | 38.29528 | -122.667 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/366385 |
| 12/28/2022 15:35 | Walking/Pe destrian Comment | I would very much like our town to be safe for pedestrians. Please build sidewalks along Old Redwood Highway between Adobe and Main Street so that residents on the Western side of Old Redwood Highway can safely walk to downtown Penngrove. | McBrien | 38.29694 | -122.67 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/366386 |


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| 12/28/2022 15:39 | Driving Comment | East Railroad needs to become the preferred commuter direction for traffic to 101. This would include a stoplight at E Railroad and Pet Hill, A stoplight at E Railroad and Redwood and an on ramp to 101 from E Railroad. E Railroad would also require some widening and improvement of shoulders and ditches. <br> This would move traffic from the town of Penngrove to country thoroughfares and alleviate so much congestion at the Penngrove School intersection. | Tweten | 38.3143 | -122.667 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/366387 |
| 12/28/2022 15:42 | Driving Comment | The HOV lanes need to be reassigned times that deal with flow more appropriately. There is NO reason to have both North and South traffic have the same times of HOV limitations (Marin doesn't). This would facilitate more commuter traffic utilizing Hwy 101 and Not diverting into Penngrove during the opposite commute time. Mornings would still be a cluster though. <br> Marin must be brought to widen their portion of the Novato Narrows to alleviate that choke point as well | Tweten | 38.3127 | -122.714 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/366388 |
| 12/28/2022 15:45 | Driving Comment | The future connection of Bodway Pkwy to E Railroad should be a westbound ONLY. This would prevent further congestion traffic and commuter utilization of Penngrove Main Street. | Tweten | 38.31397 | -122.676 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/366389 |
| 12/28/2022 21:26 | General Comment | Pedestrian safety needs to be a priority. High level of commuter traffic needs to be diverted from this small main street. As a resident of this area I have experienced several occasions where commuters swerve to avoid pedestrians in the crosswalk or speed through the area. There is a disconnect that this area is not a hwy, but rather a community with many small children living in the neighborhood as well as attending the elementary school. Looking forward to discussing more. |  | 38.2963 | -122.666 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/366402 |


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| 12/30/2022 0:20 | Driving Comment | I think this Intersection would be best served by a round about. Adding another Light would just back up congestion. |  | 38.28386 | -122.668 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/366249/discus s |
| 12/30/2022 0:22 | Driving Comment | I think this Intersection would be best served by a round about. Adding another Light would just back up congestion. |  | 38.28371 | -122.667 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/365471/discus s |
| 12/30/2022 0:26 | Driving Comment | I don't think it should be an issue for fire trucks getting out. They have right of way. Cars will need to move off the road when sirens blair. |  | 38.2952 | -122.667 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/364838/discus s |
| 12/30/2022 0:28 | Driving Comment | I don't see any reason why cars cant turn on a red light here. There's painted cross walk lines, and light signals. People just need to stop and go if it's red. |  | 38.29526 | -122.667 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/366258/discus s |
| 12/30/2022 0:31 | Driving Comment | I coach tennis at Magnolia Park and commute from Petaluma. I need to take equipment with me, so SMART is not an option. It would be nice if there was a way to get from East Railroad to Magnolia Park directly. There is access by bike, If a one way route could be built would help. |  | 38.29968 | -122.666 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/364835/discus s |
| 12/30/2022 16:48 | Walking/Pe destrian Comment | This should be a round about for pedestrian and cycling safety. Adjacent land should be use to make the comunity more walkable. |  | 38.33102 | -122.711 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/366633 |
| 12/30/2022 16:49 | Driving Comment | Driving through here is a nighmare any time of the day. Add a round about! |  | 38.33115 | -122.71 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/366634 |
| 12/30/2022 16:52 | Driving Comment | Going from one lane to two lanes and back to one does not work. Convert one of the lanes to cycling only so that people feel comfortable to cycle or comute by bike |  | 38.32662 | -122.706 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/366635 |
| 12/30/2022 16:54 | Driving Comment | Expressway needs to be retimed or change its name to Slowway. Add smart sensors to improve traffic flow, especially during the early morning and times when less people are on the road |  | 38.34838 | -122.711 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/366636 |
| 12/30/2022 16:55 | Walking/Pe destrian Comment | We need a way to cross the highway here by walking/cycling as the alternatives are not safe for cycling. |  | 38.34019 | -122.713 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/366637 |


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| 12/30/2022 16:58 | Driving Comment | A traffic light would not fix this, it would only cause more conjestion. A roundabout would alow traffic to flow as well as people to enter the roadway safely while reducing accidents. |  | 38.31434 | -122.694 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/366638 |
| 12/30/2022 17:02 | General Comment | Close this road from old adobe to old redwood highway to increase public safety. The only way to make this road safer is to remove the commuters. |  | 38.29751 | -122.666 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/366639 |
| 12/30/2022 17:04 | Driving Comment | Add a roundabout so traffic can flow and cross traffic does not back up. |  | 38.28373 | -122.668 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/366640 |
| 12/30/2022 17:24 | Walking/Pe destrian Comment | Bar hoppers would appriciate a safe way to cross this busy road without playing frogger. Thank. |  | 38.27193 | -122.663 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/366641 |
| 12/30/2022 17:28 | Driving Comment | Extend Bodway south to old redwood highway would provide alternate routage for commuters so you they could avoid driving though downtown. |  | 38.32152 | -122.676 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/366642 |
| 12/30/2022 17:30 | Driving Comment | Traffic lights add congestion where a roundabout would reduce speeding while providing drivers from side streets to access the main road. |  | 38.29946 | -122.674 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/365475/discus s |
| 12/30/2022 17:35 | Driving Comment | Fix the timing on the lights along expressway. If you druve the speedlimit youll hit all the lights but if you drive $10+\mathrm{mph}$ faster you only hit one or two. When this happens we are encouraged to speed around town. |  | 38.34583 | -122.673 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/366643 |
| 12/30/2022 17:37 | Bicycling Comment | Add and maintain a designated protected cycling path that parrallels the road and walki g path to encourage cycling to the grocery store or the train. Bonus points will be given if cyclist can get from ssu to foodmax faster than by car. |  | 38.34572 | -122.687 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/366644 |
| 12/30/2022 17:40 | Bicycling Comment | Add a cycling path along east cotati from SSU through downtown. This way people can feel safe enough to get to and from the bar without emitting deadly toxins into the air. |  | 38.33274 | -122.69 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/366646 |
| 1/1/2023 19:56 | Driving Comment | A roundabout would cause problems with the semis that deliver and reside within the area |  | 38.29528 | -122.667 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/366385/discus s |


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| 1/1/2023 20:02 | General Comment | We need a public parking lot with a sidewalk on the east side of Main. |  | 38.2996 | -122.666 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/366744 |
| 1/3/2023 9:46 | Bicycling <br> Comment | This is a scary place to ride a bike because the shoulder is so narrow. I realize there's not a lot of space but it would be much safer for bicycling here if the shoulders were wider. The conditions improve when you get closer to Lynch Road with the wider shoulders. | Lindecke | 38.28199 | -122.632 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/366884 |
| 1/3/2023 9:47 | Bicycling <br> Comment | This would be a great place for a roundabout, if there's enough space. It would definitely make crossing Old Adobe on a bike easier / safer. | Lindecke | 38.28576 | -122.639 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/366885 |
| 1/3/2023 9:49 | Bicycling Comment | This would be a great place for a roundabout, if there's enough space. It would definitely make things easier / safer for bicyclists. | Lindecke | 38.2552 | -122.585 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/366886 |
| 1/3/2023 9:51 | Driving Comment | A roundabout would make it much safer for bicyclists here, both crossing ORH from Ely and turning left onto Ely from SB ORH | Lindecke | 38.28373 | -122.668 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/366640/discus s |
| 1/3/2023 9:54 | Bicycling Comment | A roundabout at the Ely / Corona intersection would improve traffic flow and bicyclist safety, especially during rush hours when schools are open. | Lindecke | 38.27336 | -122.649 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/366887 |
| 1/3/2023 9:55 | Driving Comment | A roundabout would definitely make this intersection a lot safer for bicyclists turning left onto Railroad from ORH NB | Lindecke | 38.31434 | -122.694 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/366638/discus s |
| 1/3/2023 10:02 | Bicycling Comment | Wider shoulders in both directions would make bicycling on Ely much safer | Lindecke | 38.27724 | -122.656 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/366888 |
| 1/4/2023 10:02 | Driving Comment | There needs to be a traffic light. Most people coming from the North are turning onto Adobe road to drop their kids off at the school and it holds up the cars needing to turn left onto ORH. The principal is making every car turn right out of the school parking lot so we have no choice but to go onto ORH. I'd be happy with a traffic control officer out there everyday in the meantime, it's a big problem right now for us that have to get to work in the morning. |  | 38.29946 | -122.674 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/365475/discus s |


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| 1/5/2023 15:47 | Bicycling Comment | An extremely hazardous intersection, the site of many accidents, the guardrail on the SW corner has been repaired numerous times. This is not only dangerous for drivers but especially for cyclists and pedestrians who use this roadway as well. | Walsh | 38.31429 | -122.694 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/367531 |
| 1/5/2023 16:14 | General Comment | I agree completely. The planning process was obviously lacking as this study had became necessary. Development was favored over sustainability. The results of this study should include longer term recommendations and solutions to avoid such issues in the future, lest we have more urban sprawl without consideration given to road safety for vehicles, cyclists and pedestrians, not to mention existing infrastructures, the environment, water resources, community, and other residential services. | Walsh | 38.32642 | -122.667 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/365382/discus s |
| 1/5/2023 16:32 | Driving Comment | I think a roundabout with dedicated pedestrian crossing is the cure. Less expensive and cumbersome than an intersection controlled by traffic lights. Roundabouts allow for continuous traffic flow while reducing speed and reduce fuel consumption and emissions. | Walsh | 38.28373 | -122.668 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/366640/discus s |
| 1/5/2023 16:40 | General Comment | Agreed, and traffic here will only exacerbate as the density of housing increases between Old Railroad and Valley House Drive. This is a public safety issue and it should be considered BEFORE housing developments are ever approved. This is what happens when development is favored over sustainability. | Walsh | 38.2963 | -122.666 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/366402/discus s |
| 1/5/2023 16:47 | Driving Comment | The roundabout here has been a great traffic control solution and is a fine example of what can (and should) be done in traffic problem areas within the scope of this study. Roundabouts improve traffic flow, encourage safer speeds, reduce fuel consumption and emissions, and can accommodate dedicated pedestrian crossings. | Walsh | 38.32583 | -122.706 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/367541 |
| 1/11/2023 17:27 | Driving Comment | Must have a traffic light at this intersection. I drive this multiple times daily and it is an absolute hazard. | McCulloch | 38.28382 | -122.668 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/369126 |


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| 1/11/2023 17:29 | Driving Comment | Traffic light please! This might divert some traffic from driving through Penngrove and instead take 101 to Railroad. | McCulloch | 38.31432 | -122.694 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/369127 |
| 1/11/2023 17:30 | Driving Comment | Traffic light needed here too. More people will take E Railroad if they can safely turn left on Petaluma Hill. | McCulloch | 38.31436 | -122.667 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/369128 |
| 1/11/2023 18:44 | Driving Comment | Is there any way to create another on and off ramp around this area? This would greatly reduce the traffic through the town of Penngrove for all the new homes on Petaluma Hill Road. | McCulloch | 38.29766 | -122.701 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/369144 |
| 1/11/2023 18:47 | General Comment | More street lighting around Twin Oaks to be able to see better the people that are crossing at night. Also, how is the speed limit 50 mph through this stretch of many, many homes, side streets and a very busy restaurant/bar with pedestrians? | McCulloch | 38.2896 | -122.666 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/369147 |
| 1/11/2023 18:49 | Walking/Pe destrian Comment | Safer walking all along ORH to Downtown Penngrove | McCulloch | 38.29181 | -122.666 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/369148 |
| 1/12/2023 9:34 | General Comment | More street lighting would be ideal. But Twin Oaks should also be responsible for their patrons to not park along either side of the highway. They have a parking lot. If they hold large events, amount of people and cars should be informed to not exceed what their parking lot can accommodate. <br> Speed limit should be lowered to 40 all along Redwood highway from Ely road to Cotati city limits. 50 mph is way too fast. There also is no CHP monitoring of this stretch, which would be helpful. |  | 38.2896 | -122.666 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/369147/discus s |
| 1/12/2023 9:46 | Driving Comment | I agree with a round about. Traffic light would definitely back up traffic. Having a round about would slow the traffic speed down as well. But speed limit should be lowered to 40 to Cotati city limits. |  | 38.28371 | -122.667 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/365471/discus s |
| 1/12/2023 18:24 | Driving Comment | the delay at ely and old redwood needs four way stop sign or lights lets have comettee enquire to homeowners. also new asphalt fix pot holes Drainage not flooding needs also work |  | 38.26888 | -122.655 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/365257/discus s |


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| 1/14/2023 12:03 | Driving Comment | Traffic coming down Woodward to turn left onto Main is often terrifying. The cars going north and south on Main are going faster than the speed limit. Visibility to the right (north) is often blocked as there are cars parked in front of the businesses on the east side of the street. We have been asking for a traffic light there for years. Please. please. | Mazzella | 38.29694 | -122.666 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/369701 |
| 1/14/2023 12:04 | Walking/Pe destrian Comment | I completely agree with this. There is no way to walk safely down Old Adobe between these two streets. | Mazzella | 38.29967 | -122.664 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/366273/discus s |
| 1/14/2023 12:15 | Driving Comment | I agree with this completely. Main street is a cut-through for commuters going to Rohnert Park and beyond. We need a traffic light at Woodward and Main to slow those cars down. | Mazzella | 38.2963 | -122.666 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/364594/discus s |
| 1/14/2023 14:46 | Driving Comment | At the stoplight on the corner of old Adobe Road and Petaluma Hill Road. (With a Penngrove school on the corner. To you right) at that corner there should be one lane that turns right only onto Adobe Road and the other lane should be a straight in the left lane straight into Cotati and left turn onto Adobe Road. I believe this would help to alleviate the traffic during school drop off and pick up times | Hoovler | 38.29945 | -122.666 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/369754 |
| 1/15/2023 11:34 | Driving Comment | I have lived on this road for 35 years, we used to have just a couple of Milk trucks daily serving the two dairies... now... we have the vineyard that has a substantial large truck traffic during the months of March through September delivering tractors, fertilizer, rock and other large equipment. Now there is a dirt and commen recycling operation that has been established on the Dead End part of Davis lane, not visible from Davis Lane but still daily there are large Truck \& Trailers travelin |  | 38.30663 | -122.651 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/364794/discus s |


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| 1/15/2023 11:39 | Driving Comment | traveling Davis Lane and to make it worse many times they are traveling on the narrow East Railroad Avenue. East Railroad Avenue has been damaged by the large trucks frequenting this road. Since East Railroad is so narrow the trucks move off the roadway to allow cars or others trucks to pass, this has damaged the edges of the road and is breaking off the pavement. This is the true cause of the road getting narrower by the month. Many people walk on this road to enjoy the countryside scenery. |  | 38.30663 | -122.651 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/364794/discus S |
| 1/15/2023 11:46 | Driving Comment | Each morning M_F at approximately 7:45 AM the commute traffic increases on East Railroad towards Davis Lane. The drivers are traveling in Excess of 45 MPH, and in the evening the flow changes to the other direction. All caused because the commuters are trying to bypass the stop light on Old Adobe \& Petaluma Hill Road that was added many years ago to mitigate the Rohnert Park traffic trough Penngrove Main Street. This high traffic in conjunction to the large trucks is ruining East Railroad/Davis |  | 38.30663 | -122.651 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/364794/discus s |
| 1/15/2023 11:52 | Driving Comment | CHP doesn't stop the speeders on Davis Lane in the afternoon especially traveling North on Davis Lane over the hill with the curve towards East Railroad Ave. 7 to 10 years ago the CHP would sit at the stop sign Davis/East Railroad and give out tickets to the speeders, I haven't seen this for quite a few years. Every morning and afternoon davis lane turs into a racetrack, this is unfit for the many walkers on Davis/ East Railroad Ave. |  | 38.30243 | -122.655 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/364563/discus s |
| 1/15/2023 11:54 | Walking/Pe destrian Comment | The same statement applies to all of Davis Lane and East Railroad Ave. |  | 38.30388 | -122.663 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/364591/discus s |


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| 1/15/2023 11:57 | Walking/Pe destrian Comment | This is a true statement it applies to ALL of Davis Lane and to East Railroad Ave. East Railroad is being damaged due to the large trucks using this road to deliver and pickup dirt and gravel from the recycler on the dead-end part of Davis Lane. Is this a licensed business located on Agricultural zoned land???? |  | 38.29964 | -122.657 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/364797/discus s |
| 1/15/2023 22:17 | Driving Comment | When the County General Plan Section 7.7 "Regional Mitigation Plan" projects are implemented it may be necessary to make East Railroad Avenue a dead end where it intersects with Davis lane. This will prevent large volumes of morning and evening commute traffic from attempting to bypass the Main Street/Adobe Road intersection. | Savel | 38.30243 | -122.655 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/364563/discus s |
| 1/15/2023 22:19 | Driving Comment | When the County General Plan Section 7.7 "Regional Mitigation Plan" projects are implemented it may be necessary to make East Railroad Avenue a dead end where it intersects with Davis lane. This will prevent large volumes of morning and evening commute traffic from attempting to bypass the Main Street/Adobe Road intersection. | Savel | 38.30425 | -122.654 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/364792/discus s |
| 1/15/2023 22:22 | Driving Comment | When the County General Plan Section 7.7 "Regional Mitigation Plan" projects are implemented it may be necessary to make East Railroad Avenue a dead end where it intersects with Davis lane. This will prevent large volumes of morning and evening commute traffic from using Railroad Avenue to bypass the Main Street/Adobe Road intersection. | Savel | 38.31405 | -122.648 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/369875 |
| 1/15/2023 22:25 | Driving Comment | When the County General Plan Section 7.7 "Regional Mitigation Plan" projects are implemented it may be necessary to make East Railroad Avenue a dead end where it intersects with Davis lane. This will prevent large volumes of morning and evening commute traffic from using Railroad Avenue to bypass the Main Street/Adobe Road intersection. | Savel | 38.30663 | -122.651 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/364794/discus s |


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| 1/20/2023 11:59 | Bicycling Comment | I bike along Holm Road to avoid biking on McDowell Blvd because Holm Road feels safer. Since I get lost in dead-end private parking lots and streets between Holm Road and McDowell Blvd, I wish there was bike-specific wayfinding on both ends of Holm Road to and from McDowell Blvd to prevent cyclists from getting lost and make cyclists aware of the safer route. | Atkinson | 38.26595 | -122.662 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/371124 |
| 1/20/2023 12:05 | Bicycling Comment | Since I do not feel safe biking on Old Redwood Hwy, I bike on this more comfortable section of McDowell Blvd. I am not referring to the rest of McDowell Blvd on the south side of Old Redwood Highway. I wish the rest of McDowell Blvd and Old Redwood Hwy could be made more comfortable to bike on. | Atkinson | 38.27873 | -122.672 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/371127 |
| 1/20/2023 18:12 | Bicycling Comment | This is a tricky spot for bicyclists heading south on Petaluma Hill Rd. The bike lane ends prior to the intersection with Snyder, requiring cyclists to take the through lane to avoid the turn lane and alert drivers of the intent to continue south on Petaluma Hill Rd. At a minimum, the continuation of the bike lane through the intersection should be striped in green, and room made for a bike lane. | Phillips | 38.38195 | -122.686 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/371206 |
| 1/20/2023 18:18 | Bicycling <br> Comment | E Railroad is an oft-used road for cycling, despite not having a bike lane. A bike lane is highly desirable. And the intersection of E Railroad with the path that runs north from the railroad tracks is quite difficult to navigate for those heading east on E Railroad. A reconfiguration at the RR tracks would greatly facilitate easing the access to the path that connects with the SMART path. | Phillips | 38.31433 | -122.681 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/371207 |
| 1/20/2023 18:22 | Bicycling <br> Comment | This is one of the scariest intersections to navigate on a bike. Cars are going so fast on ORH that it's a challenge to get across safely even when there appears to be ample distance to do so. I'd suggest a roundabout as a traffic calming measure, or a signal to increase safety for cars, cyclists and pedestrians. | Phillips | 38.31435 | -122.694 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/371209 |
| 1/23/2023 16:59 | Driving Comment | Trying to get off of this street onto Old Redwood Hwy is extremely dangerous, brush hinders sight line and cars sped through this area. | Stafford | 38.29644 | -122.668 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/371836 |


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| 1/23/2023 17:55 | Driving Comment | Hard to cross over to W Railroad 7-9 am M-F | Gareis | 38.31432 | -122.694 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/371843 |
| 1/23/2023 21:43 | Bicycling Comment | If there was safe bike lanes and walk paths for nearby kids to get around, there would be a lot less congestion during pickup and dropoff times for those that live further away. |  | 38.29981 | -122.668 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/371859 |
| 1/23/2023 21:48 | Bicycling <br> Comment | Petaluma Hill until Penngrove has bike lanes, and Old Redwood has shoulders/bike lanes, it's only here that anyone who is not in a car is second-class and put in harms way. |  | 38.29734 | -122.666 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/371861 |
| 1/26/2023 17:21 | Walking/Pe destrian Comment | Thirding this suggestion. I've walked the stretch between Oak and Grove and nearly fallen into holes in the dirt. |  | 38.29967 | -122.664 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/366273/discus s |
| 1/26/2023 17:24 | Walking/Pe destrian Comment | The protected pedestrian walkway on this stretch between Main and Oak is great and should be replicated along the road. |  | 38.29975 | -122.666 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/372826 |
| 1/27/2023 23:48 | Driving Comment | This intersection needs a four way traffic light, and more oversight from CHP/police. I have seen 12-15 year olds on dirt bikes speed up old Adobe road and turn right onto OPH with not one headlight, or light on their bike. |  | 38.29946 | -122.674 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/365475/discus s |
| 1/28/2023 10:59 | Walking/Pe destrian Comment | The drainage ditch along the east side of Adobe Road between Pet Hill Road and ORH should be culverted (placed underground) to create space for a sidewalk, bike lane and possibly parallel parking. Speed limits should be reduced on this road and/or speed bumps added. Drivers do not respect the fact that there are children in this area - including parents who need to park and pick up/drop off kids at a daycare nearby on Adobe. | Boven | 38.29968 | -122.673 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/365476/discus s |


