

# Traffic Impact Analysis

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June 12, 2026

Project# 33371

To: Erich Lais, PE & Clark Idle, City of West Linn  
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Jeff Parker, Tannler Holdings, LLC  
Lloyd Hill, Hill Architects

From: Julia Kuhn, PE; Jackson Lynch, PE; Edward Guo; & Chris Brehmer, PE

RE: Modera West Linn Traffic Impact Analysis

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## Executive Summary

Tannler Holdings, LLC is proposing to develop 320 apartments and approximately 12,100 square feet of neighborhood retail space (Project) at a site located north of Blankenship Road to the west of Tannler Drive in the City of West Linn (City). The proposed development is assumed to include a realignment of the southern portion of Tannler Drive through the site to Blankenship Road consistent with the direction from City staff and the City's Transportation System Plan (TSP, Reference 1).

The development of the site necessitates preparation of a Traffic Impact Analysis (TIA) per the City's Community Development Code (CDC) Section 85.170(B)(2)(d) requirements. This study documents the analysis methodology, findings, and recommendations.

As discussed herein, the proposed uses can be constructed and occupied while maintaining acceptable operations at the study intersections and access points, assuming provision of the following recommendations in conjunction with site development (subject to City and Oregon Department of Transportation (ODOT) approval).

- Collaborate with the City to identify funding to construct a traffic signal at the relocated Blankenship Road/Tannler Drive intersection prior to the occupancy of the proposed homes or retail space. As part of the signal implementation, the following is recommended:
  - Provide permissive left-turn signal phasing on the Blankenship Road eastbound-westbound approaches and split phasing on the northbound/southbound approaches.
  - Re-stripe the existing Blankenship Road two-way left-turn lane to separate left-turn lanes with at least 100 feet of storage on both the eastbound and westbound intersection approaches.
  - Construct a southbound right-turn lane with at least 75 feet of storage and a separate shared through/left-turn lane on the relocated Tannler Drive at its intersection with Blankenship Road.
- Extend the existing two-way left turn lane along Blankenship Road to the southeastern Shopping Center Driveway.
- Place and maintain all vegetation, landscaping, and above ground objects adjacent to the site access points along the public street site frontage, and throughout the site to provide adequate minimum sight distance in accordance with the City requirements.

# Introduction

Figure 1 provides the project vicinity map, and Figure 2 provides the site plan. Per discussions with City staff, the realignment of Tannler Drive opposite the easternmost Parkrose Hardware Driveway on Blankenship Road is assumed as part of the development, consistent with the City's TSP. Full occupancy of all the uses on-site is anticipated in February 2029.

## SCOPE OF THE REPORT

This report identifies the transportation-related impacts associated with the proposed mixed-use development. The study intersections and scope were determined per the requirements outlined by CDC Section 85.170(B)(2)(d) and direction provided by the City and ODOT staff. *The scoping memorandum is provided in Appendix A.*