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| 1/28/2023 11:05 | Bicycling Comment | We live near Adobe and Corona, and bike lanes down Corona and North/South into Penngrove are critical. Otherwise we need to use our car to get anywhere in Petaluma or Penngrove. Also, additional traffic calming between Corona and Washington St would be helpful. The 55 mph speed limit on Old Adobe Road is too high people routinely speed and my husband has nearly been hit by cars when just checking our mail because people pass illegally as they are approaching Corona heading north on Adobe. | Boven | 38.28576 | -122.639 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/366885/discus s |
| 1/28/2023 11:09 | Driving Comment | Need additional traffic calming between Corona and Washington Street. People drive too fast, pass illegally. My husband has nearly been hit collecting mail from our mailbox by drivers passing vehicles heading NORTHBOUND on Adobe towards Corona. In the 6 years we have lived here, there have been two major accidents where cars ended up in the pastures of 1660 and 1562 Adobe. The speed limit is too fast, unsafe and it can be nearly impossible to turn left on to Adobe Rd from our driveway. | Boven | 38.28046 | -122.629 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/373278 |
| 1/28/2023 11:19 | Driving Comment | Implement County 2020 General Plan traffic calming Policy CT-7w(3) on Adobe Rd north of Coronaand Policy CT-7x and Policy CT-7aa. These general plan policies were to be funded mitigation by development fees from Rohnert Park, and were to be "initiated immediately...to coincide with new development proposed by the City of Rohnert Park along the Petaluma Hill Road corridor (Policy reference CT-7v). | Boven | 38.2932 | -122.651 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/373279 |
| 1/28/2023 18:03 | Driving Comment | This is a scary intersection to turn across traffic on regardless of the direction of travel, but especially from Adobe to ORH southbound. It's unfortunate there is not a multi-way light or roundabout, because I often drive through Penngrove to ORH making double left turns to avoid Adobe/ORH knowing full well you have to block traffic heading northbound on PHR to do it. | Meier | 38.29946 | -122.674 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/365475/discus s |


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| 2/8/2023 9:23 | General Comment | Is there any way this lot can be turned into a parking lot? This would eliminate some of the congestion alongside Adobe road where there is not enough space to safely park and exit vehicle. It would help during school and also provide public parking for nearby businesses. | Mason | 38.29974 | -122.666 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/376683 |
| 2/8/2023 10:33 | Driving Comment | I agree - ALL directions at this intersection need a designated turn lane AND ALL directions of travel need their own cycle of lights. The east / west light cycle on Old Adobe needs to be corrected to east bound gets their own turn and westbound gets their own turn. |  | 38.29945 | -122.666 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/369754/discus s |
| 2/8/2023 10:37 | Driving Comment | $100 \%$ agree this intersection needs a light. I have NEVER seen law enforcement here to enforce the speed limit, the sun creates blind spots, and traffic on ORH is too busy to NOT have a light here. I would think this intersection would be TOP priority for he county for a light. This is one of the worst intersections near a school that I have ever encountered. There is also a pedestrian cross walk with flashing light that is often ignored by vehicles speeding in the area. |  | 38.29946 | -122.674 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/365475/discus s |
| 2/8/2023 10:41 | Walking/Pe destrian Comment | Walking on Old Adobe in this area is so horribly unsafe. It is not the school's fault, the road conditions are below sub-par. The county needs to address this and find a way to make the roads safer. |  | 38.29967 | -122.664 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/366273/discus s |
| 2/8/2023 11:54 | Bicycling Comment | It would be great if there was a bike path along smart tracks between railroad ave and adobe road, possibly directly to school. many families in M and W sections would consider biking to school if there was a path instead of having to ride on petaluma hill road which is too busy for young children. | Kelman | 38.31381 | -122.681 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/376710 |


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| 2/9/2023 15:54 | Driving Comment | There needs to be a separate lane/light for right turn only and one for going straight and turning left combined. South bound cars that are turning right onto adobe block the entire line of traffic while they wait for pedestrians to cross the street. I have witnessed many aggressive traffic maneuvers to get around drivers waiting to turn or right, or who are stuck even further back trying to get into the left turn lane. This should be considered for all four directions at this traffic light. |  | 38.29983 | -122.666 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/377171 |
| 2/9/2023 16:00 | Driving Comment | The Rohnert Park developments should have traffic outlets to Rohnert Park NOT Penngrove. If these communities had better access to the freeway they would not be cutting through our tiny community that does not have the budget or infrastructure to address the situation. |  | 38.32255 | -122.667 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/377177 |
| 2/10/2023 8:20 | Driving Comment | Make Main Street one way, going north only. Add perpendicular parking and sidewalks on one side to make it easier to access businesses. This wil allow a more pedestrian friendly downtown and divert drive through traffic to old adobe and old Redwood hwy where it should be. |  | 38.29884 | -122.667 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/377540 |
| 2/10/2023 8:21 | Driving Comment | Add a traffic light here, please! |  | 38.29955 | -122.674 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/377544 |
| 2/10/2023 8:23 | Driving Comment | Add a traffic light here please!! |  | 38.31434 | -122.694 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/377547 |
| 2/16/2023 9:15 | Driving Comment | There are frequently cars parked on the northeast corner of Petaluma Hill Road and Woodward. A vehicle parked at this spot on Petaluma Hill Rd impedes visibility for drivers who arrive at the intersection descending Woodward. You cannot see who is coming southbound on Petaluma Hill road. Suggestion to prohibit parking on the northeast corner. | Dennis | 38.29983 | -122.666 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/379723 |


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| 2/16/2023 9:20 | Driving Comment | Edit to above - this comment is meant to be for the corner of Petaluma Hill Rd and Woodward Ave. I can't figure out how to update the original comment. | Dennis | 38.29983 | -122.666 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/379723/discus s |
| 2/16/2023 9:22 | Driving Comment | There are frequently cars parked on the northeast corner of Petaluma Hill Road and Woodward. A vehicle parked at this spot on Petaluma Hill Rd impedes visibility for drivers who arrive at the intersection descending Woodward. You cannot see who is coming southbound on Petaluma Hill road. Suggestion to prohibit parking on the northeast corner. |  | 38.29714 | -122.666 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/379725 |
| 2/16/2023 9:29 | Walking/Pe destrian Comment | Suggestion to add a sidewalk on Adobe Road, where there is currently a dirt footpath. This would increase safety for children walking to and from school. |  | 38.29974 | -122.666 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/379727 |
| 2/16/2023 9:32 | Driving Comment | This intersection is difficult for drivers coming from Woodward Ave, especially when attempting to turn left. Visibility is limited. Suggest adding a traffic light. |  | 38.2971 | -122.666 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/379731 |
| 2/16/2023 9:35 | General Comment | Where would the bypass be located? Not clear. |  | 38.29744 | -122.667 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/364839/discus s |
| 2/16/2023 9:36 | Walking/Pe destrian Comment | Suggest adding a dedicated sidewalk along ORH. There is no sidewalk currently. |  | 38.29408 | -122.667 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/379736 |
| 2/21/2023 22:32 | Driving Comment | We agree with other commenters that a traffic light or 4 way stop sign intersection is needed at this intersection. It is very unsafe to turn left while heading northbound on Petaluma Hill Road due to the high speeds that people travel through this area. Furthermore, bicycle and pedestrian traffic have no safe way to cross Petaluma Hill Road at this location to access residential homes along E Railroad. | Brinton-Md | 38.31434 | -122.667 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/381542 |


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| 2/21/2023 22:40 | Driving Comment | A traffic light is very much needed at this intersection to allow traffic from E Railroad to safely cross and/or turn onto Old Redwood Highway. In particular traffic backups in the morning often cause large delays on E Railroad as commuters attempt to travel around the backups in the town of Penngrove. The backups are significant enough that commuters often feel the need to make unsafe turns to squeeze into gaps in southbound traffic, risking the safety of commuters and pedestrians. | Brinton-Md | 38.31435 | -122.694 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/381543 |
| 2/21/2023 22:44 | Driving Comment | We agree that additional on/off ramps at this location would alleviate congestion elsewhere and could allow people within the town of Penngrove safer conditions during school hours by diverting freeway bound commute traffic an alternative onramp. | Brinton-M0 | 38.30193 | -122.708 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/364568/discus s |
| 2/21/2023 22:49 | Walking/Pe destrian Comment | Resident safety is a major concern along this corridor. Northbound traffic picks up speed well above the posted speed limit near this location causing multiple hazards. Residents have no way to walk safely along the road, children also have no safe way to cross the street or walk to school in the vicinity due to high traffic speeds. In addition, northbound traffic regularly "revs" their engines to drive at speed up the road causing severe noise and safety concern for residents. | Brinton-M0 | 38.30169 | -122.666 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/381544 |
| 2/21/2023 22:54 | Driving Comment | Suggest adding a all-way stop at this intersection. This provides an opportunity for residents to have a safer pedestrian crossing and provides a safety check to slow traffic, especially in the northbound direction. There is no stop lights or stop signs for at least 2 miles until drivers reach the light at Valley House Drive and as a result drivers regularly speed north at the change of the stop light causing residents concern to even walk out to put trash cans along the road or retrieve mail. | Brinton-Md | 38.3046 | -122.666 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/381545 |


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| 2/21/2023 23:05 | Walking/Pe destrian Comment | Increasing pedestrian safety with protected cross walks and sidewalks around Penngrove Elementary would allow more kids and school staff to walk to the school and reduce the number of cars trying to enter the school at drop off and pick up times. | Brinton-Md | 38.3 | -122.666 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/381546 |
| 2/21/2023 23:09 | Walking/Pe destrian Comment | I very much agree that downtown Penngrove needs to be safer for pedestrians so that locals and visitors may enjoy downtown shops and restaurants. This would further reduce the number of cars driving down main street to access local shops as people would be able to park and then walk. | Brinton-M0 | 38.29829 | -122.666 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/365481/discus s |
| 2/22/2023 8:05 | Driving Comment | I agree! Commuter traffic from Santa Rosa and Rohnert Park needs to be directed onto Hwy 101 north of Penngrove to alleviate the congestion and shear number of cars moving through the area. | Brinton-Md | 38.29766 | -122.701 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/369144/discus s |
| 2/23/2023 10:48 | Driving Comment | Crossing or turning onto Old Redwood Highway from Railroad Avenue is very dangerous. The intersection needs a traffic light, traffic circle or some other mechanism for regulating the flow both east and west on railroad and north ans south on Old Re. | Fishman | 38.31409 | -122.694 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/382096 |
| 2/23/2023 10:59 | Driving Comment | Dutch Lane has also become a detour t.hat people use to get between Adobe and Petaluma Hill Road. That use should either be discouraged or accommodated. Turns from Dutch to Petaluma Hill Road are very dangerous. Turns from South-bound Petaluma Hill Road to Dutch are very dangerous. There should be a light to facilitate those turns. | Fishman | 38.30427 | -122.666 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/382098 |
| 2/23/2023 11:03 | Walking/Pe destrian Comment | There should be a crosswalk on Main street between Woodward and Adobe Road to accommodate the patrons of the downtown bars as well as school families walking from Woodward Avenue to Penngrove School. | Fishman | 38.29767 | -122.666 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/382099 |
| 2/23/2023 11:06 | Driving Comment | The pavement on East Street is in bad shape in many places. Basic maintenance is needed where the pavement is "alligatored". Repaving is needed at some locations, notable on the southeast corner of Oak and East Streets, near the fire hydrant. | Fishman | 38.2949 | -122.662 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/382101 |


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| 2/23/2023 11:09 | Driving Comment | Old Redwood Highway and Main Street is a bottleneck. The light is okay, as far as it goes; but the intersection does not adequately handle the volume of traffic. Traffic either needs to be diverted or better accommodated. | Fishman | 38.29508 | -122.667 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/382103 |
| 2/23/2023 11:12 | Driving Comment | The speed limit should be consistent between Ely Road and the Cotati City limits at 45 mph . The brief jump to 50 mph from Hatchery Road to Main Street is ridiculous, in view of the Hatchery Road and Hatchery Court traffic and traffic in and out of Twin Oaks Garage and Twin Oaks bar. | Fishman | 38.29079 | -122.666 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/382104 |
| 2/23/2023 11:15 | Walking/Pe destrian Comment | A crosswalk with pedestrian-activated flashing lights should be installed to allow patrons of Twin Oaks bar to cross safely while parking across Old Redwood Highway. Signage should be added warning motorists of pedestrians. | Fishman | 38.29086 | -122.666 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/382105 |
| 2/23/2023 11:22 | General Comment | This intersection no longer handles the volume of traffic that crowds it every day. Some of the traffic can be diverted by encouraging alternate routes to Adobe Road via East Railroad Avenue, Dutch Lane, and Woodward Avenue. The intersection itself could be improved by adding turn lanes and by encouraging Penngrove School to "play ball" by allowing improvements to accommodate student pickup. | Fishman | 38.29976 | -122.666 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/382107 |
| 2/23/2023 11:28 | Driving Comment | Ely road traffic is increasing as people heading to and through Penngrove from Petaluma detour from Corona to Ely to Old Redwood Highway. That amounts to long waits for cars either turning left or crossing Old Red from Ely and cars turning left from Southbound Old Red to Ely. A right-turn lane should be installed to let cars turn right onto Old Red from Ely while other cars are waiting to cross or tun left. A traffic light should be installed to regulate this very busy intersection. | Fishman | 38.2833 | -122.667 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/382108 |


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| 2/23/2023 11:36 | General Comment | There is virtually no enforcement of speed laws through downtown Penngrove. Permanent radar stations should be installed to tell all motorists how fast they are going when they enter Main Street from North and South. Couple it with cameras that record the license plates of the speeders and ticket them. Install speed bumps on Main Street just south of Penngrove Park and north of the old bank building. | Fishman | 38.29806 | -122.666 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/382110 |
| 2/23/2023 11:39 | Driving Comment | I don't think we should discount the value of diverting commuter traffic away from downtown Penngrove. I think Davis, Dutch, East Railroad, Ely, Corona and others should all be considered in devising a solution. | Fishman | 38.31405 | -122.648 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/369875/discus s |
| 2/23/2023 11:44 | General Comment | We have no control over what Rohnert Park does with respect to future development. The lawsuit that was filed and settled 20 years ago required Rohnert Park to collect traffic mitigation money, but it does not require it to mitigate Penngrove's traffic woes. Unless to plaintiffs re-open that lawsuit or attempt to enforce it in court, it is no more than an illusion. | Fishman | 38.32642 | -122.667 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/365382/discus s |
| 2/23/2023 13:02 | Walking/Pe destrian Comment | We need a traffic light and crosswalk at this intersection. There is no other place to cross the street for half a mile. | Torassa | 38.28758 | -122.66 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/382128 |
| 2/23/2023 13:05 | Walking/Pe destrian Comment | There needs to be a 4 way stop sign at Woodward and Main Streets, and a cross walk across Woodward and also Main street at Woodward Ave | McClelland | 38.296 | -122.666 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/382129 |
| 2/23/2023 13:07 | Walking/Pe destrian Comment | there needs to be a sidewalk between Woodward and Adobe Rd on the SE side of Main St to provide pedestrian access on BOTH sides of Main Street | McClelland | 38.29783 | -122.666 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/382131 |
| 2/23/2023 13:10 | Driving Comment | Speed limit must be reduced on Adobe Rd well before the Bannon/Woodward intersection. <br> Drivers run that stop sign regularly and speed up Woodward from there. | McClelland | 38.29669 | -122.659 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/382132 |


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| 2/23/2023 13:14 | Driving Comment | I live on the corner of Adobe Rd and Petaluma Hill Rd. Since Rohnert Park has been developing sites off of Petaluma Hill Rd traffic has become unbearable. The County increased the speed limit to 40 mph . I've almost been run into while merging into traffic. <br> This situation has lowered the standard of living here. All this development does not truly contemplate the impact on our small community. I was told by Mr Rabbit that a 20 year traffic study was done. Obviously it was a flawed assessment. | Atkinson | 38.32328 | -122.662 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/382133 |
| 2/23/2023 13:14 | Driving Comment | Turning left from Woodward Ave onto Main Street is terrible and difficult! Suggest a traffic light. |  | 38.29711 | -122.666 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/382134 |
| 2/23/2023 13:17 | Driving Comment | I live at the intersection, and it's a bad situation all around. <br> My biggest concern is the amount of drivers that don't stop at the stop sign. I'm not talking about "California stops", the problem is those that blow it at $50 \mathrm{mph}+$. <br> It starts with the pre-dawn construction work commuters every morning there is a wave of mostly pickups ripping through at whatever speed they see fit. <br> Heavier traffic keeps this from happening - silver lining? |  | 38.29707 | -122.659 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/364546/discus s |
| 2/23/2023 13:18 | Driving Comment | During commute hours, a typical string of 20 to 30 cars prevents a north or southbound auto pturn onto Main St., from Woodward. A relatively inexpensive, but very effective remedy would be to install a traffic signal at this intersection that would interface with the railroad signal lights similar to the SMART crossings on Golf Course in RP and E.Cotati in Cotati. | Jarvis | 38.29712 | -122.666 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/382138 |


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| 2/23/2023 13:23 | Driving Comment | A roundabout at the intersection of Old Adobe and Petaluma Hill Road would not only slow traffic through Penngrove on Main Street but would also divert drivers to use alternate routes. |  | 38.29982 | -122.666 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/382140 |
| 2/23/2023 13:23 | Driving Comment | Usually not so bad through the day, but I did witness a dump truck with backhoe on trailer blow through at full bore, no braking, around noon the other day. <br> Then after dark the racer crews roll through and all bets are off. <br> How long until I have a burning car flipping through my yard into our houses? Or until we see several people killed when someone dares make a legal turn onto Adobe in front of one of these jackasses? Not if, but when. |  | 38.29707 | -122.659 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/364546/discus s |
| 2/23/2023 13:29 | Driving Comment | I do not understand why CHP so rarely patrols these intersections. I mean, I do - lack of resources. But, come on, this is ridiculous. <br> A roundabout may be a solution to some of these problems, but with the current easements I don't believe they could fit one in. Nor do I think anyone would be ok with further encroachments or reduced functionality on their property. <br> I don't have any brilliant ideas on how else to deal with this other than enforcement of the laws... |  | 38.29707 | -122.659 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/364546/discus s |
| 2/23/2023 13:34 | Walking/Pe destrian Comment | I put my life in my hands when I cross the street going to and from the post office everyday. The walking lights do not stop the line up speeding cars flying down the street. It's just a matter of time before someone gets seriously hit or killed in the crosswalk . I am a senior citizen and can't run fast enough to save my life. |  | 38.30169 | -122.666 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/381544/discus s |


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| 2/23/2023 13:51 | Walking/Pe destrian Comment | I put my life in my hands every day I walk to and from the post office. There are nonstop cars speeding through the crosswalk even when the walking lights are flashing. I am a senior citizen and don't have the running capabilities to save myself from getting hit or killed. I honestly feel it's just a matter of time before something horrific happens in the crosswalk. |  | 38.2963 | -122.666 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/382146 |
| 2/23/2023 13:51 | General Comment | Is there a way for funding to be given to the school to add a $2 / 3$ level parking lot "like" ramp structure where the cars, when dropping off/picking up kids, queue on this structure??? Maybe only parking on one level for teachers/admin. But rest of the structure is strictly for queuing cars during drop off/pick up? Gets them off the road in all directions. | Pence | 38.29984 | -122.667 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/364544/discus s |
| 2/23/2023 13:55 | Driving Comment | Is there any space to get a longer "left turn" lane from Petaluma Hill to Old Adobe? Gets traffic going straight or making right turn to move thru faster. | Pence | 38.29996 | -122.666 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/382147 |
| 2/23/2023 13:58 | Driving Comment | Is there anyway to "squeeze" a right turn lane so close to intersection so they can sneak by at least on red light and make right turn if no traffic? Will move Old Adobe traffic thru quicker. | Pence | 38.29978 | -122.666 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/382148 |
| 2/23/2023 14:00 | Bicycling <br> Comment | For several months, I biked my children to and from school in a trailer. We live near downtown Penngrove, and my oldest attends McKinley. We gave up and bought a 2nd car because of the consistently dangerous conditions. This bridge in particular requires a bike-car merge, but there are no signs to clearly indicate it. This led to many drivers honking and screaming out their window at me and my kids. | Crockett | 38.26788 | -122.671 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/382149 |
| 2/23/2023 14:01 | Driving Comment | Is there a way to build a multi-level queuing ramp in the existing school parking lot for pick-up/drop-off? It would get the cars off Old Adobe or other area's around school. Still keep one level for teacher/admin parking but space for up/dwn car queue. | Pence | 38.29981 | -122.667 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/382150 |


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| 2/23/2023 14:08 | Driving Comment | Are there any existing land owners who are willing to work with the county and allow a new road (or maybe it is Railroad) which does not go thru Penngrove, but cuts further across and drops down to Old Adobe Rd (ie: closer to Corona for example) for the traffic needing to go south? | Pence | 38.31447 | -122.667 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/382151 |
| 2/23/2023 14:13 | Walking/Pe destrian Comment | Those of us who live in the area and walk to the preschool with our children, walk to the market, and walk to the post office, have a slightly scary time walking on Woodward between Main and Oak, and also farther east on Woodward. There are no sidewalks, and cars often take the corner from Main onto Woodward quickly (trying to get out of the way of the heavy traffic behind them). | Crockett | 38.29635 | -122.666 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/382152 |
| 2/23/2023 14:14 | Walking/Pe destrian Comment | Those of us who live in the area and walk to the preschool with our children, walk to the market, and walk to the post office, have a slightly scary time walking on Woodward between Main and Oak, and also farther east on Woodward. There are no sidewalks, and cars often take the corner from Main onto Woodward quickly (trying to get out of the way of the heavy traffic behind them). | Crockett | 38.29712 | -122.666 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/382153 |
| 2/23/2023 14:15 | Walking/Pe destrian Comment | Sorry, I placed this marker incorrectly. I duplicated the text content in the correct location. A moderator should feel free to delete this copy. | Crockett | 38.29635 | -122.666 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/382152/discus s |
| 2/23/2023 14:17 | Bicycling Comment | Just southeast of here, just outside the study boundary is a railroad crossing that is incredibly dangerous for bikers. I've biked around the area a lot, and this crossing is the single most dangerous hazard I've encountered because of the angle of the tracks and the heavy traffic. | Crockett | 38.2659 | -122.656 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/382154 |


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| 2/23/2023 15:08 | Driving Comment | There is a traffic light at this location even though the traffic use is extremely light to non existent. The very next intersection on ORH, at Ely and Goodwin, is an extremely busy congested intersection with regular vehicular accidents yet the county refuses to install a traffic light. When the community complains we're told that a traffic light is planned and will be installed yet in my 10 years of asking there is still no traffic light. | Keeler | 38.28052 | -122.668 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/382163 |
| 2/23/2023 15:48 | Driving Comment | I agree as well. This intersection needs an additional light for the protection of those on ORD and Ely. |  | 38.28382 | -122.668 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/369126/discus s |
| 2/23/2023 15:50 | Driving Comment | Totally agree. I hate using this intersection to turn South on ORD. |  | 38.29955 | -122.674 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/377544/discus s |
| 2/23/2023 15:57 | Driving Comment | If the County can put a stop sign in at this intersection, if nothing else it will calm some of the speeding traffic down on Adobe Rd and will encourage drivers to use other routes. |  | 38.27518 | -122.62 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/382170 |
| 2/23/2023 15:59 | Driving Comment | A simple 3 way stop sign here at Adobe and Lynch would slow the traffic down currently speeding between Washington and Corona. Simple stop signs would clam the traffic document and inevitably lead to people searching different routes. |  | 38.27894 | -122.627 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/382172 |
| 2/23/2023 16:01 | Driving Comment | There should be a dedicated turn lane here for PG\&E. They often have large trucks turning out of this yard through backed-up traffic and there have been accidents here as well. |  | 38.25296 | -122.581 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/382173 |
| 2/23/2023 17:47 | Driving Comment | The speed limit on Old Redwood Hwy needs to be reduced. Preferable to 40 mph or less. This road is used as a 101 by-pass between Petaluma and Rohnert, but the drivers treat it like a freeway often driving in excess of 65 mph . You take your life in your hands just to get your mail. <br> SLOW IT DOWN!! | Heron-Bert | 38.30796 | -122.689 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/382211 |


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| 2/23/2023 18:32 | Driving Comment | Need a 4 way stop to slow traffic and enable cars to turn off Woodward. | McClelland | 38.29694 | -122.666 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/382217 |
| 2/24/2023 8:07 | Driving Comment | Agree. Adobe looks and feels like a freeway, so people speed. | Brown | 38.28046 | -122.629 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/373278/discus s |
| 2/24/2023 8:15 | Driving Comment | Urgently need traffic calming cuz Woodward is a residential road. Drivers use it as a cut-through, speeding like mad. Need calming the length of Woodward between Adobe and Main St. Or only allow residents \& emergency services to utilize | Brown | 38.29708 | -122.66 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/382693 |
| 2/24/2023 8:19 | Driving Comment | Southbound Pet Hill can back up to Dutch during school pick-up hours. Can school consider van pools/bus to bring students in one vehicle and return the. to their neighborhood? I've 'heard' that halftone students come from RP. | Brown | 38.29983 | -122.666 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/377171/discus S |
| 2/24/2023 8:30 | Walking/Pe destrian Comment | We need a sidewalk on the east side of Main Street from Woodward to our local thrift store to protect us from being hit by all the speeders who race through our small town. |  | 38.29884 | -122.667 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/382710 |
| 2/24/2023 9:49 | Driving Comment | Residents are put in danger trying to enter and exit their own driveways and side streets along Petaluma Hill Road. The speed limit is too fast, the traffic is too dense, and commuters are in a hurry to get to and from work. I have almost been rear ended trying to turn into my own driveway, and it can take up to 10 minutes to turn out of our house just waiting for a gap. Please acknowledge that Petaluma Hill Road is residential and that the safety of residents needs to be a top priority. | Brinton-Mo | 38.30335 | -122.666 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/382728 |
| 2/24/2023 10:23 | Driving Comment | I agree that Penngrove residents should be able to get to their own town, and enjoy the place where we live. Traffic density and speed has diminished the quality of life for residents. |  | 38.29863 | -122.666 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/364586/discus s |
| 2/24/2023 11:04 | Driving Comment | Heavy traffic throughout the day | Tusler | 38.31068 | -122.665 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/382742 |


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| 2/24/2023 11:11 | Driving Comment | Oops! Wrong location. Should be Main St \& Woodward | Tusler | 38.31068 | -122.665 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/382742/discus s |
| 2/24/2023 11:12 | Driving Comment | Heavy traffic throughout the day making it hard to turn left onto Main St from Woodward | Tusler | 38.297 | -122.666 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/382743 |
| 2/24/2023 11:13 | Walking/Pe destrian Comment | Water Department enclosure makes waking unsafe on Woodward as cars turn right from Main to take shortcut up Woodward. | Tusler | 38.29701 | -122.666 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/382744 |
| 2/24/2023 11:14 | Driving Comment | Getting in and out of the Post Office parking lot is often hard with the traffic on Main. Southbound cars are often speeding. | Tusler | 38.29634 | -122.667 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/382745 |
| 2/24/2023 11:15 | Walking/Pe destrian Comment | It is hard to cross Main St without a cross walk other than by the Post Office. | Tusler | 38.29693 | -122.666 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/382746 |
| 2/24/2023 14:12 | Driving Comment | Cars regularly speed above the limit on this stretch of Petaluma Hill Road. It increases driving hazards and makes it very difficult to safely enter/exit Canon Manor roads and adjacent driveways | Moore | 38.3326 | -122.666 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/382804 |
| 2/24/2023 14:13 | Bicycling Comment | Agree! I live on Pet Hill Rd and would bike daily if I felt there were a safe option |  | 38.32445 | -122.666 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/365209/discus s |
| 2/24/2023 14:15 | Bicycling Comment | Please create a dedicated, protected bike lane! I would commute daily via bicycle if I had this option. Currently it does not feel safe |  | 38.33472 | -122.666 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/382805 |
| 2/24/2023 14:58 | Driving Comment | There needs to be a light here- people drive too fast on main street and the train coming through is a safety concern too. Thanks! | Awe | 38.29713 | -122.666 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/382816 |
| 2/24/2023 15:03 | Driving Comment | Perhaps consider closing woodward to traffic from main street or making the road a one way to divert traffic to adobe road or redwood highway... there are many children that live in penngrove that need to be able to walk safely to the Montessori school or penngrove elementary. | Awe | 38.29711 | -122.666 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/382817 |


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| 2/24/2023 15:05 | Walking/Pe destrian Comment | Would be a major improvement to create a sidewalk for the families and children of Penngrove- it is unsafe and cars drive to quickly on woodward down to main st. | Awe | 38.29711 | -122.666 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/382818 |
| 2/24/2023 15:07 | Driving Comment | Should figure out a way to make Woodward a residential use only street - people use it to cut through and drive too quickly -- also too many turns to choose from -implement a light or close the turn off to cars into Woodward all together. Make it safer for the young kids that live here. | Awe | 38.2972 | -122.659 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/382819 |
| 2/24/2023 15:44 | General Comment | Need to complete Smart Train bike path from Petaluma to Penngrove and from Penngrove to Cotati. | Mazzella | 38.31324 | -122.678 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/382827 |
| 2/25/2023 10:43 | Driving Comment | A traffic circle or a simple four way stop would be best option. Traffic on ORH needs to slow down (45+) is an understatement. The traffic only backs up badly from 2:30 to 5 in the afternoon on weekdays. I've seen 60 cars lined up on Ely trying to get onto ORH. One car trying to turn left onto or off of ORH jams everything up and people get impatient. A four way or roundabout would at least give people a time frame on their turn coming. <br> Budget and safety wise, 4 way stop and crosswalks |  | 38.28307 | -122.667 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/364548/discus s |
| 2/25/2023 11:45 | Driving Comment | The Adobe/PHR intersection causes multiple, daily, mile long traffic back-up well past our home at Formschlag \& PHR, making it difficult to leave or gain access to our property. | Theile | 38.30617 | -122.666 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/382940 |
| 2/25/2023 11:50 | Driving Comment | The intersection at Adobe \& PHR backs up for several traffic light cycles, multiple times per day. Parents accessing the school block the $S$ bound, thru lane and, in making turns onto Adobe, block the N bound lane occasionally. Because of this congested intersection, there really is no speeding in Penngrove quite the opposite - it can take 15 minutes to leave town. | Theile | 38.29829 | -122.666 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/382943 |


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| 2/25/2023 11:55 | Driving Comment | Cars parked at Penngrove Market must back out into Main St traffic, with the strong possibility of collisions. Local Penngrove ideas about traffic circles and other road obstructions will only exacerbate the primary local/regional problem of traffic congestion. The railroad signals in Penngrove do not work properly, causing confusion for drivers and are dangerous. | Theile | 38.29344 | -122.665 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/382946 |
| 2/25/2023 12:00 | Driving Comment | Northbound cars making left turns from PHR into Formschlag Lane are frequently hit from behind. The intersection is dangerous and needs a left turn lane and widened, northbound passing space on PHR. A flashing, warning light would also help. | Theile | 38.30644 | -122.666 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/382950 |
| 2/25/2023 13:14 | Driving Comment | Make round about large enough to handle semis. | JACKSON | 38.29528 | -122.667 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/366385/discus s |
| 2/25/2023 13:22 | Driving Comment | This is another place that would be great for a round about | JACKSON | 38.31432 | -122.667 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/365208/discus s |
| 2/25/2023 13:27 | Driving Comment | The hedges on the corner of Petaluma Hill drive and Curtis drive made it very hard to safely turn left from Curtis drive. | JACKSON | 38.33315 | -122.667 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/382960 |
| 2/25/2023 13:32 | Driving Comment | When headed south on Adobe road, a left turn arrow is needed on the light to turn onto Petaluma Hill road. | JACKSON | 38.29981 | -122.666 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/382962 |
| 2/25/2023 16:43 | Bicycling Comment | I agree as well. We live on Petaluma Hill Road, and would love to walk or bike to downtown Penngrove but we always drive due to safety concerns, which obviously exacerbates the traffic problem. | Brinton-Mq | 38.32445 | -122.666 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/365209/discus s |


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| 2/26/2023 17:09 | Driving Comment | Resident safety is a huge concern. The speed limit is too high and there are no breaks in traffic. I have been nearly hit multiple times entering and exiting my driveway. It can also be impossible to leave my house, depending on the time of day, as there are no gaps in traffic. Cars have no incentive to slow down (traffic signals/stop signs/speed bumps) and despite using my turn signals, they do not anticipate residents entering/exiting their homes. |  | 38.30148 | -122.666 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/383241 |
| 2/26/2023 17:13 | General Comment | The speed limits on PHR and ORH not only pose a threat to human safety, but to animal safety as well. Many of our neighbors have lost pets from being hit on PHR road, and we are constantly observing roadkill along PHR and ORH including both wildlife (turkeys, skunks, hawks, and more) and domestic animals (chickens, cats, and dogs). Traffic collisions with animals on the road is dangerous for both people and animals. Please reduce speed limits to make these corridors safer! | Brinton-Md | 38.30728 | -122.666 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/383242 |
| 2/26/2023 17:13 | Walking/Pe destrian Comment | The speed limit is too high for a residential street and there is nothing to incentivize slower/safer driving. Retrieving my trash bins or getting the mail has become dangerous - especially at night. There have been multiple accidents on this road, right in front of my house. So far they have only been between cars, but if any of the cars speeding up and down Petaluma Hill Road were to hit a pedestrian I'm sure it would be fatal. This is reckless on a residential street with an elementary school |  | 38.30122 | -122.666 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/383243 |
| 2/26/2023 17:46 | Driving Comment | A 3 way stop sign would be great here |  | 38.25532 | -122.585 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/383250 |
| 2/26/2023 17:50 | Driving Comment | Turning left onto AR on school drop off or pick up times is impossible. A 3 way stop here is town would be great for local traffic and help slow down the through traffic drivers. |  | 38.29974 | -122.665 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/383252 |


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| 2/26/2023 17:52 | Driving Comment | Totally agree that this would help the community a Don be safer for traffic |  | 38.3046 | -122.666 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/381545/discus s |
| 2/26/2023 17:56 | Driving Comment | At least adding the RR to 101S on-ramp would pull load off PH, ORD, and Adobe Rd |  | 38.30193 | -122.708 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/364568/discus s |
| 2/26/2023 17:58 | Driving Comment | Agree |  | 38.2928 | -122.652 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/373358/discus s |
| 2/27/2023 15:44 | General Comment | Downtown and parts of old redwood highway just north of the main st junction, both need concrete retaining walls to hold back the sliding embankment. The hill downtown across from the Penngrove pub, has slide leaving a sloppy mess of mud and debris on main st. There's also dangerous trees overhanging the roadways in both areas. This is a danger to pedestrians and drivers alike and needs the county to intervene. |  | 38.29849 | -122.666 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/383709 |
| 2/27/2023 15:46 | Walking/Pe destrian Comment | Yes sidewalks need to be built on both old redwood highway, adobe rd and Petaluma hill road in the areas located near downtown Penngrove |  | 38.29694 | -122.67 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/366386/discus s |
| 2/28/2023 9:30 | Walking/Pe destrian Comment | Pedestrians are dumped out onto Woodward from the Main St. walking route. Especially tough on strollers and wheelchairs to be thrust into traffic lane. | Brown | 38.29703 | -122.666 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/383903 |
| 2/28/2023 9:37 | Driving Comment | Drivers don't get where to stop to avoid RR arms lowering - at Main and Woodward. 2 white lines show stop point, within 5 mins. 2 cars trapped between the lines \& the tracks. Whatever language the 2 lines are, it isn't working. | Brown | 38.29702 | -122.666 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/383908 |
| 2/28/2023 9:39 | Driving Comment | Cars ignore stops on Adobe, fly across Woodward to speed toward Main St. Traffic calming or blockade please. | Brown | 38.29722 | -122.66 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/383910 |
| 2/28/2023 9:40 | Driving Comment | Dangerous turning in or out of Jacobsen Ln. Adobe too fast. | Brown | 38.29296 | -122.652 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/383911 |


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| 2/28/2023 9:42 | Driving Comment | Dangerous getting out from Casa Grande to get on Adobe. Especially to turn toward PEnngrove (L). Blinking light? Traffic. calming? | Brown | 38.25443 | -122.585 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/383917 |
| 2/28/2023 13:59 | Driving Comment | It makes sense to have a better on ramp/off ramp at railroad avenue and enhance railroad avenue to accommodate more traffic. People are cutting through Penngrove to get to the freeway. Penngrove was never designed to handle that much traffic. Railroad avenue could relieve some of the traffic congestion. | Lundquist | 38.30316 | -122.705 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/384092 |
| 2/28/2023 14:01 | Driving Comment | I have lived on Davis Ln for 50 years. There has been NO repairs to East Railroad in that time. It is not the large trucks alone. On most sections it is only wide enough for 1 car which then the other car has to go off the paved road. The problem I have seen is that there has been too much housing built off the Petaluma Hill Rd corridor \& no update to the road system to allow for the tremendous increase in traffic |  | 38.30663 | -122.651 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/364794/discus s |
| 2/28/2023 20:50 | Driving Comment | This bend at current speed limit is quite dangerous, at least two fatalities here in the last 8 years. Specifically if you're traveling north bound on Old Redwood and stop to turn left on Highland run significant risk of being hit from behind . | Gammon | 38.30842 | -122.689 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/384867 |
| 2/28/2023 21:33 | General Comment | Even with the recent improvements to the schools lower parking lot and drop off line we still need to make improvements for safety and efficiency. We should consider short term solutions such as enforcing no left hand turns going out of the lot onto Adobe and also no stopping or parking along both sides of Adobe. Long term we need to modernize and put in sidewalks / bike lanes and add dedicated turn lanes into the lot and also onto Pet Hill at the intersection. | Gammon | 38.29984 | -122.667 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/364544/discus s |
| 2/28/2023 21:46 | Driving Comment | Passing on the right is a big problem too. Speed limit should be 45 mph max all along Old Redwood. | Gammon | 38.30842 | -122.689 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/384867/discus s |


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| 3/2/2023 13:00 | Driving Comment | We need 2 lanes only (NOT 4 lanes as rumored) plus a center lane for ingress/egress. Start at Petaluma City limit and continue through Penngrove Ave. It would be great to see a couple of islands in the center lane with redwoods. REDUCE THE SPEED LIMIT to 35, not 50 mph. If you live in this part of the Penngrove community and walk, bike or horse ride you understand how dangerous it is along ORH. See Penngrove Specific Plan for legal requirements in this agarian community. | S | 38.26888 | -122.655 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/365257/discus S |
| 3/2/2023 13:09 | General Comment | Keiser is a potential killer intersection. Stop Light and a center turning lane is a minimum. | S | 38.35418 | -122.667 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/386244 |
| 3/2/2023 13:16 | Driving Comment | Complete the southbound on ramp so RP traffic can be redirected away from Penngrove (see Penngrove Specific Plan which was adopted by Spervisors in 2008). | S | 38.30255 | -122.707 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/386259 |
| 3/3/2023 21:45 | General Comment | I live a few houses down from this intersection. Almost every night I am woken up by some knucklehead gunning it and screeching their tires. What I would pay for a sheriff's deputy to catch them in the act! No solution is perfect, but I would like to see options explored such as a roundabout (if space allows), speed bumps, signage, and/or increased police presence. A designated pedestrian crossing would also be nice. | Zwers | 38.29709 | -122.66 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/387319 |
| 3/3/2023 22:00 | Driving Comment | I am very concerned about the numerous cars speeding down Woodward. My husband and I like to walk into town with our two young grandchildren, and we often fear for their safety due to the traffic and lack of sidewalks. Not sure if a sidewalk is feasible, but it would be really nice! Maybe speed bumps or better signage would help. Closing one end of Woodward could be a solution, but it would also add a level of inconvenience to residents. | Zwers | 38.29712 | -122.662 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/387323 |
| 3/3/2023 22:03 | Driving Comment | My infant grandchild has been woken up in the middle of the night and during daytime naps by the excessive noise from this intersection. | Zwers | 38.29718 | -122.659 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/387325 |


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| 3/3/2023 22:17 | Driving Comment | Attempting to turn left from Woodward onto Main St is a game of Russian Roulette that I get to experience daily. The visibility from Woodward is terrible due to parked vehicles on Main St, and the volume and speed of traffic on Main St is often frightening. The parked vehicles that block the view often appear to be parked illegally, but nothing seems to be done about it. | Zwers | 38.29711 | -122.666 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/387326 |
| 3/3/2023 22:33 | Walking/Pe destrian Comment | I have two very young children who are not yet of school age, but I worry about the idea of walking them to school in a few years. How is there not some sort of dedicated pedestrian path connecting the school to town? Ideally something that would go over or under the street would be ideal so as not to disrupt the already horrendous traffic, but maybe that would be cost prohibitive. | Zwers | 38.29976 | -122.666 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/387328 |
| 3/4/2023 12:33 | General Comment | There was planning, at one time, for a trail through RP City property from Pet Hill Rd to Crane Creek Park. This would allow access without needing to use Roberts Rd. | Simmons | 38.34236 | -122.666 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/387468 |
| 3/4/2023 15:54 | Driving Comment | It would help if cars didn't park on the red curb on Main St. (@Woodward) where So Co Transit has a marked stop. Parkers ignore the red curb. Parked car obscures sight line of oncoming downhill traffic. | Brown | 38.2971 | -122.666 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/379731/discus s |
| 3/4/2023 15:57 | Walking/Pe destrian Comment | The pathway on Main (facing Woodward) dumps pedestrians, wheelchairs, strollers into the Woodward uphill traffic path. The is no shoulder here | Brown | 38.2971 | -122.666 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/387499 |
| 3/4/2023 16:10 | Driving Comment | Recommend a flashing sign to show southbound drivers their speed vs. the limit, on Main (in front of PEnngrove Pub). Recently, digital radar speed sign in front of PG Pub like that slowed people down immediately. | Brown | 38.29733 | -122.666 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/387501 |
| 3/4/2023 16:23 | General Comment | Enact the County General Plan Policy TR21 through traffic reduction projects identified in Section 7.7 of the General Plan Circulation and Transit Element. We've been waiting. Dedicate the Rohnert Park mitigation developer fees to this. | Brown | 38.29984 | -122.666 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/387502 |


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| 3/4/2023 22:01 | General Comment | We too are woken up by the donuts and racing at night. They have CHP who will sit here but they only catch the ones at that time. The problem isn't going to be fixed with tickets on random days and times. The traffic comes from neighboring towns that it won't have an effect by people warning each other of CHP presence. I personally wouldn't want a round about since we live on the actual corner. | Scarpete | 38.29709 | -122.66 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/387319/discus s |
| 3/5/2023 10:19 | Driving Comment | Cars race through on Main St. not following the 25mph speed limit. Pedestrian crossing at the lighted crosswalk is hit or miss. I think that there need to be speed humps to slow people down. | Delgado | 38.29649 | -122.666 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/389035 |
| 3/5/2023 10:22 | General Comment | It should indicate that this is Main Street | Delgado | 38.29639 | -122.666 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/389042 |
| 3/5/2023 18:15 | Driving Comment | exiting casa grande on to Adobe is extremely dangerous because of the slope of the road and the high speed of Adobe traffic... It would be good to introduce some calming at the intersection.. a roundabout would work well.. a significant safety issue | webb | 38.25111 | -122.582 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/389187 |
| 3/5/2023 18:18 | Driving Comment | the 3 way stop at the end of Adobe and Frates is an unnecessary traffic hold up causing major backups at peak times... should be a roundabout | webb | 38.25076 | -122.583 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/389188 |
| 3/5/2023 18:21 | Driving Comment | the east railway crossing of ORH is extremely dangerous and needs to be fixed.. It is too narrow and a very tight turn particularly as it is now used by a lot of traffic trying to cross ORH | webb | 38.30892 | -122.691 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/389189 |
| 3/5/2023 18:24 | General Comment | a south bound on ramp here would help reduce the traffic through Penngrove... which is a major traffic issue.... | webb | 38.2985 | -122.703 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/389190 |
| 3/5/2023 18:33 | Driving Comment | increasing the speed limit to 50mph on entering Penngrove is totally ridiculous... should be maximum 40 mph preferably 35 mph .. with some calming.. I've studied enough queuing theory to know that this would have no impact on throughput of traffic... If you prevented any further increases in the volume of traffic you could avoid having to do any widening of ORH.. that should be an objective.. | webb | 38.28565 | -122.663 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/389192 |


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| 3/5/2023 18:35 | Driving Comment | a 50 mph speed limit approaching a complicated junction and crossing a school pedestrian crossing is ridiculous. It should be maximum 35mph approaching the crossing.. | webb | 38.30076 | -122.677 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/389193 |
| 3/5/2023 18:43 | Driving Comment | The map you have for this junction shows that you don't understand it... At the moment it is a mess... dangerous for the people on Rainshine. <br> There should be a series of two roundabouts that would allow exiting of Penngrove Ave .. calming for the school pedestrian crossing.. exiting ORH onto Adobe... This is a complex junction... The speed limit passing the school crossing is currently 50 mph .. with traffic often moving at 60 mph . It is also a wide pedestrian crossing making it difficult for driv | webb | 38.29974 | -122.674 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/389194 |
| 3/5/2023 18:46 | Driving Comment | it would be safer here to have a small roundabout rather than stop signs.. and better traffic flow | webb | 38.29714 | -122.659 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/389195 |
| 3/5/2023 18:51 | General Comment | The situation at this crossroads is a major safety hazard for pedestrians ( no pathway) and terrible for anyone attending the school. The entry to the school parking simply doesn't work for both directions. Through traffic should be discouraged of using this crossroads, particularly the Petaluma Hill /Adobe traffic | webb | 38.29978 | -122.666 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/389196 |
| 3/5/2023 18:52 | General Comment | this school parking entrance is a major traffic and safety problem.. | webb | 38.2998 | -122.667 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/389197 |
| 3/5/2023 18:54 | Driving Comment | The speed limit through Penngrove should be reduced to maximum 35mph.. particularly on this bend with the Ronsheimer road... | webb | 38.29643 | -122.668 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/389198 |
| 3/5/2023 18:58 | General Comment | There should be lights or a roundabout to calm traffic at Hatchery and ORH. There are often accidents and near accidents at this point. | webb | 38.28922 | -122.666 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/389199 |
| 3/5/2023 19:00 | Driving Comment | This is a well known accident spot... needs to be fixed .. probably with lights.. | webb | 38.28335 | -122.667 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/389200 |
| 3/5/2023 19:03 | General Comment | Main Street in Penngrove should be local traffic only.. with no trucks permitted.. this is both a safety and quality of life issue.. | webb | 38.29681 | -122.666 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/389201 |