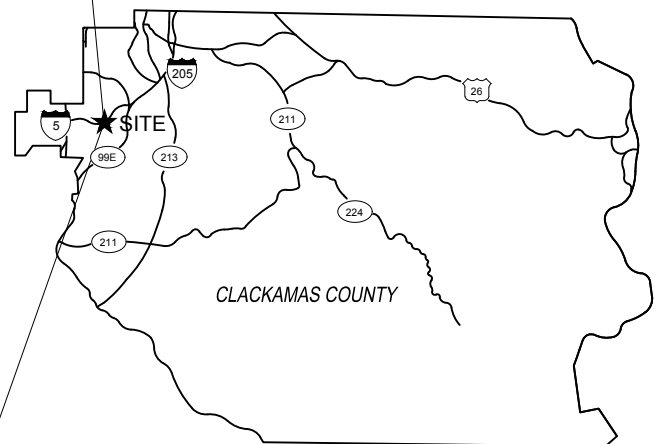
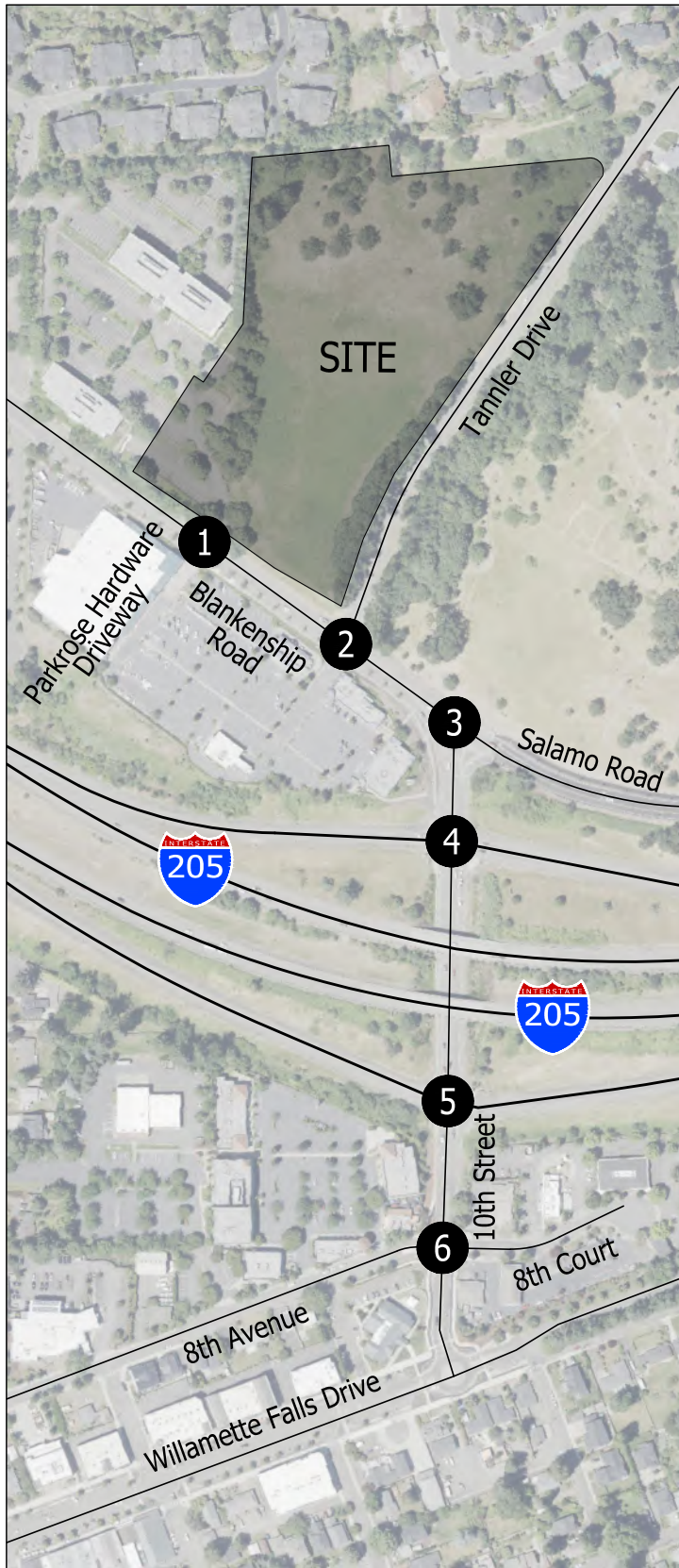
The CDC requires analysis of all points of access onto the public street system, all intersections of arterials, collectors, and neighborhoods routes within 1,000 linear feet from all points of access onto the public street system, and all intersections where the traffic generated by the proposed development exceeds five percent of existing AM or PM peak hour total intersection traffic volume. In addition, ODOT requires additional analysis when intersections under its jurisdiction receive more than 50 peak hour trips as the result of a proposed land use action.

Accordingly, operational analyses were performed at the following study intersections during the weekday AM and PM peak periods (numerical identification refers to figures in this report):

1. Blankenship Road/Parkrose Hardware Driveway/Office Driveway
2. Blankenship Road/Tannler Drive;
3. Blankenship Road/Salamo Road/10<sup>th</sup> Street;
4. 10<sup>th</sup> Street/Interstate 205 Southbound Ramp;
5. 10<sup>th</sup> Street/Interstate 205 Northbound Ramp; and,
6. 10<sup>th</sup> Street/8<sup>th</sup> Avenue/8<sup>th</sup> Court.