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| 3/5/2023 19:08 | General Comment | This would be a good site to encourage drivers to take an alternative route rather than driving through Penngrove.... diverting truck traffic, introducing a 35mph Penngrove speed limit.. etc etc.. | webb | 38.31315 | -122.666 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/389203 |
| 3/5/2023 20:16 | Walking/Pe destrian Comment | We've been promised a pedestrian/bike trail connecting us to Petaluma and Cotati since the beginning of the Smart train construction. I called Smart once a week for a year about this issue, and they kept telling me "Any day now". They finally asked me not to call anymore. So far, in Penngrove, we haven't had any benefits from Smart, only negatives. | Moreaux | 38.29692 | -122.666 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/389215 |
| 3/5/2023 20:17 | Driving Comment | I believe these spots are painted red. Could we get the county to emphasize the red markings in some way? |  | 38.29714 | -122.666 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/379725/discus s |
| 3/5/2023 20:21 | General Comment | The fact that this map refers to Main Street as "PHR" shows how far the county is from understanding or caring about our issues. | Moreaux | 38.29639 | -122.666 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/389042/discus s |
| 3/6/2023 15:28 | Driving Comment | PLEASE put a traffic light here. It is incredibly dangerous. |  | 38.29956 | -122.674 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/389470 |
| 3/6/2023 17:54 | Walking/Pe destrian Comment | There should be a sidewalk here. I live so close to penngrove elementary yet I'm unable to walk my son and nephews to school because there is no sidewalk on either side of the street. | Sullivan | 38.29869 | -122.662 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/389513 |
| 3/6/2023 17:56 | Walking/Pe destrian Comment | I also agree, I live on Rancho Adobe Court just a few blocks from the school the parking at the school is poor I would like to not contribute to it but there is no safe way to walk to school. Three other penngrove panther families live this court as well. | Sullivan | 38.29967 | -122.664 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/366273/discus s |
| 3/6/2023 18:01 | Walking/Pe destrian Comment | I have a three year old and live a few blocks from school we would greatly benifit from sidewalks | Sullivan | 38.29976 | -122.666 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/387328/discus s |


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| 3/6/2023 18:03 | General Comment | I know this was for sale and sold recently to bad parking wasn't a option that's a great idea. | Sullivan | 38.29974 | -122.666 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/376683/discus s |
| 3/6/2023 18:04 | Walking/Pe destrian <br> Comment | How could anyone possibly dislike this idea. Child should be first priority. | Sullivan | 38.29974 | -122.666 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/379727/discus s |
| 3/6/2023 20:47 | Driving Comment | When trying to turn here, cars split into 2 lanes to turn either N or S on old Redwood hwy. These cars block each other's view of the approaching cars on old redwood. It is incredibly dangerous during school hours. This intersection is a devastating accident waiting to happen. STOP LIGHT NEEDED! | Castillo | 38.29957 | -122.674 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/389638 |
| 3/6/2023 22:34 | Driving Comment | The traffic congestion at this light for the housing and businesses coming/going has exponentially increased with residents trying to access the freeway - the light is not optimized and traffic can back up to SSU in the morning. This has increased over the course of 6 years taking kids to Penngrove School. | Hagler | 38.32154 | -122.667 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/389649 |
| 3/6/2023 22:38 | Driving Comment | In the morning after school drop off turning south onto old redwood can take at least 10-15 minutes. Cars are forced out of the school lot to turn right because there is poor traffic light management at the Adobe/PHR intersection. A light is desperately needed to increase safety and access for the community! | Hagler | 38.29957 | -122.674 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/389650 |
| 3/6/2023 22:45 | General Comment | I wish each side of the stoplight from Old Adobe to Petaluma Hill Rd had its own green light time because turning left onto Petaluma hill road during busy times is stressful trying to go while the other side has right of way. Only roughly 10-15 seconds is needed to just have our turn to turn left each side individually from Old Adobe to Petaluma Hill Rd. | Rio | 38.2998 | -122.666 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/389652 |


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| 3/7/2023 8:03 | Driving Comment | PHR is heavily used 24/7/365. Speeding is heavy, garbage we have to pick up, big rigs never stop, emergency vehicles use... sirens and lights. Motor cycle riders love to race. Drivers, children, and animals not safe due to traffic and speeding. <br> No police to deter. Change the light at adobe to no right turn on red to give residents chance to safely get in and out of driveways. People just roll thru on adobe red light. The county is losing lot of $\$$ for speeders. Especially after commute hrs. |  | 38.30806 | -122.666 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/364593/discus s |
| 3/7/2023 8:57 | Walking/Pe destrian Comment | This road should allow for both pedestrians and bicyclists. It would benefit not only the residents, but the businesses on Main St. would be easier to access by foot, allowing for a better parking situation. Having a sidewalk would create a safe area for families to enjoy the beauty of Penngrove. | Sullivan | 38.29909 | -122.663 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/389721 |
| 3/7/2023 12:46 | Driving Comment | I think the roundabout idea would be a solution to consider for this intersection. In addition to improving safety, a roundabout would reduce the noise from large trucks that come to a complete stop then revving their motors to get going again. Even louder are the motorcycles and sports cars that have a need to make as much noise as possible when pulling away from a stop sign--burning tire rubber and revving their mufflerless machines! |  | 38.29714 | -122.659 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/389195/discus s |
| 3/7/2023 12:56 | Driving Comment | Woodward Ave. has become a thoroughfare for trucks and speeding vehicles. It is very hazardous for pedestrians as there is no sidewalk and the roadway is narrow. Residents have to worry about reckless drivers as they walk their dogs and push their baby carriages along Woodward. I think some large speed bumps could discourage this type of traffic. |  | 38.29708 | -122.66 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/382693/discus S |
| 3/7/2023 13:13 | Driving Comment | I agree, it is very dangerous trying to pull out of Woodward onto Main St. There is no signage on Main St. that restricts parking along the east side of Main. The curb has faded red paint which indicates parking is prohibited but often there is a huge pickup truck or van parked right in those spots which totally blinds your vision as you pull out to make a left turn. |  | 38.29694 | -122.666 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/369701/discus S |


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| 3/7/2023 16:18 | Walking/Pe destrian Comment | The traffic speed needs to be reduced along this corridor - Penngrove Ave to the Main Street Intersection. It is very unsafe for pedestrians. | Beck | 38.29953 | -122.674 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/389820 |
| 3/7/2023 16:59 | Driving Comment | I drive through this area several times a day. At high traffic times it's very unsafe. Railroad on both sides gets backed up and drivers make dangerous decisions on when to turn or cross over old redwood. When they're cars on both sides of railroad and in the turn lane it makes for a tight squeeze when your driving on old redwood which just results in everyone slowing down. I believe a light would make this area a lot safer | Burleson | 38.31431 | -122.694 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/389823 |
| 3/7/2023 19:10 | Walking/Pe destrian Comment | I completely agree. We used to bike our kiddo to the daycare across the street and it was always concerning in AM traffic, esp over the tracks. |  | 38.3 | -122.666 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/381546/discus S |
| 3/8/2023 8:24 | Walking/Pe destrian Comment | More than a crosswalk, this section needs a RAISED crosswalk. It would slow down cars, and send a clear sign that this is an area people live and walk, not a road to speed through. |  | 38.29649 | -122.666 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/390136 |
| 3/8/2023 13:29 | Driving Comment | Traffic moving way to fast this is obvious to everyone well not the county | LAGRAVE | 38.29077 | -122.666 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/390313 |
| 3/8/2023 13:31 | Walking/Pe <br> destrian <br> Comment | Well this one is just to remind us all that someone was killed here pedestrian vs auto | LAGRAVE | 38.29075 | -122.666 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/390317 |
| 3/8/2023 17:37 | Walking/Pe destrian Comment | After having multiple individuals hit by cars and killed here, we need to do something about the speed limit and/or adding a cross walk with lights on Old Redwood. | Sessi | 38.29082 | -122.666 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/390442 |
| 3/10/2023 8:45 | General Comment | This straightaway stretch of Roberts Road gets treated like a drag-strip with cars and trucks driving dangerously fast and creating disturbing noise at all hours of the day and night for residents and their farm animals. Vehicles often pass and race along this tight corridor creating a recipe for disaster. Surely, there are other such stretches of roads in our neighborhoods facing the same threat, and the safety of all of our residents needs to be addressed. |  | 38.32881 | -122.665 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/390917 |


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| 3/10/2023 8:51 | General Comment | Please get these roads repairs! Potholes, ditches, and bumps are a hazard to all and are causing unnecessary damage to vehicles and bikes. |  | 38.27758 | -122.669 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/390920 |
| 3/10/2023 8:53 | General Comment | There often seems to be heavy backup here during commute hours. Not sure if the basic stop sign intersection needs to be reevaluated for a traffic signal or roundabout. |  | 38.28568 | -122.64 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/390924 |
| 3/10/2023 8:59 | General Comment | A traffic light or roundabout probably needs to be added here. Difficult to cross Petaluma hill Road when trying to continue on Railroad. |  | 38.31433 | -122.694 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/390932 |
| 3/10/2023 12:54 | General Comment | Further to my other comments about the excessive speed limit of 50 mph on ORH when approaching Penngrove .. and in particular the school pedestrian crossing.. this situation is made even more dangerous at night where poor or non existent lighting increases the problem | webb | 38.30016 | -122.675 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/390987 |
| 3/11/2023 10:01 | Bicycling Comment | Add separate bicycle lanes through the downtown corridor. | Thomas | 38.29797 | -122.666 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/391213 |
| 3/12/2023 15:57 | Walking/Pe destrian Comment | Adobe Road needs bike lanes in order to facilitate safe biking/walking access to school and to link bike traffic from RP to Petaluma. The lanes should be separated to protect walkers/bikers from car and truck drivers who drive at high speeds between intersection bottlenecks. | S | 38.29976 | -122.666 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/391482 |
| 3/12/2023 16:09 | Driving Comment | Old Adobe Road at Stage Gulch road needs enhanced signage which directs traffic through Petaluma to Petaluma eateries, parks, gas and Hwy 101. This is a critical interception point for tourist and commute cars that clog traffic and cause hazardous traffic conditions in Penngrove as well as all along the scenic and agrarian Old Adobe Road corridor. If at least the tourists started using 101 it may diminish some car trips. Hopefully other calming strategies will INCREASE the transit Ad Rd.time. | S | 38.25169 | -122.578 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/391484 |


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| 3/12/2023 16:21 | Driving Comment | Commercial use by delivery trucks such as Amazon should be reduced by voluntary re-routing or by prohibition if voluntary doesn't work. I counted 18 Amazon vans in a row the other morning. Not all of these are going to Penngrove!! Others like DHL, UPS, and Santa Rosa/Windsor/Healdsburg bound deliveries also use Old Adobe to transit to points north. Winery, auto parts etc use OAR as a shortcut. Signage can indicate "local delivery only" turns onto OAR. | S | 38.25197 | -122.579 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/391488 |
| 3/12/2023 16:31 | General Comment | The Penngrove Specific Plan (which is part of Sonoma County Plan) indicates that Penngrove is to remain agricultural. Penngrove should be officially designated as "Historic Scenic and Agricultural Area". This would remind residents, politicians and tourists additional recognition for the area. This may enhance the efforts to calm traffic. | S | 38.29532 | -122.667 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/391492 |
| 3/12/2023 16:39 | General Comment | Old Redwood Hwy needs to be two lanes plus a center turning lane starting from the Petaluma City limits and extending at least past Penngrove Ave. Rumored 4 Lane development is unacceptable. | S | 38.28336 | -122.668 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/391493 |
| 3/12/2023 16:44 | Walking/Pe destrian Comment | Designate Goodwin Ave-Elysian-Palm Aves as Historic Scenic Poultry Raising District. This may help recognize this special area and hopefully more pedestrians bikers and horse riders use this route. <br> Speed humps in select areas are useful to calm auto/truck traffic. | S | 38.28829 | -122.674 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/391494 |
| 3/12/2023 16:54 | General Comment | This intersection is a MESS. Traffic control here is at a critical junction. Multiple different traffic sources must be addressed in order to alleviate the hazardous conditions. <br> 1. Complete on/off ramps at Railroad Ave/101 <br> 2. Reduce speeds on Old Redwood Hwy from Petaluma city limits to Cotati city limits. <br> 3. Slow/calm/redirect traffic that uses Penngrove streets, especially on Petaluma Hill road, Old Adobe Road and Old Redwood Hwy. <br> 4. Re work the intersection of Pet Hill Rd/Old Adobe Road | S | 38.29978 | -122.666 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/391496 |


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| 3/12/2023 17:05 | General Comment | The cars go way too fast for a place where kids pretty much play in the driveways. The trucks and cars are very dangerous in this place. There should be speed bumps in places specified by residents and a new speed limit. <br> - C age 9 | S | 38.29027 | -122.67 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/391499 |
| 3/17/2023 7:12 | Driving Comment | Either turn the left turn lane into a left turn/straight lane option or create a right turn lane. When the school releases it gets very congested and drivers can become aggressive. Not great for the school or Penngrove community. |  | 38.29983 | -122.666 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/392647 |
| 3/20/2023 10:44 | Driving Comment | C | Davis | 38.29712 | -122.666 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/393063 |
| 3/20/2023 18:36 | Driving Comment | Delete signage for left turn at Rainshine Ct. make it a normal center turn lane. Too many drivers pull over to turn left there thinking its Adobe Rd and then jerkingly continue on in the center lane nearly colliding with drivers who know where they are going: to turn left on Adobe | Baer | 38.29956 | -122.674 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/393170 |
| 3/20/2023 18:41 | Driving Comment | This is a deadly corner in all directions. Major directional, drainage, visibility, and narrowness problems for drivers, bikers, pedestrians, equestrians. | Baer | 38.31429 | -122.694 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/393171 |
| 3/21/2023 18:44 | Walking/Pe destrian Comment | This is an extremely dangerous intersection. Signalization would probably help. Drainage is also a huge problem here as well and not only contributes to road flooding hazards but needs to be addressed when these upgrades are planned and and green lighted. |  | 38.3143 | -122.694 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/393455 |
| 3/21/2023 18:49 | Driving Comment | This intersection is extremely dangerous with speed limits at 50 MPH and accidents on a regular basis. Signalization and a Left turn lane on the North bound corner would help. Drainage will need to be addressed as part of any of these improvements as it is currently inadequate resulting in road flooding and the surrounding properties along Old Redwood Hwy. |  | 38.31432 | -122.694 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/393458 |


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| 3/21/2023 19:07 | Driving Comment | Improve timing of traffic lights on E/W bound on Rohnert Park Expressway to encourage commuters to move west to Highway 101 instead of continuing south through Penngrove on Pet Hill Road. | Boven | 38.34556 | -122.667 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/393468 |
| 3/21/2023 19:08 | Driving Comment | Improve timing of lights along East Cotati Avenue to encourage commuters to drive to Highway 101 versus continuing south on Petaluma hill Rd and through Penngrove. | Boven | 38.33567 | -122.667 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/393470 |
| 3/24/2023 8:09 | General Comment | If lighting is added then it should be highly specialized in order to reduce lights shining in nearby residents' houses. Slower speeds plus A continuous center turn lane plus stop lights along ORH would allow safer merging. | S | 38.2896 | -122.666 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/369147/discus S |
| 3/26/2023 12:46 | Driving Comment | Twenty years ago when I moved here Davis Lane and East Railroad was used by commuters to bypass the traffic light in Penngrove. CHP used to park at the end of East Railroad at commute time and hand out speeding tickets. When the 4 way stop went in at Davis and Adobe the traffic lessened considerably. Now with the vineyard we have large truck traffic combined with the workers. Also the traffic on weekend nights for the events held at the facility on East Railroad leaves a lot of trash behind. | Sherrill | 38.31198 | -122.649 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/394695 |
| 3/26/2023 18:53 | Driving Comment | Ticket all the people that don't stop at the stop sign at Dutch \& Brand. The delay, in being required to stop or get a ticket, will reduce the number of drivers that use Dutch as a short cut. | Hill | 38.30381 | -122.658 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/394741 |
| 3/26/2023 18:54 | Driving Comment | Ticket all the people that don't stop at the stop sign at Dutch \& Davis Lane. The delay, in being required to stop or get a ticket, will reduce the number of drivers that use Dutch and Davis as a short cut. | Hill | 38.30301 | -122.655 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/394742 |


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| 3/28/2023 10:08 | Driving Comment | Not to mention the fact that there is a buss stop at the corner and ALWAYS some ya-hoo parking in it. Where is the enforcement? <br> I just learned that the new owners of the corner property plan to level the old workshop next to the tattoo shop and make the ENTIRE corner a big parking lot for the bars. That will make it even more necessary for more pedestrian crosswalks in the area. | Shank | 38.29714 | -122.666 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/379725/discus s |
| 3/28/2023 10:28 | Driving Comment | WAY TO MANY LARGE TRUCKS have been driving back and forth for months hauling fill dirt to a property. This is destroying whats left of the roadway and makes it very dangerous for walkers and runners who live here. ENOUGH ALREADY! | Shank | 38.30921 | -122.649 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/395091 |
| 3/28/2023 14:23 | Walking/Pe destrian Comment | We used to walk Davis, Brand and Dutch at all times, but due to the commute traffic that uses our roads, we now have to pick and choose the time to walk in order to feel safe. People in cars are driving too fast and using their cell phones cause they know they won't get caught creating an unsafe roadway for people, pets and other drivers. |  | 38.30388 | -122.663 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/364591/discus s |
| 3/28/2023 14:43 | Driving Comment | Just wait until they start harvesting grapes from the vineyards....more large trucks!! |  | 38.30921 | -122.649 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/395091/discus s |
| 3/29/2023 12:17 | Driving Comment | Add left hand turn lanes at Adobe/Pet Hill Road. This will cut down on people waiting (backed up) to make a left onto Pet Hill. There's a lot of traffic at that point in the mornings and evenings, causing everything to slow down. | Kashack | 38.29724 | -122.66 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/395444 |
| 3/31/2023 16:15 | Driving Comment | Could we get the red parking space on the NW corner painted red in crosshatch on the pavement so people will better notice that it's a no parking zone? It's really hard to make a safe left turn onto Main Street when people park there. | Moreaux | 38.29986 | -122.666 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/396623 |
| 3/31/2023 16:21 | Bicycling Comment | SMART plans to complete the bike path from Penngrove to Petaluma in 2025. We need this to be completed much sooner to help with bike and pedestrian safety. It has been planned, and funded for many years. | Moreaux | 38.29606 | -122.666 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/396629 |


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| 4/12/2023 10:39 | Driving Comment | Turning from Curtis onto Petaluma Hill Rd. is dangerous. The view to the left is blocked and traffic in both directions is well above the speed limit. If you are southbound on Petaluma and want to turn left onto Curtis, the traffic behind will speed past on the shoulder..if they notice you've stopped. If you are northbound and want to turn right onto Curtis, you can't see around the corner for cars, kids, bikes and dog walkers. A very bad intersection. | Schneider | 38.33329 | -122.667 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/398903 |
| 4/12/2023 10:43 | Bicycling Comment | The bike lane/shoulder is usually blocked by debris and gravel forcing cyclists to veer into traffic lanes. This is a heavily trafficked area for cycling and should be regularly maintained. | Schneider | 38.341 | -122.667 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/398906 |
| 4/12/2023 13:48 | Driving Comment | A traffic light here would be amazing! When leaving the elementary school they make us turn right and this takes us back to Petaluma Hill Rd but is very hard to turn onto. | Rio | 38.31435 | -122.667 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/398963 |
| 4/12/2023 13:54 | Driving Comment | Please extend Bodway to East Railroad! Would be very convenient for us in Willowglen. | Rio | 38.31761 | -122.676 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/398964 |
| 4/16/2023 10:20 | Driving Comment | This intersection is a MESS in the morning and in the evening - related largely to commuters and school drop offs and pick-ups. It clearly needs to be reconfigured and expanded. A traffic circle might help keep traffic moving and allow it to flow to the various directions cars are headed. An extra lane is a bare minimum. Cars have backs up past Formschlag in the morning. Impatient drivers cause accidents. | Tucker | 38.29979 | -122.666 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/400307 |
| 4/16/2023 10:23 | Driving Comment | We need a way to facilitate left turns from Ely on onto Old Redwood Highway. Even right turns are tricky if it gets too backed up behind someone trying to turn left at rush hour. I'm told a signal is planned for this, but suspect a roundabout would serve better so traffic is not stalled at a light during non-rush hours. | Tucker | 38.28212 | -122.666 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/400309 |


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| 4/16/2023 10:26 | Walking/Pe destrian Comment | Generally it tricky crossing the street in Penngrove at certain times of day. Traffic can come whizzing around from Old Redwood Highway onto Main Street and then zipping through town mid day. One thinks of this as a sleepy little town but we want it to be a vibrant, walkable, welcoming place. Also given the back ups at rush hour, people can't get out of parking places. | Tucker | 38.29657 | -122.666 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/400310 |
| 4/16/2023 10:28 | Driving Comment | So when school is starting or letting out, this intersection backs up as people can't turn left onto Old Redwood Highway and therefore back up anyone trying to turn right. What you have surely found is that back ups occur during certain parts of the day, hence a traffic circle could keep traffic flowing at school drop offs and pick ups but also not STOP traffic unnecessarily at other hours. | Tucker | 38.29957 | -122.674 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/400311 |
| 4/16/2023 10:30 | General Comment | Interesting idea as turning ORH into 4 lanes is not in the cards and shouldn't be | Tucker | 38.28336 | -122.668 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/391493/discus s |
| 4/16/2023 10:32 | General Comment | You are so right. We had a horse killed in front of our house and sheep got onto the highway. No one can have a pet who lives on the PHR without worry. | Tucker | 38.30728 | -122.666 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/383242/discus s |
| 4/16/2023 10:34 | Driving Comment | There have been a number of accidents or near accidents at this intersection due to the lack of a left turn lane onto Formschlag. There's more traffic than one might imagine. I can't see it would be too hard to put one in. | Tucker | 38.30698 | -122.667 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/400312 |
| 4/16/2023 10:36 | General Comment | With all the development, the traffic problems we experience now are going to multiply big time. $\$ \$ \$$ must be found to address this. 20 years ago a lawsuit was filed addressing the regional impact of ALL the new development in Rohnert Park that is filling that City's coffers with tax revenue but NOT addressing the substantial regional impacts of the traffic. PLEASE, PLEASE, PLEASE protect our greenbelts. | Tucker | 38.31065 | -122.666 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/365298/discus S |


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| 4/16/2023 10:39 | General Comment | With ALL the new housing being built in Rohnert Park, the traffic impacts on the area of study are going to magnify big time. 20 years ago a law suit recognized the problem which had increased many fold. Right now Rohnert Park's City Coffers are growing with the new tax revenue but that money is not remotely adequately compensating for the traffic impact on the Region. | Tucker | 38.31556 | -122.667 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/400313 |
| 4/16/2023 15:55 | Driving Comment | A 3-way stop sign at Main St \& Woodward Ave would create a mid-town intersection that could serve three essential purposes: (1) to slow traffic speeds on Main Street, (2) create safe left hand turn opportunities onto and off of Main Street, and (3) provide for additional and particularly safe cross-walks (across Woodward, as well as Main Street on the north side) that are not in discord with train crossing safety and constraints. | McDowell | 38.2971 | -122.666 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/400378 |
| 4/19/2023 10:34 | General Comment | Couldn't disagree more. Widening ORH will induce demand. |  | 38.28336 | -122.668 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/391493/discus s |
| 4/19/2023 14:30 | Driving Comment | A three way stop sign at Adobe Road and Jacobson Lane. This would slow down the speeders coming from the Corona Rd stop sign into Penngrove. A STOP sign not a light. | Shepherd | 38.29236 | -122.651 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/401711 |
| 4/19/2023 14:35 | Driving Comment | A 3 way STOP sign at Petaluma Hill Road and Dutch Lane. This should slow traffic coming into Penngrove. <br> Ideally a 3 way STOP sign at Petaluma Hill Road and Formschlag Lane would also slow down traffic entering or exiting Penngrove. It might also discourage the drive through traffic which should be taking Hwy 101. | Shepherd | 38.30166 | -122.665 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/401716 |


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| 4/19/2023 14:42 | Driving Comment | The intersection on Old Redwood Hwy, Adobe Road and Penngrove Avenue is very dangerous. Right now it has a middle turn lane. Traffic coming south on Old Redwood Hwy enter the middle lane to make the left turn down Adobe. Traffic going north on Old Redwood Hwy to turn left onto Penngrove Avenue often meet the southbound drivers head on. This really needs to be addressed. A three way STOP sign at Adobe and Old Redwood Hwy would probably help along with turn lanes that direct the traffic. | Shepherd | 38.29422 | -122.677 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/401719 |
| 4/19/2023 14:55 | Driving Comment | The intersection at ELY and Old Redwood Hwy and Goodwin(Elysian?) needs a 4 way STOP sign. This is by the Palace of Fruit and can be dangerous for drivers entering Old Redwood Hwy from Ely or Goodwin or drivers trying to make left turns into those streets. We also need a 4 way STOP sign at Hatchery Road. These two stop signs should slow down the traffic entering and exiting Penngrove and discourage those drivers who just wish to avoid Hwy 101. | Shepherd | 38.26512 | -122.666 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/401726 |
| 4/19/2023 15:03 | Driving Comment | Perhaps a roundabout similar to the one at Southwest \& Commerce in RP. This intersection is super dangerous. |  | 38.31434 | -122.694 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/366638/discus s |
| 4/19/2023 15:17 | Driving Comment | I'm fine with ANY solution. At the very least, a turning lane for people turning left from Ely onto ORH but a roundabout or light would be better. The existing situation is incredibly dangerous and I worry that the focus will be on Railroad or Adobe and Ely will get put on the back burner. |  | 38.28371 | -122.667 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/365471/discus s |
| 4/19/2023 15:38 | Driving Comment | Hopefully this photo will help to illustrate WHY it is imperative that something be done at Ely and ORH. Crazy ridiculous and dangerous. |  | 38.28382 | -122.667 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/401734 |
| 4/19/2023 17:08 | Walking/Pe destrian Comment | A traffic light is desperately needed at this intersection for pedestrian safety and traffic. I enjoy walking this area but crossing the street is so dangerous. Motorists are so quick to blow through the intersection. | Martin | 38.32839 | -122.7 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/401751 |


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| 4/19/2023 17:11 | Driving Comment | Two lanes should continue to the freeway on ramp. Going from 2 lanes to 1 lane backs up traffic. Having two lanes would ease traffic and reduce the number of motorists cutting in. Would also be safer for cyclists. | Martin | 38.33113 | -122.711 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/401753 |
| 4/19/2023 17:16 | Driving Comment | You choose to live here. Enter / Exit from East Cotati and stop complaining about the fast traffic on Petaluma Hill Road. Complete nonsense! |  | 38.32806 | -122.668 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/365021/discus s |
| 4/19/2023 17:18 | Driving Comment | You choose to live here. Enter / Exit from East Cotati and stop complaining about the fast traffic on Petaluma Hill Road. Complete nonsense! |  | 38.32733 | -122.668 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/364937/discus s |
| 4/19/2023 17:27 | Driving Comment | Need a three way stop sign or stoplight at this intersection. The cars go so fast and it is one block from the elementary school. It is also hard to turn left onto Petaluma Hill Rd from Dutch Lane during rush hour. Also, Dutch Lane is a one lane country road and quite narrow. Cars turning left onto Dutch Lane frequently "cut the corner" and it is dangerous for cars at the stop sign. | Lacey | 38.30467 | -122.666 | https://ghd.mysocialpinpo nt.com/penngrovets\#/marker/401756 |
| 4/19/2023 17:31 | Driving Comment | Add speed bump here to slow down cars turning onto Dutch Lane from Petaluma Hill Road. Also slows down and discourages cars using Dutch Lane as a pass thru road during rush hour because of the Waze app. Dutch Lane is a residential one lane country road that receives too much traffic which makes it dangerous for our kids and animals. | Lacey | 38.30467 | -122.665 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/401757 |
| 4/19/2023 17:35 | Driving Comment | Large trucks should become prohibited and illegal to drive on Bodway and must be directed to use Petaluma Hill Road. Bodway has parks where children play all the time. Trucks do not belong in a residential one lane narrow street. The trees on Bodway are also being damaged by these large trucks and huge broken branches becoming a hazard. In addition, there should be stop signs on every intersection on Bodway. Bodway and Camino Collegio intersection is becoming too dangerous during commute hours. | Smith | 38.33491 | -122.678 | https://ghd.mysocialpinpo nt.com/penngrovets\#/marker/401759 |


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| 4/19/2023 17:40 | Driving Comment | Bodway should never be extended anywhere. This is a one lane residential street with multiple parks where children play. It is enough that our kids are in danger as a result of speeding cars on Bodway. Any suggestion to extend Bodway is dangerous and reckless nonsense! | Smith | 38.32152 | -122.676 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/366642/discus s |
| 4/19/2023 18:04 | Bicycling Comment | Bike lane needed! If this is going to be built out further and service way more cars from the freeway to the new RP homes, it should be a class 1 bike lane! | Eckel | 38.31427 | -122.688 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/401765 |
| 4/19/2023 18:06 | Driving Comment | Turning north onto ORH from westbound East Cotati Ave....there should be an arrow light that is green when the traffic from southbound ORH is turning eastbound onto East Cotati Avenue. There is not reason these can't be in sync. | Eckel | 38.32657 | -122.706 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/401767 |
| 4/19/2023 18:15 | Driving Comment | Roundabout. This is the worst intersection I have ever driven. It is so dangerous to turn left from northbound ORH because of the angles of the 116 receiving lanes. Just because people voted a roundabout ban because they were mad about the city's general plan should not make us beholden to a horrible intersection forever. |  | 38.33116 | -122.711 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/401768 |
| 4/19/2023 18:46 | Driving Comment | Eucalyptus Ave is not listed as part of this study but we clearly are affected by traffic taking a "short cut" from ORH to $P$. Hill Rd and vice versa, as fast as they can. This is a country road filled with pedestrians, dog walkers, turkeys etc. Is there a way to calm traffic on this straightaway? We are at our wit's end. |  | 38.31798 | -122.687 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/365038/discus s |
| 4/19/2023 20:04 | Bicycling Comment | Yes. Completing the bike path like SMART agreed to, needs to be a priority. |  | 38.29606 | -122.666 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/396629/discus s |
| 4/19/2023 20:17 | Driving Comment | Increase of Vehicles on Adobe going too fast. Unable to get on and off Lynch rd as it is with increased traffic and very unsafe and dangerous when 10 wheel dump trucks are going up and down our narrow road to a dirt dump site above us. | Gilardi | 38.27803 | -122.627 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/401802 |


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| 4/20/2023 2:26 | Walking/Pe destrian Comment | The speed at which ORH northbound traffic goes through this intersection frequently causes cars to drift onto the shoulder, threatening pedestrians. The proximity of the bus stop makes it all the more hazardous. | Krebs | 38.31443 | -122.694 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/401829 |
| 4/20/2023 2:57 | Driving Comment | There should only be the one dedicated left turn lane on NB ORH and the combination lane should be changed to thru-only. As it is, drivers using the dedicated left-turn lane generally don't want to be funneled in the 101 access lane and end up trying to muscle their way into the right lane(s). With only one dedicated left all three lanes on Gravenstein would be options. | Krebs | 38.33117 | -122.71 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/401832 |
| 4/20/2023 8:03 | Bicycling Comment | bike this several times a month Westbound. When school let's out traffic is stopped all though here and car line the sholder - no safe place to bike through. Shoulder of pavement (when its there) is rarely cleaned so have to bike in the road | Whitman | 38.29937 | -122.667 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/401851 |
| 4/20/2023 8:06 | Bicycling <br> Comment | cyclists avoid the Westbound bridge here because the surface is not bike friendly - so they use the road | Whitman | 38.29955 | -122.672 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/401852 |
| 4/20/2023 8:08 | Bicycling Comment | wide shoulder and smooth payment make this section of ORH good to bike - debris from storm/traffic accidents is only deterrent. | Whitman | 38.30327 | -122.682 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/401853 |
| 4/20/2023 8:12 | Driving Comment | Car turning right off ORH and accelerating as well as parked cars/fence line make left turns out of Ross difficult. Traffic calming measure between ORH and Ross Street recommended -too much pedestrian traffic for car to go that fast. This will only get worse when the infill projects in downtown Cotati are finished. | Whitman | 38.32493 | -122.705 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/401854 |
| 4/20/2023 11:15 | General Comment | There is a crosswalk, but some don't stop \& are speed thru downtown. | Booth | 38.29641 | -122.666 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/401937 |
| 4/20/2023 11:17 | Walking/Pe destrian Comment | More/continuous sidewalks in downtown, on Woodward, \& parts of Adobe are needed for safety | Booth | 38.29717 | -122.666 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/401939 |


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| 4/20/2023 11:18 | General Comment | Speed limit signage needs to be better. Many signs are blocked by obstructions | Booth | 38.29967 | -122.666 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/401941 |
| 4/20/2023 11:20 | General Comment | Petaluma Hill Rd. should be blocked off to through traffic if traffic diversion can not be accomplished | Booth | 38.31488 | -122.666 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/401944 |
| 4/20/2023 11:22 | General Comment | Children attending Penngrove Elementary from Rohnert Park \& other areas should be REQUIRED to be bussed in. This would eliminate a lot of traffic. | Booth | 38.29972 | -122.667 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/401949 |
| 4/20/2023 11:24 | General Comment | Adobe Rd. should be blocked at Corona Rd. to avoid traffic going through Penngrove | Booth | 38.28642 | -122.639 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/401952 |
| 4/20/2023 11:27 | General Comment | Traffic gets terribly backed up during rush hours. Traffic needs to be re-routed around Penngrove. Not sure how this can happen, but there is no easy fix. Simply put, there are way too many cars going through little Penngrove to get somewhere else. | Booth | 38.29996 | -122.666 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/401956 |
| 4/20/2023 11:28 | Driving Comment | The turning lanes/signage are VERY dangerous. Something needs to change here. | Booth | 38.29947 | -122.674 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/401957 |
| 4/20/2023 11:29 | Driving Comment | Efforts to prevent people from turning on to Adobe and continuing on through Penngrove to get to somewhere else | Booth | 38.25153 | -122.578 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/401958 |
| 4/20/2023 18:09 | Walking/Pe destrian Comment | There is a stop sign on Camino Colegio but not on Bodway. This intersection has many near misses with vehicles and although there are pedestrian signs near misses with pedestrians. Families and children use this to cross to both schools and parks. A stop sign on each side of Bodway could help prevent an accident and tragedy. | mccarthy | 38.32528 | -122.676 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/402150 |
| 4/21/2023 12:11 | Walking/Pe destrian Comment | Agreed. The safest crosswalk possible is ideal b/c of the children (ie., the pedestrian hybrid beacon). Also, to lighten up school traffic, one of the suggestions was to have students from RP use a school bus to get to and from school. A few parents at the most recent meeting said that approx $40 \%$ of the school population were students from RP. |  | 38.3 | -122.666 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/381546/discus s |


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| 4/21/2023 12:17 | Driving Comment | I propose designating/putting up signs on Woodward Ave as "Closed Road to Thru Traffic", because let's be honest here, a lot of the speeders and stop-sign ignorers are those individuals that are just using the street to avoid the Petaluma Hill/Old Adobe Rd intersection. I also request speed dips @ each of those stop signs on Woodward Ave. |  | 38.29711 | -122.666 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/382817/discus s |
| 4/21/2023 12:59 | Bicycling <br> Comment | Having a sidepath on ORH would make it much safer for pedestrians and bikers alike. It would also give us peace of mind knowing that there's something (ie., a curb and a strip of grass) b/w us and a reckless driver. |  | 38.30327 | -122.682 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/401853/discus s |
| 4/21/2023 12:59 | Bicycling Comment | Having a sidepath on PTR would make it much safer for pedestrians and bikers alike. It would also give us peace of mind knowing that there's something (ie., a curb and a strip of grass) b/w us and a reckless driver. |  | 38.3143 | -122.667 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/365037/discus s |
| 4/22/2023 20:09 | Driving Comment | We need a 4-way stop sign here! It will reduce the number of cars using ORH as a freeway alternative. | Heron-Bert | 38.31415 | -122.694 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/402471 |
| 4/23/2023 20:35 | Driving Comment | Minnesota only has a stop sign at this intersection. Cross traffic on Old Red is uncontrolled which makes left turns very difficult during busy times. Additional heavier traffic will require either stop signs or a roundabout to safely make left turns. | Heiman | 38.30661 | -122.688 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/402602 |
| 4/24/2023 18:31 | Bicycling Comment | A round about would be much safer for all the families going to Old Adobe School in the morning, and kids traveling to and from Casa Grande HS, as well as be a safety improvement for everyone traveling on this road. The county shouldn't wait for more kids to be killed (like Washington) before adding needed updates to this intersection. |  | 38.2552 | -122.585 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/366886/discus s |
| 4/24/2023 18:31 | Bicycling Comment | This would be great for traffic too. |  | 38.2552 | -122.585 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/366886/discus s |
| 4/24/2023 18:37 | Driving Comment | Great point. This is such a confusing intersection. A roundabout would help all drivers out and likely relieve some of the congestion. |  | 38.29714 | -122.659 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/389195/discus S |


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| 4/24/2023 18:39 | Driving Comment | Agreed |  | 38.3046 | -122.666 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/381545/discus s |
| 4/24/2023 18:40 | Driving Comment | There should be a 3-way stop sign here to protect traffic turning here. |  | 38.30702 | -122.666 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/402749 |
| 4/24/2023 18:45 | Driving Comment | A traffic stop should be placed here to avoid the two left turn lanes when heading south on ORW that are often mistaken (admittedly even by local drivers). |  | 38.29998 | -122.675 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/402750 |
| 4/24/2023 19:18 | Bicycling Comment | Turning southbound from Pet Hill Rd onto Snyder can be tricky, because debris tends to collect in the bike lane in that curve. More regular sweeping, please! |  | 38.38161 | -122.686 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/402756 |
| 4/24/2023 19:21 | Bicycling Comment | Agree. Until the SMART path is completed, Petaluma Hill Road is the main route for cyclists trying to connect between Penngrove, Cotati, Rohnert Park, and Santa Rosa. |  | 38.32445 | -122.666 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/365209/discus s |
| 4/25/2023 11:10 | Driving Comment | 4 way stop |  | 38.31434 | -122.694 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/402928 |
| 4/26/2023 11:23 | Walking/Pe destrian Comment | Lack of a sidewalk on one side of this narrow and curved road means that lots of pedestrians walk in the middle of the street. Not at all safe. | Syphers | 38.32516 | -122.704 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/403244 |
| 4/26/2023 11:25 | General Comment | The speed limit needs to be reduced south of Old Adobe all the way to Petaluma. I would support 35 mph . And enforce it! | Mears | 38.29812 | -122.671 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/403245 |
| 4/26/2023 11:25 | Bicycling Comment | Busy combined pedestrian/bicycle route has only a 3foot wide sidewalk. Would be safer with a wider path. | Syphers | 38.32584 | -122.701 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/403246 |
| 4/26/2023 11:27 | Walking/Pe destrian Comment | Sidewalk and/or traffic calming structures would make the twin oaks area safer. | Mears | 38.29038 | -122.666 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/403247 |
| 4/26/2023 11:29 | Bicycling <br> Comment | Hard to turn left onto pet hill rd on a bike. It's hard to see far enough in either direction given the traffic speeds. | Mears | 38.29707 | -122.666 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/403248 |
| 4/26/2023 11:35 | Bicycling Comment | Basically impossible to turn left onto north bound pet hill road when there is traffic. Need a light! | Mears | 38.31438 | -122.667 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/403251 |


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| 4/26/2023 13:50 | Bicycling Comment | Old redwood drive should have a bike lane all the way!!!! | Fonseca | 38.27505 | -122.675 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/403288 |
| 4/26/2023 13:51 | Bicycling Comment | Old redwood should have a bike lane all the way | Fonseca | 38.29752 | -122.67 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/403290 |
| 4/28/2023 13:03 | Driving Comment | 3-way stop sign at corner of Woodward \& Main St. to slow down traffic through downtown Main Street and make left turn onto Woodward when driving south from Petaluma Hill Road safe/possible. Crosswalks at that intersection with flashing light signal. | Boal | 38.29707 | -122.666 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/403977 |
| 4/28/2023 13:05 | Driving Comment | Stop light to all left turns onto Petaluma Hill Road from E. Railroad and left turns onto E. Railroad from Petaluma Hill Road when driving north. | Boal | 38.31288 | -122.666 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/403978 |
| 4/28/2023 13:06 | Driving Comment | Stop lights at ORH/Railroad to prevent accidents, make turns safe. | Boal | 38.31181 | -122.694 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/403979 |
| 4/28/2023 13:11 | Driving Comment | Stoplight at Ely \& ORH to make turns left turns from ORH driving west onto Ely and right turns from Ely onto ORH safe, slow down ORH traffic. | Boal | 38.28314 | -122.667 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/403980 |
| 4/28/2023 13:20 | Driving Comment | Full 101 on/off ramp access (4 ramps) via Railroad to take traffic congestion off surface roads provide efficient way to access 101. Widen Railroad to accommodate new on/off ramps. | Boal | 38.30353 | -122.708 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/403982 |
| 4/28/2023 13:32 | Driving Comment | 35 is too fast through downtown. 25 is more reasonable, lighted sign indicating driver speed might help slow traffic down and regular speeding checkpoints through Penngrove should be established by CHP. | Boal | 38.29643 | -122.668 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/389198/discus s |
| 5/1/2023 13:53 | Driving Comment | That suggestion should not disrupt people who live in Penngrove from using Adobe Road. | Saame | 38.25153 | -122.578 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/401958/discus s |
| 5/1/2023 13:59 | Driving Comment | A 3 way stop sign causes traffic backups on Adobe Road when usually very few cars come from Casa Grande Road. | Saame | 38.25532 | -122.585 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/383250/discus s |


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| 5/1/2023 14:24 | Driving Comment | Minnesota Ave has many industial large trucks using this intersection. Will large trucks be able to use a roundabout? Will stop signs cause backups on Old Red for the much fewer vehicles turning left onto Old Red? | Saame | 38.30661 | -122.688 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/402602/discus s |
| 5/1/2023 14:33 | Driving Comment | Palm Ave does not interset Old Red. Did you mean slowing down on Old Red between Penngrove Ave and Hatchery Rd? | Saame | 38.30678 | -122.687 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/323028/discus s |
| 5/1/2023 14:45 | Driving Comment | 1) Difficult to see cross traffic at intersection when coming from West Railroad without pulling almost into the traffic. <br> 2) Dificult to turn left from Old Red to West Railroad with vehicles sticking out into Old Red wanting to turn left from West Railroad. | Saame | 38.31428 | -122.694 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/365040/discus s |
| 5/1/2023 14:50 | General Comment | I think you mean difficult to cross Old Red when trying to continue on Railroad Ave. A roundabout would be nice, but can heavy trucks even manage a roundabout? | Saame | 38.31433 | -122.694 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/390932/discus s |
| 5/1/2023 15:04 | Driving Comment | Can large trucks navigate a roundabout? | Saame | 38.28373 | -122.668 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/366640/discus s |
| 5/2/2023 12:06 | General Comment | Current speed limit is 50 mph . People constantly exceed this limit. It is extremely dangerous to pull into our driveway. | Senften | 38.29291 | -122.667 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/404627 |
| 5/2/2023 12:39 | Walking/Pe destrian Comment | The interruption of the sidewalk along part of the open space side of Ross (northeast side along the wetlands mitigation) discourages pedestrians from staying on that side of the street, and they often then walk in the road. If the sidewalk was continuous all the way to the bridge (where it picks up again) that would be much safer. | Senghas | 38.32503 | -122.703 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/404639 |


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| 5/2/2023 12:43 | Driving Comment | This is a dangerous intersection, especially for drivers coming out of Ross St. onto Charles St. The view is obstructed by a fence and building on the SW corner, and parked cars obscure the sight lines on the SE corner. Illegally parked cars or waste/recycling barrels often compound the problem of sight lines on the SW corner. Proximity to cars turning right from Old Redwood Highway onto Charles is problematic. Speed bumps and extra striping or rumble strips might mitigate the issues. | Senghas | 38.32536 | -122.705 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/404642 |
| 5/2/2023 12:45 | Bicycling <br> Comment | A clearly-marked bike lane at this intersection would help, given how problematic the intersection of Ross St \& Charles St. | Senghas | 38.3255 | -122.705 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/404643 |
| 5/2/2023 12:48 | General Comment | This is probably the main reason I no longer use the bus to commute between downtown Cotati and SSU. I have found it can take less time to *walk* from SSU to downtown Cotati than it takes to ride the bus around the return loop. Especially on rainy days or if I'm carrying too much, this makes using the bus impractical. |  | 38.32604 | -122.706 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/365048/discus s |
| 5/2/2023 12:53 | Walking/Pe destrian Comment | Is there no way (even in the long term) to have the bike/pedestrian pathway along the creek connect directly between where it currently stops at the pedestrian bridge linking McGinnis Circle and Lincoln Ave, and where the bike/pedestrian pathway currently meets East Cotati Ave? Even if the pathway crossed to go behind houses on Marsh Ave along the creek, that would be better. | Senghas | 38.32642 | -122.702 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/404648 |
| 5/2/2023 12:58 | Bicycling Comment | There needs to be an easy and safe way for cyclists to get from this point to the SMART pedestrian/bike pathway without having to go up to East Cotati Ave. | Senghas | 38.32471 | -122.691 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/404652 |
| 5/2/2023 13:01 | Walking/Pe destrian Comment | There needs to be an easy and safe way for pedestrians to get from this point to the SMART pedestrian/bike pathway without having to go up to East Cotati Ave. A link from here to Maple Drive/Manor Drive would open up a useful route for both pedestrians and cyclists. | Senghas | 38.32552 | -122.688 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/404654 |


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| 5/2/2023 13:14 | Driving Comment | Left turns from Ross St onto East Cotati Ave, and left turns from East Cotati onto Ross St are difficult here, and have become increasingly difficult over the past several years. This is likely to become acute once the large development at East Cotati Ave \& Charles St comes online. Seems a strong candidate for a roundabout (which would require local legislative action, alas, but which is still possible). Is there any way to reinstate the left turn from East Cotati onto southbound ORH? | Senghas | 38.32694 | -122.704 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/404659 |
| 5/2/2023 13:18 | Driving Comment | This intersection will become much more problematic once the development on East Cotati at Charles St. comes online. When Charles St. becomes impacted by all the new traffic, there will be more need to allow a left turn from East Cotati to Southbound ORH at the lights (meaning a left turn lane might need to be restored). |  | 38.32662 | -122.706 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/366635/discus s |
| 5/2/2023 13:20 | Driving Comment | This intersection would be a perfect candidate for a roundabout, and an example of why the ban on roundabouts in Cotati needs to be repealed. So many competing issues could be addressed more effectively by a well-designed roundabout. |  | 38.32659 | -122.706 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/404663 |
| 5/2/2023 13:23 | Driving Comment | Serious speed mitigation needs to be applied here. Drivers accelerate far too much between the intersection at Page St. \& ORH and the intersection at Myrtle/Valparaiso Aves and ORH. |  | 38.32328 | -122.703 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/404665 |
| 5/2/2023 13:24 | Bicycling Comment | This is a very scary stretch for cyclists (and pedestrians)! |  | 38.33135 | -122.714 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/404666 |
| 5/2/2023 13:25 | Bicycling Comment | This is a very scary stretch for cyclists (and pedestrians)! |  | 38.33111 | -122.712 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/404668 |
| 5/2/2023 22:27 | General Comment | Northbound access to 101 from West Sierra would be helpful to Cotati residents and to those at SSU. Does not make sense to route vehicles through less populated areas where there is not normal traffic flow. | Rosselle | 38.32695 | -122.703 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/404814 |


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| 5/3/2023 9:13 | Driving Comment | This intersection at Ross and Charles is potentially dangerous due to poor sight line of parked cars and the fence blocking view of cross-traffic without rolling into Charles St. extending the "no parking" zones on Charles on both sides of the Ross/Charles intersection would help with safe viewing of moving vehicles. |  | 38.32559 | -122.705 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/404911 |
| 5/3/2023 9:15 | Driving Comment | Containing speed of traffic on Charles st with speed bumps(?) would help with the safety challenges of the Ross/Charles intersection and turn in and out of. Even more important with increasing density coming to Cotati. |  | 38.32604 | -122.705 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/404912 |
| 5/3/2023 9:15 | Driving Comment | Containing speed of traffic on Charles st with speed bumps(?) would help with the safety challenges of the Ross/Charles intersection and turn in and out of. Even more important with increasing density coming to Cotati. |  | 38.3253 | -122.705 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/404913 |
| 5/3/2023 16:48 | Driving Comment | The number of vehicles now accessing PHR and RPX or Kieser is substantial and has created a commuter corrider taht is unsafe for vehicles turning on or off side streets. Stopped cars waiting to turn on a street with a 55 mph speed limit is dangerous | VELIQUET | 38.35162 | -122.666 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/405025 |
| 5/3/2023 16:50 | Driving Comment | This speed limit in the area nearing Penngrove shoudl be reduced to 35 . Vehicles travel at much higher unsafe speeds for the area | VELIQUET | 38.2936 | -122.667 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/405034 |
| 5/3/2023 19:37 | Driving Comment | I was recently rear-ended by a driver who stopped behind me when I was waiting my turn on to Curtis but then anticipated that I was going to turn before I did and hit me. It is scary to be sitting in there as people zoom of the shoulder and wiggle past or get impatient! | Cacs | 38.33329 | -122.667 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/398903/discus S |
| 5/3/2023 19:39 | Driving Comment | I would like a "no thru traffic" / "Dead end" sign here like is on Chester. We receive numerous turnarounds at the end of the street from people thinking they have hacked the system and can get through to Roberts Road via a shortcut. | Cacs | 38.33342 | -122.667 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/405157 |


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| 5/3/2023 21:55 | Driving Comment | left turn from E Cotati to ORH not allow, sent down Charles St - this is going to get a LOT worse when planned 5 story build gets done on Charles. Replacing the ORH and E Cotati/Sierra light with a roundabout would solve this and many more traffic flow problems | Whitman | 38.32658 | -122.706 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/405174 |
| 5/3/2023 22:03 | Driving Comment | Bad sight lines / fast traffic fr ORH to Charles makes left turns from Ross to Charles dangerous. This will be a LOT worse with 5 story buildout on Henry. Possible remedies: expand red zone (no parking) on Henry/rumple strip to discourage the red zone parking which now happens/ add a blinking light for rush hour times/ add mirror or telemetry for traffic warning/ pinch point to slow traffic from ORH turning on to Charles | Whitman | 38.32535 | -122.705 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/405176 |
| 5/3/2023 22:05 | General Comment | I believe in the long run, there is a need to look at the possibility of building a beltway or half a beltway on the east side of Petaluma/Penngrove/Rohnert Park to allow traffic to flow and bypass these communities.. | Rosselle | 38.30042 | -122.641 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/405177 |
| 5/3/2023 22:05 | Walking/Pe destrian Comment | crossing Charles at Ross St dangerous due to left turn from ORH to Charles at 8 ball. This will get worse after 5 story buildout on Charles St. Add crosswalk stripping at this corner. | Whitman | 38.32552 | -122.705 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/405178 |
| 5/3/2023 22:10 | Bicycling Comment | During rush hour, through traffic northbound on ORH diverts onto McGuinness/ Ross to avoid stop sign at ORH and Charles, making it difficult for bikes and peds to avoid traffic and use bike/ped bridge on McGuiness. This will be much worse with 5 story buildout on Henry. Improve flow on ORH at Henry by making roundabout at ORH and E Cotati so traffic does not back up and divert to Ross, McGuiness and Henry | Whitman | 38.32528 | -122.704 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/405179 |
| 5/3/2023 22:12 | Bicycling Comment | Thanks for improvements to surface on this bridge last summer - MUCH better to bike now. | Whitman | 38.32564 | -122.702 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/405180 |


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| 5/3/2023 22:13 | Driving Comment | The houses on Pet Hill Road are closer to Rohnert Park Expressway and Cotati Center where there is already access to the freeway. People are avoiding the freeway due to traffic congestion and are taking back roads. Taking them through the country and out of their way will not resolve the issue. |  | 38.29766 | -122.701 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/369144/discus s |
| 5/3/2023 22:20 | Driving Comment | Rohnert Park needs to assume responsibility for the additional traffic. Rather than rerouting traffic, think about accommodating it where it exists. 101 is full during rush hour causing locals to take surface roads. Consider the possibility of widening Pet Hill Road or turning it into a limited access road. | Rosselle | 38.30193 | -122.708 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/364568/discus s |
| 5/3/2023 22:26 | Bicycling Comment | This is a wonderful bicycle and pedestrian pathway. A curb cut so bicyclist could get off sidewalk would be an improvement | Barbour | 38.32586 | -122.701 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/405182 |
| 5/3/2023 22:27 | Driving Comment | Has anyone taken a survey to determine if people are cutting through Penngrove to get to the freeway. Seems like a round about way. It seems that people are cutting through Penngrove to avoid the traffic on 101 or to get to the east side of the Santa Rosa/Petaluma Valley. Railroad goes in the wrong direction. People cutting through to get to 101 are more likely to take Stoney Point to the west. I don't think additional exits and entrances at Railroad will make a difference to Penngrove. | Rosselle | 38.30316 | -122.705 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/384092/discus s |
| 5/3/2023 22:32 | Driving Comment | People would have to travel north to go south from this entrance. There are already south bound entrances at West Sierra and Gravenstein Hwy 116 nearby. Don't think adding a southbound entrance here will change the habits of those who take backroads to avoid traffic or those who already have access to the freeway at two Cotati entrances. | Rosselle | 38.30255 | -122.707 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/386259/discus s |
| 5/3/2023 22:33 | Walking/Pe destrian Comment | I prefer using this path for biking to get to the businesses on Redwood Dr. and RP. It would be helpful if the City/County could get an easement to make some improvements such as a curb cut at each end. | Barbour | 38.33044 | -122.714 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/365044/discus s |


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| 5/3/2023 22:43 | Driving Comment | Agree. Have been here for 35 years. The traffic only gets worse. We need a traffic light. | Rosselle | 38.31428 | -122.694 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/365040/discus s |
| 5/3/2023 22:45 | Driving Comment | A prime intersection for accidents and dare to drive. It needs a traffic light. | Rosselle | 38.31429 | -122.694 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/393171/discus s |
| 5/3/2023 22:48 | Bicycling Comment | Agree. If cyclists are to be permitted on Old Redwood or West Railroad, there must be bike lanes to protect them plus a light for ALL at the corner of OR and WRR. | Rosselle | 38.31429 | -122.694 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/367531/discus s |
| 5/3/2023 22:51 | Driving Comment | Traffic Circle, stop light or a 4-way stop. This intersection has been a hazard for years. | Rosselle | 38.31434 | -122.694 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/402928/discus s |
| 5/3/2023 22:54 | Driving Comment | Something has to be done, whether it be a roundabout (suicide circle) or a traffic light. This is a very hazardous intersection. Routing more traffic this way toward West Railroad is NOT the answer to Penngrove's problems. | Rosselle | 38.31434 | -122.694 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/366638/discus s |
| 5/3/2023 23:03 | General Comment | Not sure what heavy trucks are doing on Railroad. There definitely needs to be some kind of traffic control at Old Redwood and West Railroad. Diverting additional traffic onto West Railroad is not the answer to Penngrove's problem. People are driving through Penngrove to reach eastern Rohnert Park or to avoid the freeway. | Rosselle | 38.31433 | -122.694 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/390932/discus s |
| 5/3/2023 23:09 | Driving Comment | Something needs to be done to reduce the hazard of cross traffic at this intersection: a traffic light might slow traffic down. A roundabout or suicide circle might help if land allows. | Rosselle | 38.31434 | -122.694 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/366638/discus s |
| 5/3/2023 23:13 | Driving Comment | I agree with this comment having observed traffic here over the past 35 years. Some kind of traffic control mechanism need to put into place. Routing additional traffic through this intersection is not the answer. | Rosselle | 38.31413 | -122.694 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/365087/discus s |


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| 5/3/2023 23:15 | Driving Comment | I believe people will continue to use ORH as a freeway alternative. However that does not mean that traffic controls are needed. They are. | Rosselle | 38.31415 | -122.694 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/402471/discus s |
| 5/3/2023 23:23 | Driving Comment | Interesting point, Someone realizes that people are using surface roads to avoid 101. | Rosselle | 38.3127 | -122.714 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/366388/discus S |
| 5/3/2023 23:31 | Driving Comment | Rainshine Ct entrance should never have been allowed \& built opposite Penngrove Ave. and so near Adobe Rd. One solution is to eliminate left turns from Old Red into Rainshine Court. Another solution would be to build a new entrance to Rainshine Ct further North on Old Red. | Saame | 38.29998 | -122.675 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/402750/discus s |
| 5/3/2023 23:34 | Driving Comment | Cotati had done strange things with traffic control on East Cotati Avenue and West Sierra. The reduction of southbound lanes on Old Redwood trough the Hub has resulted in traffic diversion through neighborhoods where speedbumps, no matter how slow taken, can cause serious car damage. | Rosselle | 38.32662 | -122.706 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/366635/discus s |
| 5/3/2023 23:46 | Driving Comment | Traffic does not flow via West Railroad where housing and business does not exist. Some of this area is zoned scenic. It might be better to deal with traffic where it exists and think about accommodating growth in the future rather than diverting traffic to greenbelt. | Rosselle | 38.30353 | -122.708 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/403982/discus s |
| 5/3/2023 23:46 | Driving Comment | Intersection of Minnesota Ave \& Penngrove Ave has become a safety concern (blind corner) since a new high metal fence was built on the NE corner. Cars going South on Minnesota are used to driving fast and cutting the corner when turning left onto Penngrove Ave. Cars going West on Penngrove Ave can not see these cars coming around the corner until they are in the intersection. I have had several near collisions at this corner. | Saame | 38.29962 | -122.685 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/405184 |


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| 5/3/2023 23:55 | Driving Comment | Pavement on Minnesota Ave is in poor condition. A few sections have been properly repaired in the last 2 months. Otherwise the rest of the street is covered with uneven \& rough pot hole fixes. It makes for poor safety when driving at night or in the rain. | Saame | 38.30529 | -122.687 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/405185 |
| 5/4/2023 0:10 | Driving Comment | Pavement condition on McDowell is horrible and a safety concern. Cars bounce around and drive outside their lanes to avoid extra rough areas. | Saame | 38.26976 | -122.661 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/405186 |
| 5/4/2023 15:57 | Driving Comment | Add a roundabout here to slow traffic and reduce accidents. |  | 38.28388 | -122.668 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/405321 |
| 5/4/2023 15:59 | Walking/Pe destrian Comment | Two or three more lighted crosswalks in Penngrove downtown |  | 38.29712 | -122.667 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/405322 |
| 5/4/2023 21:06 | Walking/Pe <br> destrian <br> Comment | Please add ac dikes or a line of concrete car stops along ORH between Adobe Road and the intersection beside The Grove, to create a pedestrian path. This would enable more families to walk to Penngrove Elementary and to downtown, creating less traffic congestion and freeing up downtown parking. | McBrien | 38.29806 | -122.671 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/405363 |
| 5/4/2023 21:08 | Driving Comment | Please add stop signs for traffic heading north and south on ORH. There is a crosswalk here, but with cars driving $50+$ MPH it is dangerous to use it. This would allow more families to walk to Penngrove Elementary and reduce traffic congestion. | McBrien | 38.29951 | -122.674 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/405364 |
| 5/5/2023 17:15 | Driving Comment | We really need a three-way stop sign here on Woodward and Main Street. There are stop signs at Woodward and Grove and Woodward and Oak. It is dangerous to turn left or right on main street because there is alot of traffic, people park illegally, blocking the view of cars, and you can not see what is coming. | Lundquist | 38.29656 | -122.666 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/405541 |


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| 5/9/2023 9:23 | Driving Comment | Closing off Dutch Lane at Davis is not feasible and not safe. That would force the entire neighborhood to enter and exit only at PEtaluma Hill Road, which is NOT safe at many times of the day. There have been fatalities at the corner of Pet Hill and Dutch lane, with regular accidents happening there. This is simiply not the answer. Not only for safety of our residents, but it would cut off parts of the neighborhood from each other. I don't see any benefits to fractioning the neighborhood. |  | 38.30243 | -122.655 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/364563/discus s |
| 5/9/2023 12:53 | Walking/Pe destrian Comment | Need to add a crosswalk so kids can get to school safely. A pedestrian crossing with rectangular rapid flashing beacons (RRFBs) should be added here. | Lacey | 38.30468 | -122.667 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/406243 |
| 5/9/2023 12:56 | Driving Comment | Old Adobe Road between Petaluma Hill Road and Old Redwood Highway should be made into a one way street going west. This would force school drop off from Cotati and Rohnert Park families to to on Railroad and Old Redwood Hwy to drop off their kids. This would greatly reduce morning and afternoon traffic impacted at drop off and pick up times. | Lacey | 38.29977 | -122.668 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/406245 |
| 5/9/2023 12:59 | Driving Comment | Railroad between Petaluma Hill Road and Old Redwood Highway should be made into a one way road. One way going west. This would divert regional traffic to Old Redwood Hwy away from Penngrove's center. Once the 101 onramp is built at Railroad, this one way will be even more useful and no need to widen road to accommodate two lanes. Also, in conjunction with making Old Adobe Rd between Petaluma Hill Rd one way east, would create a loop that drivers can use, but direct traffic in a better way. | Lacey | 38.3142 | -122.673 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/406246 |
| 5/9/2023 13:02 | Driving Comment | Need a sign here that says "No trucks" and also a sign that says "Local Access Only". Our historic, country residential road is crumbling because huge trucks routinely take this road to cut to Adobe going east. | Lacey | 38.30468 | -122.666 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/406247 |


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| 5/9/2023 13:58 | Driving Comment | We live on Main St. The traffic is awful. From 3:00 on it's almost a constant stream. It's dangerous for pedestrians and animals. There are almost daily accidents in or around Petaluma Hill road. Emergency vehicles go by at least once a day. We have lived here for 12 years and the traffic has just gotten worse and worse. |  | 38.29772 | -122.666 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/364796/discus s |
| 5/12/2023 15:26 | Driving Comment | There have been multiple near-misses here because drivers turning from Palm onto Goodwin Ave. often think there is a three-way stop. The stop sign on Palm should indicate that cross-traffic does not stop. | Perrone | 38.29173 | -122.676 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/407427 |
| 5/12/2023 15:27 | Driving Comment | This needs to have a stoplight. It's insane that there still is no stoplight here. | Perrone | 38.28385 | -122.667 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/407428 |
| 5/12/2023 15:29 | General Comment | These roads are probably some of the worst in the county. It is unacceptable that the county continues to ignore the massive potholes and erosion throughout Goodwin, Elysian, Palm, Hatchery, and Minnesota. Imagine driving these roads everyday like the residents here do. | Perrone | 38.29112 | -122.679 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/407429 |
| 5/13/2023 7:48 | Driving Comment | Implement traffic calming on Petaluma Hill Road. |  | 38.35162 | -122.666 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/405025/discus s |
| 5/13/2023 7:52 | Walking/Pe destrian Comment | 101 divides the community. Implement safe pedestrian and bicycle pathways to reconnect communities. For good examples, see the City of Davis bike/pedestrian network. |  | 38.34019 | -122.713 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/366637/discus s |
| 5/15/2023 9:00 | Driving Comment | Priority one: Ely and ORH needs a stoplight. This is an extremely dangerous intersection. The wait time on Ely is often extreme. When the Palace of Fruit reopens people will be driving behind the store and turning right onto ORH again because of the wait which causes a store customer hazard, not to mention big trucks parking in front and blocking sightlines. | Senften | 38.28387 | -122.667 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/407728 |


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| 5/17/2023 19:30 | Driving Comment | Agree with comment. Clearly residents and city do not want cars to run through this area due to recent installation of speed bumps, but locals are still endangered. | Rosselle | 38.33139 | -122.719 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/365088/discus s |
| 5/17/2023 19:38 | Driving Comment | Consider a traffic light at West Railroad and Stoney Point. A very dangerous intersection especially during rush hour. | Rosselle | 38.29818 | -122.706 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/408516 |
| 5/17/2023 19:58 | Driving Comment | study can verify if most are going north and south or east and west. My sense is the former which would invalidate this suggestion. The freeway cannot handle the current traffic. People are skirting it to go from Sonoma or Petaluma to Rohnert Park or Santa Rosa. | Rosselle | 38.3142 | -122.673 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/406246/discus s |
| 5/17/2023 20:03 | Driving Comment | The population centers are in Rohnert Park, Petaluma, and Santa Rosa. Not along Railroad. People are trying to avoid the freeway in going from one population center to another. The freeway can no longer accommodate the traffic flow at peak times. Locals avoid it, | Rosselle | 38.31438 | -122.667 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/366274/discus s |
| 5/19/2023 12:39 | Driving Comment | School traffic makes illegal U-turns on the track after dropping off students. |  | 38.29981 | -122.671 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/409042 |
| 5/19/2023 17:37 | Driving Comment | I live on Bannon. Trying to make left onto Bannon when Northbound is almost ALWAYS taking life into hands. Southbound Adobe drivers almost routinely follow the car in front of them often without tapping brakes. When it's my turn to turn left, I am cutoff $50 \%$ of the time with those Southbound drivers. It literally is as though they CANNOT see me! | Mifsud | 38.29715 | -122.659 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/409087 |
| 5/24/2023 10:26 | Driving Comment | Driving way too fast. Impossible to turn left on Old Redwood during peak times. Need to reduce the speed limit and also redirect traffic | 0 | 38.29334 | -122.666 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/410200 |
| 5/24/2023 11:00 | General Comment | Penngrove elementary students from Rohnert Park should be bussed. The amount of cars during drop off/pick up is way beyond what this area was ever designed to handle. | 0 | 38.29979 | -122.667 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/410213 |


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| 5/24/2023 12:00 | Driving Comment | The speed limit of 50 MPH nearing Penngrove should be reduced. Drivers are now going even faster. There's a grammar school where some children have to walk. I was rear ended even before the change to 50 MPH completely stopped with signal on trying to get into my driveway! Traffic conditions are very dangerous. |  | 38.2936 | -122.667 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/405034/discus S |
| 5/26/2023 6:30 | Driving Comment | Adobe road has become dangerous for local residence and motorists due to speeding, illegal passing and the like. Public I ntersections like Hardin private driveways alike are difficult to merge from and into safely due to the speeding and illegal driving habits. <br> Slowing the flow of traffic would likely create a safer environment and would also likely make using highway 101 and other roads that were design for higher rates of speed safely. <br> We have had several cars crash into our property. | Thompson | 38.28454 | -122.637 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/410655 |
| 5/26/2023 6:51 | Driving Comment | We live further down adobe and had a wreck-less driver get in with our dogs and then in with our horses, allowing them to get onto adobe. Not to mention how much in damages they did. Our animals mean the world to us \& this could've been avoided if the driver was going closer to the speed limit and was looking where they were going. | Thompson | 38.28046 | -122.629 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/373278/discus S |
| 5/26/2023 6:57 | Driving Comment | The traffic is significantly worse due to the fruit stand that sets up there, people stop in the road on Corona to purchase. The shoulder is also destroyed now from the increase in traffic that it was not made for. Not to mention, where are these individuals going to the bathroom during their workday? Living just around the corner from this, it is a severe concern. | Thompson | 38.28581 | -122.64 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/410664 |
| 5/26/2023 7:04 | Driving Comment | The downfall to this would be that everyone would then be stopped. the traffic trying to go the other way would be stuck behind the individuals trying to go to the school and no one will be able to go. | Thompson | 38.29979 | -122.666 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/400307/discus s |


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| 5/26/2023 16:49 | Driving Comment | Traffic on Pet hill will only get worse when construction of large apt complex 38 North is completed (Santa Rosa Pet hill at Yolanda). It will be fastest route to Petaluma. | Turenne | 38.34437 | -122.666 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/410834 |
| 5/27/2023 6:40 | Driving Comment | Very dangerous to go in or out of my driveway onto Adobe Rd. Cars heading west bound traveling at the ridiculous speed limit ( 40 mph ) can't stop in time to avoid an accident. My neighbor has been sideswiped before. | Atkinson | 38.29983 | -122.666 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/410889 |
| 5/27/2023 8:19 | Driving Comment | A roundabout would be a better solution here to keep traffic flowing. I say this having recently experienced them in high traffic areas of LA. |  | 38.32154 | -122.667 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/389649/discus s |
| 5/27/2023 11:03 | Driving Comment | Turning the intersection of Dutch and Davis into a deadend from all directions would solve all of the speeding cut-through traffic our neighborhood has had to endure for decades. <br> A break-away cul-de-sac from all 3 directions would allow emergency vehicles to pass and allow for public egress in an emergency. | Pinnow | 38.30317 | -122.655 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/410908 |
| 5/27/2023 11:05 | Walking/Pe destrian Comment | Turning the intersection of Dutch and Davis into a deadend from all directions would solve all of the speeding cut-through traffic our neighborhood has had to endure for decades and make our neighborhood streets safe to walk. <br> We don't have sidewalks, we must walk in the street. A break-away cul-de-sac from all 3 directions would allow emergency vehicles to pass and allow for public egress in an emergency. | Pinnow | 38.30317 | -122.655 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/410909 |
| 5/27/2023 19:53 | Bicycling Comment | The shoulders on both sides of Old Adobe Road should be widened from just south of the hill to Corona Rd to match the existing shoulder that runs all the way to Washington. It makes no sense that the road pinches down the way it does and it's very unsafe for bicyclists traveling in either direction. | Heiman | 38.28328 | -122.635 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/410980 |
| 5/28/2023 6:46 | General Comment | I totally agree with your comments. Life on the corner of Adobe and PHR is challenging at multiple times of day. I love the idea of alternate routes to Adobe being encouraged! |  | 38.29976 | -122.666 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/382107/discus s |


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| 5/28/2023 6:47 | General Comment | Agreed!! It's very difficult to make that turn. |  | 38.2998 | -122.666 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/389652/discus s |
| 5/28/2023 20:03 | Walking/Pe destrian Comment | I/S of Main/Adobe Rd/Pet Hill Rd needs to be reconfigured for the safety of the school children. A rt turn lane are in the plans for W/B Adobe to turn right on PHR with a dedicated $r$ l lane $n / b$ PHR. This needs to be redesigned to allow S/B PHR to have a dedicated rt turn lane onto Adobe W/B. This will be a safer I/S for all <br> Secondly, a stop sign should be installed on Main St, S/B and N/B at the intersection of Woodward. This will create traffic calming as well as safety for the new parking lot | Hanson | 38.29465 | -122.664 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/411149 |
| 5/28/2023 22:37 | Driving Comment | I watch no fewer than 5 vehicles a day blow through the stop sign at Woodward/Oak. In both directions. There is no accountability. | Dawson | 38.29711 | -122.665 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/411195 |
| 5/28/2023 22:42 | Walking/Pe destrian Comment | Sidewalk! Nearly the entire community of Woodward, Oak, East and Grove uses this street to walk to town. It is not safe. Adding a sidewalk would be far safer. | Dawson | 38.29713 | -122.666 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/411198 |
| 5/28/2023 22:47 | Walking/Pe destrian Comment | The walkway on the south side of Adobe needs better protection, such as a guardrail. The 4" high concrete curb is nice, but doesn't offer much protection from the speeding semi trucks and aggressive drivers hauling ass up Adobe as we walk our children to school. | Dawson | 38.29977 | -122.666 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/411199 |
| 5/29/2023 10:59 | General Comment | Owner of Penngrove Pub plans for a parking lot at corner of Woodward and Main St. 1) Don't know deets re ingress/egress plans, but 2) we'll need safe crosswalk to cross Main. | Brown | 38.29712 | -122.666 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/411247 |
| 5/29/2023 11:03 | General Comment | Penngrove Cares community mtg. was held 4.16 .23 with 50 people attending. We worked in 3 breakout groups, each focusing on a geographic area of Penngrove. I'd like to upload a PDF of the findings, but this doesn't support any file format other than pictures. | Brown | 38.29712 | -122.666 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/411249 |


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| 5/29/2023 12:58 | General Comment | Here are results of Penngrove Cares' Traffic Mtg. attended by 50 people (4.16.23). We had 3 breakout groups each focused on a specific area. As the site only accepts pictures, if needed, please request Excel or PDF report from www. PenngroveCares.org | Brown | 38.29681 | -122.661 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/411257 |
| 5/29/2023 14:11 | General Comment | Page 2 of Penngrove Cares traffic mtg. results, 4-16-23. 50 community members participated in the mtg ., in 3 breakout groups. For other formats Excel, PDF, contact www.penngrovecares.org | Brown | 38.29802 | -122.664 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/411264 |
| 5/29/2023 19:43 | Driving Comment | General Plan Circulation Element Section 7.7 policy CT7W \#5 - Realignment of Petaluma Hill Road at Railroad Avenue. <br> CIRCULATION AND TRANSIT IMPLEMENTATION <br> Circulation and Transit Program 10: Petaluma Hill Rd Diversion Feasibility Study <br> Program Description: The County would work with adjoining Cities to evaluate the feasibility of diverting traffic from the Petaluma Hill Rd corridor onto Railroad Ave to and from Old Redwood Highway and Highway 101. (Policy reference: CT-7w, 7y). Page CT-52 | Savel | 38.31436 | -122.667 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/411294 |
| 5/29/2023 19:58 | General Comment | Circulation Program 9: Penngrove Traffic Calming Program: The County would utilize the countywide traffic model to prepare a detailed operational analysis of potential traffic calming improvements that would be effective in reducing the amount of through traffic that would utilize the local streets and roads in that community. The analysis would be conducted with the community and citizen input. This program should be initiated immediately to coincide with the new development in Rohnert Park. | Savel | 38.29894 | -122.666 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/411297 |


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| 5/29/2023 20:07 | General Comment | PENNGROVE AREA PLAN - II. Transportation <br> (1) Continue to evaluate alternative routes for the Petaluma Hill Road arterial which would divert traffic around central Penngrove. [5]: <br> (2) Intersection improvements affecting circulation and traffic volumes through the Penngrove area shall be considered in the context of the roadway classifications and existing regional cumulative traffic impacts. | Savel | 38.29981 | -122.666 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/411298 |
| 5/29/2023 20:18 | General Comment | PENNGROVE AREA PLAN - II. Transportation A. A goal of this Area Plan is to maintain the rural character of local roadways while providing for necessary capacity, traffic calming, and safety improvements and maintenance, especially with regard to school bus requirements and safety of children. Policies: (1) Coordinate roadways and land use planning to avoid overloading the existing road system. [iEP (2) Evaluate school bus, public transit and fire truck access. III. Public Services: public safety. | Savel | 38.2998 | -122.666 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/411300 |
| 5/29/2023 20:22 | General Comment | General Plan Policy CT-7v:"Utilize the SCTA traffic model as a foundation to prepare a detailed operational analysis of roads and streets in the unincorporated community of Penngrove to identify specific traffic calming improvements within the community and to route through traffic to the Highway 101 and SMART rail corridor. Consider designating Adobe Road from Davis Lane to Frates Road and Petaluma Hill Road from Formschlag Lane to Railroad Avenue for traffic calming improvements. | Savel | 38.29978 | -122.666 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/411301 |
| 5/29/2023 20:28 | Driving Comment | CIRCULATION AND TRANSIT IMPLEMENTATION Circulation and Transit Program 10: Petaluma Hill Rd Diversion Feasibility Study Program Description: The County would work with adjoining Cities to evaluate the feasibility of diverting traffic from the Petaluma Hill Rd corridor onto Railroad Ave to and from Old Redwood Highway and Highway 101. (Policy reference: CT-7w, 7y). Page CT-52 | Savel | 38.31438 | -122.667 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/366274/discus s |


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| 5/29/2023 20:29 | Driving Comment | CIRCULATION AND TRANSIT IMPLEMENTATION Circulation and Transit Program 10: Petaluma Hill Rd Diversion Feasibility Study Program Description: The County would work with adjoining Cities to evaluate the feasibility of diverting traffic from the Petaluma Hill Rd corridor onto Railroad Ave to and from Old Redwood Highway and Highway 101. (Policy reference: CT-7w, 7y). Page CT-52 | Savel | 38.31436 | -122.667 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/369128/discus s |
| 5/29/2023 20:29 | Driving Comment | CIRCULATION AND TRANSIT IMPLEMENTATION Circulation and Transit Program 10: Petaluma Hill Rd Diversion Feasibility Study Program Description: The County would work with adjoining Cities to evaluate the feasibility of diverting traffic from the Petaluma Hill Rd corridor onto Railroad Ave to and from Old Redwood Highway and Highway 101. (Policy reference: CT-7w, 7y). Page CT-52 | Savel | 38.31435 | -122.667 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/398963/discus s |
| 5/29/2023 20:30 | Driving Comment | CIRCULATION AND TRANSIT IMPLEMENTATION Circulation and Transit Program 10: Petaluma Hill Rd Diversion Feasibility Study Program Description: The County would work with adjoining Cities to evaluate the feasibility of diverting traffic from the Petaluma Hill Rd corridor onto Railroad Ave to and from Old Redwood Highway and Highway 101. (Policy reference: CT-7w, 7y). Page CT-52 | Savel | 38.31434 | -122.667 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/381542/discus s |
| 5/29/2023 20:32 | General Comment | CIRCULATION AND TRANSIT IMPLEMENTATION Circulation and Transit Program 10: Petaluma Hill Rd Diversion Feasibility Study Program Description: The County would work with adjoining Cities to evaluate the feasibility of diverting traffic from the Petaluma Hill Rd corridor onto Railroad Ave to and from Old Redwood Highway and Highway 101. (Policy reference: CT-7w, 7y). Page CT-52 | Savel | 38.31488 | -122.666 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/401944/discus s |


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| 5/29/2023 20:38 | General Comment | This General Plan Penngrove circulation study must incorporate the policies, methodologies, and specific mitigations as set forth in the Penngrove Area Plan and Sonoma County General Plan planning documents and must include all reasonably foreseeable countywide approved future development affecting Penngrove. It should recommend all the explicit detailed traffic calming measures consistent with the Area Plan and prioritize the General Plan Section 7.7 policies and Implementation Program \#9. | Savel | 38.31809 | -122.672 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/373359/discus s |
| 5/29/2023 20:46 | Driving Comment | The Bodway extension is an essential element of the sub regional circulation plan dating back to the 1984 Penngrove Plan and 1982 Hewlett Packard Plan. It IS already included in all the transportation planning documents at SCTA, County, Rohnert Park, Cotati, and Penngrove. The County already has the dedicated 100' foot right of way for the Bodway extension from Hewlett Packard in 1982 and is needed as part of the circulation plan to the on and off ramps at the Hwy 101 RR Avenue over crossing. | Savel | 38.31761 | -122.676 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/398964/discus s |
| 5/29/2023 20:47 | Driving Comment | The Bodway extension is an essential element of the sub regional circulation plan dating back to the 1984 Penngrove Plan and 1982 Hewlett Packard Plan. It IS already included in all the transportation planning documents at SCTA, County, Rohnert Park, Cotati, and Penngrove. The County already has the dedicated 100' foot right of way for the Bodway extension from Hewlett Packard in 1982 and is needed as part of the circulation plan to the on and off ramps at the Hwy 101 RR Avenue over crossing. | Savel | 38.31619 | -122.676 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/411303 |


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| 5/29/2023 21:01 | Driving Comment | The County General Plan Circulation Element includes: <br> 1) a 90 degree westerly realignment of Petaluma Hill Road with East Railroad Avenue. <br> 2) Extension of the Rohnert Park Bodway Parkway from Valley House Drive to Esst Railroad Avenue. <br> 3) Reconstruction and restoration of East Railroad Avenue. from the railroad tracks west to Highway 101. <br> 4) Full four way on/off ramps at West Railroad Avenue and Highway 101. | Savel | 38.30193 | -122.708 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/364568/discus s |
| 5/29/2023 21:07 | Driving Comment | Four city and county agency adopted General Plans and Specific Plans and EIRs have already incorporated this traffic distribution routing circulation for the full four way on/off ramps at East Railroad Avenue and Highway 101 as the feasible mitigation for the impacts of their existing and future development: <br> 1) County Penngrove Specific Plan <br> 2) City of Cotati General Plan <br> 3) City of Rohnert Park General Plan <br> 4) County West Canon Manor Specific Plan | Savel | 38.30193 | -122.708 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/364568/discus s |
| 5/29/2023 21:11 | Driving Comment | Four city and county agency adopted General Plans and Specific Plans and EIRs have already incorporated this traffic distribution routing circulation for the full four way on/off ramps at East Railroad Avenue and Highway 101 as the feasible mitigation for the impacts of their existing and future development: <br> 1) County Penngrove Specific Plan <br> 2) City of Cotati General Plan <br> 3) City of Rohnert Park General Plan <br> 4) County West Canon Manor Specific Plan | Savel | 38.30304 | -122.708 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/411314 |


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| 5/29/2023 21:13 | General Comment | The County General Plan Circulation Element includes: 1) a 90 degree westerly realignment of Petaluma Hill Road with East Railroad Avenue. 2) Extension of the Rohnert Park Bodway Parkway from Valley House Drive to Esst Railroad Avenue. 3) Reconstruction and restoration of East Railroad Avenue. from the railroad tracks west to Highway 101. 4) Full four way on/off ramps at West Railroad Avenue and Highway 101. | Savel | 38.31433 | -122.694 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/390932/discus s |
| 5/29/2023 21:15 | Driving Comment | The County General Plan Circulation Element includes: 1) a 90 degree westerly realignment of Petaluma Hill Road with East Railroad Avenue. 2) Extension of the Rohnert Park Bodway Parkway from Valley House Drive to East Railroad Avenue. 3) Reconstruction and restoration of East Railroad Avenue. from the railroad tracks west to Highway 101. 4) Full four way on/off ramps at West Railroad Avenue and Highway 101. | Savel | 38.31434 | -122.694 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/366638/discus s |
| 5/29/2023 21:17 | General Comment | The County General Plan Circulation Element includes: 1) a 90 degree westerly realignment of Petaluma Hill Road with East Railroad Avenue. 2) Extension of the Rohnert Park Bodway Parkway from Valley House Drive to East Railroad Avenue. 3) Reconstruction and restoration of East Railroad Avenue. from the railroad tracks west to Highway 101. 4) Full four way on/off ramps at West Railroad Avenue and Highway 101. | Savel | 38.31488 | -122.666 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/401944/discus s |
| 5/29/2023 21:26 | General Comment | The County General Plan Circulation Element includes: 1) a 90 degree westerly realignment of Petaluma Hill Road with East Railroad Avenue. 2) Extension of the Rohnert Park Bodway Parkway from Valley House Drive to Esst Railroad Avenue. 3) Reconstruction and restoration of East Railroad Avenue. from the railroad tracks west to Highway 101. 4) Full four way on/off ramps at West Railroad Avenue and Highway 101. | Savel | 38.31438 | -122.667 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/411315 |


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| 5/29/2023 21:30 | General Comment | Four city and county agency adopted General Plans and Specific Plans and EIRs have already incorporated this traffic distribution routing circulation for the full four way on/off ramps at East Railroad Avenue and Highway 101 as the feasible mitigation for the impacts of their existing and future development: 1) County Penngrove Specific Plan 2) City of Cotati General Plan 3) City of Rohnert Park General Plan 4) County West Canon Manor Specific Plan. | Savel | 38.31433 | -122.694 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/411316 |
| 5/29/2023 21:37 | Walking/Pe destrian Comment | This is a dangerous crossing for pedestrians despite recent improvements. So many cars heading east, going fast after long wait to turn from ORH - generally not looking for pedestrians. | Barbour | 38.32683 | -122.704 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/411317 |
| 5/29/2023 21:43 | General Comment | This neighborhood is experiencing increased volume of high-speed, non-resident cut-through traffic turning from Petaluma Hill Road onto East Railroad Ave and onto Willow Ave and then Fern Ave to head south on Old Redwood Hwy. The same is true in the reverse direction, traffic turning from Old Redwood Hwy onto Fern Ave, then Willow Ave south onto East Railroad Ave to Petaluma Hill Rd. This cut-through traffic will be increased with the new signal light at Old Redwood Hwy and East Railroad Avenue. | Roth | 38.31341 | -122.685 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/411318 |
| 5/29/2023 21:51 | General Comment | At the May 4th Penngrove traffic study townhall meeting discussing the issue of cut-throughs introduced a "cul-desac dead-end" for through traffic, except for emergency vehicles, by installing a collapsible barrier. To alleviate this cut-through traffic here this seems like a good solution and we believe that Willow Ave south should blocked off at East Railroad Ave intersection. Residents will access Fern and Willow south from Old Redwood Hwy. | Roth | 38.31178 | -122.684 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/411319 |


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| 5/29/2023 22:11 | General Comment | County GP policy CT-7V consider traffic calming improvements on Adobe Rd from Davis Lane to Frates Rd and improvements to the intersections of Adobe/Corona Roads and Adobe/Frates Roads to reduce congestion along Adobe Rd consistent with the road classifications. Develop a phasing mechanism for these improvements to provide for completion of traffic calming improvements on designated roadways in the community prior to improvement of other roads that accommodate through traffic. *Mitigating Policy | Savel | 38.2959 | -122.658 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/411320 |
| 5/29/2023 22:22 | General Comment | County GP Policy CT-7w - The following specific improvements are necessary to reduce congestion in the Penngrove resulting from development within the City. (1) Hwy 101 southbound on ramp at Railroad Ave, "LEPE(2) Widening of Railroad Ave and Petaluma Hill Rd to 3 lanes where necessary. (3) Traffic calming improvements on Main St, Adobe Rd east of Davis Lane, and Petaluma Hill Rd south of Formschlag Lane. (4) Widen of Redwood Hwy to 4 lanes. (5) Realignment of Petaluma Hill Road at Railroad Ave. | Savel | 38.31442 | -122.667 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/411321 |
| 5/29/2023 22:30 | Driving Comment | Circulation and Transit Program 9: Penngrove Traffic Calming Program - Page CT-52 Program Description: "The County would utilize the countywide traffic model to prepare a detailed operational analysis of potential traffic calming improvements that would be effective in reducing the amount of through traffic that would utilize the local streets and roads in that community." | Savel | 38.29711 | -122.666 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/382817/discus s |


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| 5/29/2023 22:36 | General Comment | PENNGROVE AREA PLAN - II. Transportation Continue to evaluate alternative routes for the Petaluma Hill Road arterial which would divert traffic around central Penngrove. <br> General Plan Circulation Policy CT-7x - "Consider traffic calming improvements on local streets in the unincorporated community of Penngrove in order to reduce through traffic trips attempting to avoid congestion on Petaluma Hill Road, Adobe Road, Old Redwood Highway, and Railroad Avenue.* Footnote: *Mitigating Policy | Savel | 38.29712 | -122.666 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/411322 |
| 5/29/2023 22:44 | General Comment | County General Plan Circulation Policy CT-7x "Consider traffic calming improvements on local streets in the unincorporated community of Penngrove in order to reduce through traffic trips attempting to avoid congestion on Petaluma Hill Road, Adobe Road, Old Redwood Highway, and Railroad Avenue.* Footnote: *Mitigating Policy | Savel | 38.30296 | -122.655 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/411323 |
| 5/29/2023 22:51 | Driving Comment | The Bodway extension is already an essential element of the sub regional circulation plan dating back to the 1984 Penngrove Plan and 1982 Hewlett Packard Plan. It IS already included in all the transportation planning documents at SCTA, County, Rohnert Park, Cotati, and Penngrove. The County already has the dedicated 100' foot right of way for the Bodway extension since 1982. It's needed as part of the circulation plan for the additional 1800+ homes at SOMO village and 500 Willow Glen homes. | Savel | 38.32152 | -122.676 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/366642/discus s |
| 5/29/2023 22:59 | Driving Comment | The County General Plan Circulation Element includes: 1) a 90 degree westerly realignment of Petaluma Hill Road with East Railroad Avenue. 2) Extension of the Rohnert Park Bodway Parkway from Valley House Drive to East Railroad Avenue. 3) Reconstruction and restoration of East Railroad Avenue. from the railroad tracks west to Highway 101. 4) Full four way on/off ramps at West Railroad Avenue and Highway 101. | Savel | 38.3142 | -122.673 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/406246/discus s |


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| 5/29/2023 22:59 | Driving Comment | The County General Plan Circulation Element includes: 1) a 90 degree westerly realignment of Petaluma Hill Road with East Railroad Avenue. 2) Extension of the Rohnert Park Bodway Parkway from Valley House Drive to East Railroad Avenue. 3) Reconstruction and restoration of East Railroad Avenue. from the railroad tracks west to Highway 101. 4) Full four way on/off ramps at West Railroad Avenue and Highway 101. | Savel | 38.31761 | -122.676 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/398964/discus s |
| 5/29/2023 23:00 | Driving Comment | The County General Plan Circulation Element includes: 1) a 90 degree westerly realignment of Petaluma Hill Road with East Railroad Avenue. 2) Extension of the Rohnert Park Bodway Parkway from Valley House Drive to East Railroad Avenue. 3) Reconstruction and restoration of East Railroad Avenue. from the railroad tracks west to Highway 101. 4) Full four way on/off ramps at West Railroad Avenue and Highway 101. | Savel | 38.32152 | -122.676 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/366642/discus s |
| 5/29/2023 23:01 | Driving Comment | The County General Plan Circulation Element includes: 1) a 90 degree westerly realignment of Petaluma Hill Road with East Railroad Avenue. 2) Extension of the Rohnert Park Bodway Parkway from Valley House Drive to East Railroad Avenue. 3) Reconstruction and restoration of East Railroad Avenue. from the railroad tracks west to Highway 101. 4) Full four way on/off ramps at West Railroad Avenue and Highway 101. | Savel | 38.31619 | -122.676 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/411303/discus s |
| 5/29/2023 23:02 | Driving Comment | The County General Plan Circulation Element includes: 1) a 90 degree westerly realignment of Petaluma Hill Road with East Railroad Avenue. 2) Extension of the Rohnert Park Bodway Parkway from Valley House Drive to East Railroad Avenue. 3) Reconstruction and restoration of East Railroad Avenue. from the railroad tracks west to Highway 101. 4) Full four way on/off ramps at West Railroad Avenue and Highway 101. | Savel | 38.31397 | -122.676 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/366389/discus s |


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| 5/29/2023 23:28 | Driving Comment | Four city and county agency adopted General Plans and Specific Plans and EIRs have already incorporated the traffic distribution routing circulation for the full four way on/off ramps at East Railroad Avenue and Highway 101 as the feasible mitigation for the impacts of their existing and future development: 1) County Penngrove Specific Plan 2) City of Cotati General Plan 3) City of Rohnert Park General Plan 4) County West Canon Manor Specific Plan. | Savel | 38.30316 | -122.705 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/384092/discus s |
| 5/29/2023 23:29 | General Comment | The County General Plan Circulation Element includes: 1) a 90 degree westerly realignment of Petaluma Hill Road with East Railroad Avenue. 2) Extension of the Rohnert Park Bodway Parkway from Valley House Drive to East Railroad Avenue. 3) Reconstruction and restoration of East Railroad Avenue. from the railroad tracks west to Highway 101. 4) Full four way on/off ramps at West Railroad Avenue and Highway 101. | Savel | 38.2985 | -122.703 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/389190/discus s |
| 5/29/2023 23:30 | Driving Comment | The County General Plan Circulation Element includes: 1) a 90 degree westerly realignment of Petaluma Hill Road with East Railroad Avenue. 2) Extension of the Rohnert Park Bodway Parkway from Valley House Drive to East Railroad Avenue. 3) Reconstruction and restoration of East Railroad Avenue. from the railroad tracks west to Highway 101. 4) Full four way on/off ramps at West Railroad Avenue and Highway 101. | Savel | 38.30353 | -122.708 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/403982/discus s |
| 5/29/2023 23:31 | Driving Comment | The County General Plan Circulation Element includes: 1) a 90 degree westerly realignment of Petaluma Hill Road with East Railroad Avenue. 2) Extension of the Rohnert Park Bodway Parkway from Valley House Drive to East Railroad Avenue. 3) Reconstruction and restoration of East Railroad Avenue. from the railroad tracks west to Highway 101. 4) Full four way on/off ramps at West Railroad Avenue and Highway 101. | Savel | 38.30255 | -122.707 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/386259/discus s |


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| 6/2/2023 14:37 | Walking/Pe destrian Comment | Sidewalks are needed for the safety of children on their way to school, and shoppers visiting the stores. | McClelland | 38.29871 | -122.666 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/412341 |
| 6/2/2023 14:38 | Walking/Pe destrian Comment | A sign showing speed of motorists tgat tells them to slow down when above the limit in both direction on either side of the crest of the hill would help make drivers aware of their speed and help slow down others. Being equipped with cameras resulting in fines even better. | Efron | 38.29771 | -122.666 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/412343 |
| 6/2/2023 14:39 | Walking/Pe destrian Comment | A crosswalk is needed at Woodward and Main Street. | McClelland | 38.2969 | -122.666 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/412344 |
| 6/2/2023 14:42 | Driving Comment | Speedbumps are needed to slow traffic on Woodward. | McClelland | 38.29699 | -122.664 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/412346 |
| 6/2/2023 14:46 | Driving Comment | Speed limits should be enforced on Main Street. We need more police presence. | McClelland | 38.29571 | -122.666 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/412347 |
| 6/2/2023 16:22 | Driving Comment | Maybe the solution to the increased traffic is make downtown traffic One Way. Downtown Sebastopol did that years ago and it helped. | Woodruff | 38.29651 | -122.666 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/412374 |
| 6/2/2023 16:52 | Driving Comment | Car traffic backs up and people on Formschlag Lane have a hard time turning in and out of lane. Maybe we need a traffic signal at East Railroad? <br> Also, when making a left turn onto Formschlag from Petaluma Hill Road leaves people susceptible to getting rear ended. Petaluma Hill Road is at or over capacity, in my opinion. | Harrison | 38.30688 | -122.667 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/412379 |
| 6/3/2023 3:30 | General Comment | Traffic light at Ely and ORH will slow traffic. Also lower speed limit. |  | 38.28383 | -122.667 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/412445 |
| 6/3/2023 3:36 | General Comment | No roundabouts!! <br> Divert traffic to not use Main Street for commuters. |  | 38.29527 | -122.667 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/412446 |
| 6/3/2023 6:27 | Walking/Pe destrian Comment | People drive at unsafe speeds on Woodward. There is no sidewalk so they frequently speed fast and too close to pedestrians | Payne | 38.29715 | -122.662 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/412462 |


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| 6/3/2023 8:21 | Driving Comment | They need to lower speed limit and have more patrol In the area. | Finley | 38.30816 | -122.69 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/412483 |
| 6/3/2023 8:24 | Driving Comment | Worst road in Sonoma County. This area get a lot of traffic. <br> What going on here Sonoma county? | Finley | 38.27641 | -122.669 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/412484 |
| 6/3/2023 8:28 | Driving Comment | This area need speed control and a stop sign. | Finley | 38.30707 | -122.667 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/412485 |
| 6/3/2023 14:16 | Driving Comment | Turning from Southbound McDowell onto East Corona can be dangerous when traffic backed up for passing SMART train. I thought I was last to make that turn and I came close to rear-ending last car in line. Then another car made the turn and panic stopped, just missing the rear of my car. It may get worse once SMART station is built. A stop light at that intersection with warning signals, like the signal that keeps cars from getting stuck on the tracks at Main St., Penngrove could help. | Lundquist | 38.26647 | -122.657 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/412568 |
| 6/3/2023 19:55 | Walking/Pe destrian Comment | Agreed. A sidewalk on Woodward Ave on one of either side of the street is absolutely necessary. Effects: Safety, Increased business for downtown shops, Less neighborhood vehicles to Penngrove Market-Post OfficeThe Grove Plaza,.. |  | 38.29712 | -122.666 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/382153/discus s |
| 6/3/2023 19:56 | Walking/Pe destrian Comment | Agreed. A sidewalk on Woodward Ave on one of either side of the street is absolutely necessary. Effects: Safety, Increased business for downtown shops, Less neighborhood vehicles to Penngrove Market-Post OfficeThe Grove Plaza,.. |  | 38.29711 | -122.666 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/382818/discus s |
| 6/3/2023 19:57 | Walking/Pe destrian Comment | Agreed. A sidewalk on Woodward Ave on one of either side of the street is absolutely necessary. Effects: Safety, Increased business for downtown shops, Less neighborhood vehicles to Penngrove Market-Post OfficeThe Grove Plaza,.. |  | 38.29713 | -122.666 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/411198/discus s |
| 6/3/2023 19:58 | Walking/Pe destrian Comment | Agreed. A sidewalk on Woodward Ave on one of either side of the street is absolutely necessary. Effects: Safety, Increased business for downtown shops, Less neighborhood vehicles to Penngrove Market-Post OfficeThe Grove Plaza,.. |  | 38.29715 | -122.662 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/412462/discus s |


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| 6/3/2023 20:17 | Driving Comment | Signage doesn't work. Drivers knowingly run these two stops. There needs to be a speed bump before each stop on Woodward Ave, each way. Additionally, there should also be one at the apex of Woodward Ave. This will slow vehicles down for "stop". It will also deter vehicles from using Woodward Ave as pass-thru. These speed bumps can be designed to code/approved compliance to emergency vehicles. <br> I addition, a sidewalk on either side is necessary as well. |  | 38.29712 | -122.662 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/387323/discus s |
| 6/3/2023 20:37 | Driving Comment | Agreed! We need speed bumps! |  | 38.29711 | -122.665 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/411195/discus s |
| 6/3/2023 20:42 | General Comment | No crosswalk across ORH from Twin Oaks is necessary. Twin Oaks should be monitored to make sure that patrons cars are parked in their allotted parking lot and not along ORH. <br> They should not be allowed to go over the amount of cars that will fit in parking lot. <br> Does anyone monitor the capacity limits at Twin Oaks when they have events? |  | 38.29052 | -122.666 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/412614 |
| 6/3/2023 20:46 | General Comment | Traffic light at Ely (corner of Palace of Fruit) is badly needed. It would help slow traffic down plus lowering the speed limit from Petaluma to Cotati to 35/40. Also how about more CHP presence? I travel ORH very often and RARELY see CHP on patrol. |  | 38.28248 | -122.668 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/412616 |
| 6/5/2023 8:45 | Driving Comment | Drivers continually run this stop sign. I would love to see a cop placed here for a week to get people to pay attention more....they would make their ticket quota no problem in the first day! | king | 38.29709 | -122.663 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/412839 |
| 6/6/2023 6:34 | Driving Comment | 40 mph , blind curve leading to stop light. Should be a slower speed. | Haslam | 38.29909 | -122.663 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/413263 |
| 6/6/2023 6:49 | Driving Comment | There should be a stop light here. It would slow south bound traffic and possibly move more traffic away from downtown Penngrove. Possibly widen Railroad all the way to Stony Point. | Haslam | 38.31422 | -122.667 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/413267 |


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| 6/6/2023 6:54 | Driving Comment | There should be a stop light here. It would encourage Petaluma travelers to use Eli road to access Old Redwood Hwy and by pass Penngrove. | Haslam | 38.28351 | -122.667 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/413271 |
| 6/9/2023 8:27 | General Comment | A dedicated turning turn is needed at the intersection of Old Redwood Hwy and Fern Ave, similar to Eucalyptus Ave, to avoid rear-end collisons when making a left turn onto Fern Ave. | Roth | 38.31178 | -122.684 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/411319/discus s |
| 6/9/2023 8:28 | General Comment | A dedicated turning turn is needed at the intersection of Old Redwood Hwy and Fern Ave, similar to Eucalyptus Ave, to avoid rear-end collisons when making a left turn onto Fern Ave. | Roth | 38.31341 | -122.685 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/411318/discus S |
| 6/9/2023 9:05 | Driving Comment | Turning left from Old Redwood Hwy onto Fern Avenue is dangerous. I was rear ended, and numerous other neighbors have been rear ended there. What is needed is a designated left turn lane from Old Redwood to Fern | Lyons | 38.30969 | -122.691 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/414069 |
| 6/9/2023 11:27 | Walking/Pe destrian Comment | Recommend installation of pedestrian crosswalk light at intersection of Railroad and Willow Ave for pedestrians and cyclists. | Roth | 38.31418 | -122.685 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/414107 |
| 6/9/2023 11:29 | Driving Comment | Recommend posting 25mph speed limit (residential) signage on Fern Ave and Willow Ave for pedestrians and cyclists. | Roth | 38.30953 | -122.689 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/414109 |
| 6/9/2023 12:39 | Driving Comment | $100 \%$ agree, this is a well walked and biked street, 25 mph is ample speed. |  | 38.30953 | -122.689 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/414109/discus S |
| 6/9/2023 12:45 | General Comment | I am concerned about closing willow and E RR with the collapsible barrier; this leaves only one way in and out from Old Redwood and in case of an accident or other emergncy on Old RW we may not be able to access Fern. Bad idea. Putting a light at willow and E RR will detour people from cutting through on Fern to willow to E RR. |  | 38.31178 | -122.684 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/411319/discus s |
| 6/10/2023 8:36 | Driving Comment | It is dangerous to merge on to Petaluma Hill road from Formschlag Ln. during commute hours. Heavy traffic and excessive speed on what was once a quiet country road. | Laprevotte | 38.30609 | -122.669 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/414226 |


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| 6/10/2023 10:00 | Driving Comment | Greatly expanded housing in areas along Pet Hill Rd both in Santa Rosa and Rohnert Park without consideration of how it affects the traffic patterns further south in Penngrove on both Pet Hill Rd and Old Redwood Hwy. <br> Bypass Penngrove: build a link further east that connects Old Adobe Road to Pet Hill. <br> Expand Stony Point: divert traffic from south 101 <br> I KNOW I DON'T want expansion of Old Red or Railroad Ave. <br> Can we learn what all people who have responded have said? <br> Thank you | Veronda | 38.30556 | -122.686 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/414231 |
| 6/11/2023 0:03 | Driving Comment | This is a major concern of mine, two cars at most times are parked in the red and it is impossible to see if it is safe to pull out to make a turn. Especially during high traffic times when Main Street is completely stopped and I am trying to make a left turn and cars are parked in the red and it is impossible for me to see if cars are coming. The only way to see is to completely pull out into the lane to be able to see. It is so unsafe. There is no enforcement, curb is red and there is a sign. | Leonhardt | 38.29714 | -122.666 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/379725/discus s |
| 6/11/2023 0:11 | Walking/Pe destrian Comment | The crosswalk across Adobe that leads to the school is always blocked during school pickup time, by parents, but once again there is no enforcement. People in Petaluma Hill Rd get in the left turn lane to turn onto Adobe and go straight trying to beat the backed up traffic and is pedestrians are forced to walk in the road with people driving straight towards us from the left turn lane. | Leonhardt | 38.29976 | -122.666 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/387328/discus s |


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| 6/11/2023 0:14 | Walking/Pe destrian Comment | A couple weeks ago when trying to use the crosswalk across Adobe to the school a father that is a cop used the crosswalk for the first time and he was shocked of how many people he saw just in a matter on minutes that deserved tickets, but tickets are never given. He joked that it was so bad that he was going to have to come out there and start ticketing people backside it is so bad. | Leonhardt | 38.29976 | -122.666 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/387328/discus s |
| 6/11/2023 0:19 | General Comment | The USPS does not deliver mail to a large part of Penngrove and we are given a PO Box, as a result hundreds of people that live in Penngrove are forced to travel to Main St to get their mail. If the USPS delivered mail to us or created community boxes at central locations in Penngrove, this may take some traffic off of Main St from us having to travel there to get our mail. | Leonhardt | 38.29656 | -122.667 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/414265 |
| 6/11/2023 8:05 | General Comment | Willow Ave north and south is one of the areas last bastions of pedestrian use. Hundreds of walkers and cyclists utilize this scenic road daily, including families and the elderly. All effort should be focused on preserving this multi-use aspect, and prevent motor vehicle dominance. | Smith | 38.31525 | -122.686 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/414279 |
| 6/11/2023 8:07 | Driving Comment | Install "Local Traffic Only" sign at east-bound entry to County road to reduce non-resident traffic cutoffs. | Smith | 38.318 | -122.696 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/414280 |
| 6/11/2023 8:09 | Driving Comment | Install "Local Traffic Only" sign at both north and southbound entries to Willow Ave to reduce non-resident traffic. | Smith | 38.31441 | -122.686 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/414281 |
| 6/11/2023 8:10 | Driving Comment | Install "Local Traffic Only" sign at east-bound entry to Fern ave to reduce non-resident thru-traffic. | Smith | 38.30998 | -122.69 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/414282 |


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| 6/11/2023 8:21 | Driving Comment | All efforts to increase vehicle traffic and flow speed will necessarily decrease quality of life for those *outside* the subject vehicles. <br> The more "improvements" made, the greater the traffic in any given area. <br> By building more motor vehicle capacity, we are solving for the wrong problem. <br> Sonoma County is markedly less livable now than a few decades back. We are steadily and blindly paving the region into another American Nightmare. | Smith | 38.30353 | -122.708 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/403982/discus s |
| 6/11/2023 8:25 | Driving Comment | 15mph, with "Watch for children and Elderly" sign. | Smith | 38.30953 | -122.689 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/414109/discus s |
| 6/11/2023 20:04 | Walking/Pe destrian Comment | Install marked pedestrian crossing. Current Railroad Ave traffic often exceeds 60 mph , forcing elderly and children to run across the Willow junction. | Smith | 38.31433 | -122.685 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/414342 |
| 6/11/2023 20:06 | Driving Comment | Install full lane width speed mound 50' east and 50' west of Willow Ave to calm Railroad Ave traffic at the Willow intersection. | Smith | 38.31432 | -122.685 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/414344 |
| 6/11/2023 20:11 | Bicycling Comment | This marks the southern terminus of the SMART train bike path, and forces cyclists from the Cotati Station, the path, or the local Credo high school to utilize Railroad Ave. <br> SCTA and SMART built in concrete barriers at the RR crossing, exactly where cyclists must cross to join the north-bound path. This creates a constriction in which high-velocity traffic cannot move away from the cyclist. It is a death trap waiting to be sprung. | Smith | 38.31433 | -122.681 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/371207/discus s |
| 6/11/2023 20:13 | Driving Comment | Remove concrete lane barriers at RR crossing, which pose a collision trap between vehicles and cyclists. Install speed mounds 50' east and west of the RR crossing. <br> Post bicycle crossing signs. | Smith | 38.31425 | -122.681 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/414347 |


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| 6/11/2023 20:48 | Bicycling <br> Comment | West Railroad is the primary (only) route west for cyclists. It is already at capacity in terms of road sharing. Directing new Rohnert Park divisions up this road will make the route unusable for non-motorized transport. <br> It became un-walkable for locals around 10 years ago. | Smith | 38.3044 | -122.707 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/414357 |
| 6/11/2023 20:52 | General Comment | Just slow traffic down. 25 mph speed limit, with speed mounds every $1 / 4$ mile. Other civilized countries do this to protect rural and residential zones. No need to spend money on rebuilding roads. <br> The issue on this road is speed, along with non-local traffic. | Smith | 38.31405 | -122.662 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/365039/discus s |
| 6/11/2023 20:59 | Driving Comment | Traffic is north / south bound. It makes no sense to build a east / west diversion along Railroad Ave. (see comment below). <br> At best this would "equalize" congestion between 101, ORH, and PH, but your smart phone already does that for you as you commute from the City to suburbia. Design for less automotive mobility and we have a solution. Design for more automotive mobility, and we have a growing, chronic disaster. | Smith | 38.31438 | -122.667 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/366274/discus s |
| 6/11/2023 21:00 | Driving Comment | Calm Pet Hill traffic and provide safe Railroad egress via a roundabout. | Smith | 38.3144 | -122.667 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/414361 |
| 6/11/2023 21:02 | Driving Comment | Reduce traffic speed to 35 mph along entire length of Petaluma Hill rd, or to a level deemed safe for driving while texting. | Smith | 38.31589 | -122.667 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/414363 |
| 6/11/2023 21:07 | Driving Comment | A roundabout at Minnesota, combined with one at Railroad ave, would effectively calm traffic along this corridor without causing backups and surges (which signals do). <br> Large trucks can navigate a roundabout in the same way they navigate a full left turn at any intersection. Roundabouts are far more common globally than stop/go signals. | Smith | 38.30661 | -122.688 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/402602/discus s |


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| 6/11/2023 21:14 | Driving Comment | A roundabout here would calm traffic speeds, protect pedestrians, while allowing vehicles and bicycles to move at a steady pace. <br> Most of the issues along ORH and Petaluma Hill can be addressed through the use of roundabouts. | Smith | 38.29954 | -122.674 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/414368 |
| 6/11/2023 21:16 | Walking/Pe destrian Comment | My daughter attended this school some 15 years ago. Absurd that basic infrastructure for children and families continues to be neglected. | Smith | 38.29968 | -122.673 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/365476/discus s |
| 6/11/2023 21:30 | Driving Comment | Petaluma Hill Rd. Has become a danger to drive. Speeding, motorcycles using shoulder to go around traffic, can not get access off road to Petaluma Hill Rd, cars speed around when trying to turn ( afraid of being rear ended). Traffic lines up at different times of day, school a big problem. A lot of traffic turning on to Old Adobe, going toward Sonoma. | Harmon | 38.30516 | -122.667 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/414371 |
| 6/11/2023 21:31 | Bicycling Comment | Yes, current and historic transport planning makes driving easier, and cycling increasingly difficult. We have fewer bicyclists on the roads now, compared to the early 1990's when I first started riding. <br> Anti-bicycle intersections are the norm now, and increasing vehicle numbers ensure that fewer and fewer people will opt out of driving. A wicked downward spiral, and totally avoidable. <br> I have ridden a bike my whole life, but can no longer recommend others do the same. | Smith | 38.26788 | -122.671 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/382149/discus s |
| 6/11/2023 21:36 | Bicycling Comment | Yep. If you don't like knuckle-cracking risk while riding a bike, the best option is to buy a 2 ton electric SUV. <br> Which, I think, is the actual policy goal for the region. | Smith | 38.2659 | -122.656 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/382154/discus s |


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| 6/11/2023 21:39 | Bicycling Comment | Widen shoulders immediately, with almost no cost, by restripping the auto lane to 11'. Speed differential is the real risk, so lower speed limits to 25 mph . <br> Simple fixes within the current budget, that can implemented in a month. | Smith | 38.27724 | -122.656 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/366888/discus S |
| 6/11/2023 21:43 | Driving Comment | Install speed mounds at mid-point of Fern ave to calm traffic, protect pedestrians, and discourage non-local through traffic. | Smith | 38.30977 | -122.686 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/414376 |
| 6/11/2023 21:44 | Driving Comment | Install speed mounds at mid-point of Willow ave south to calm traffic, protect pedestrians, and discourage nonlocal through traffic. | Smith | 38.31222 | -122.684 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/414377 |
| 6/11/2023 21:49 | Walking/Pe destrian Comment | Eucalyptus and Willow Avenues are primary pedestrian zones for Cotati and Rohnert Park residents. The surface on Eucalyptus is so bad that a baby stroller cannot traverse it without the baby's head being in danger of popping off. riding a bike on this road is like being a ball in a pin-ball machine. <br> Meanwhile, two streets over, brand new asphalt is being laid over last years brand new asphalt.... | Smith | 38.31774 | -122.691 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/414378 |
| 6/12/2023 7:32 | Driving Comment | Absolutely. Roundabouts are a universal solution to traffic flow, calming, and multi-use compatibility. They could be implemented on every surface street experiencing traffic issues, and are far wiser and cost effective than the standard "faster / bigger" model. | Smith | 38.32583 | -122.706 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/367541/discus s |
| 6/12/2023 8:00 | Driving Comment | Reduce / maintain 35mph limit from Cotati to Petaluma on ORH. | Smith | 38.31584 | -122.696 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/414469 |
| 6/13/2023 12:55 | General Comment | During morning hours people are speeding to get to old adobe rd to avoid the Penngrove elementary traffic. Cars just speed through this street. A very dangerous street to have a morning walk the street is narrow and people are speeding through. We also have an issue of people dumping all sorts of stuff for example beds, couches, tires, and much more. | Acosta | 38.31412 | -122.665 | https://ghd.mysocialpinpoi nt.com/penngrovets\#/marker/414839 |

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