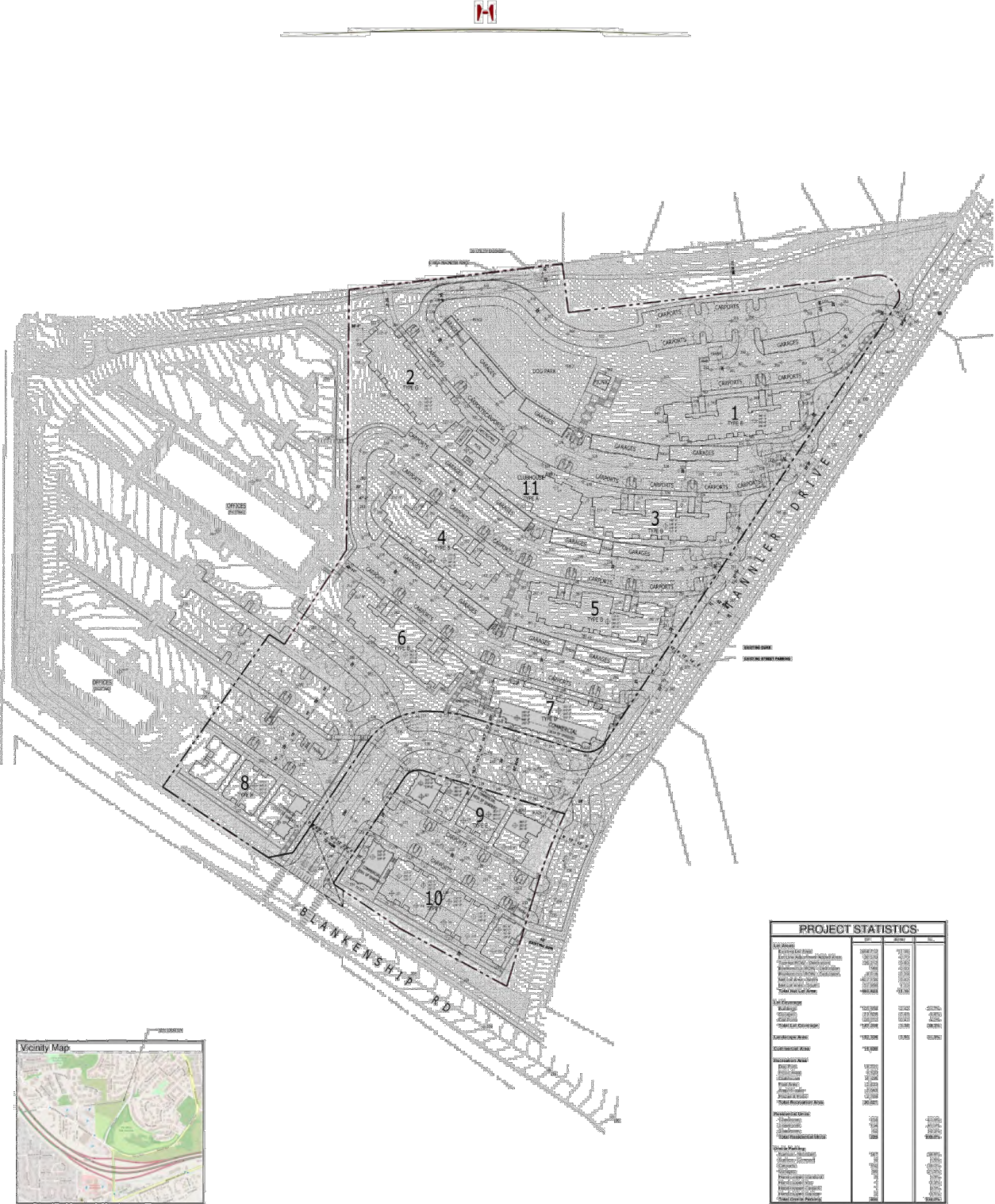
This report addresses the following transportation topics:

- Existing land use and transportation system conditions within the site vicinity during the weekday AM peak and PM peak periods, including study intersection volume-to-capacity (V/C) ratio and level-of-service (LOS);
- Crash data analysis for the most recent five-year period with complete data;
- Forecast year 2029 background traffic conditions during the weekday AM peak and PM peak periods, considering previously approved developments and funded changes to the transportation system;
- Trip generation and distribution estimates for the proposed development;
- Forecast year 2029 full buildout traffic conditions during the weekday AM peak and PM peak periods, assuming occupancy of the proposed buildings; and,
- Traffic control and lane geometry needs at the assumed realignment of the Tannler Drive/Blankenship Road intersection.



Site Vicinity Map  
West Linn, OR

Figure  
1



RECEIVED FROM HILL ARCHITECTS (MAY 2026)

Proposed Site Plan  
West Linn, OR

Figure  
2

## ANALYSIS METHODOLOGY

The intersection operational analysis was conducted using the procedures outlined in the *Highway Capacity Manual 7<sup>th</sup> Edition* (HCM, Reference 2) using the PTV Vistro 2025 software.

## INTERSECTION PERFORMANCE METRICS

Per the City's *Public Works Design Standards* (PWDS, Reference 3) Section 5.0014(G), the City requires all intersections within the study area to maintain an acceptable level of service (LOS) upon buildout of the proposed land use action. The minimum acceptable LOS for signalized intersections is "D" or better for the intersection as a whole. No approach should operate at worse than LOS "E", and a V/C ratio not higher than 1.0 is required for the sum of critical movements. The minimum acceptable LOS for non-signalized intersections is "E" or better for the poorest operating approach. No movement serving more than 20 peak hour vehicles should operate at worse than LOS "E". LOS "F" will be tolerated for minor movements during a peak hour.

Study intersections #3, #4, #5, and #6 are under the jurisdiction of ODOT. The LOS standards of ODOT intersections are specified in Table 7 of the *Oregon Highway Plan* (Reference 4). Accordingly, the V/C ratio target for these intersections is 0.99 for the first and second hour during the two-hour peak operating conditions.

## Existing Conditions

### SITE CONDITIONS AND ADJACENT LAND USES

The approximately 11-acre site is located north of Blankenship Road and along the west site of Tannler Drive on land that is not currently developed. Adjacent land uses include office buildings to the west, commercial properties to the south, single-family residential buildings to the north, and a park to the east across Tannler Drive.

## TRANSPORTATION FACILITIES

Table 1 identifies the characteristics of key streets located within the vicinity of the site. Figure 3 identifies the existing lane configurations and traffic control devices at the study intersections.

**Table 1. Existing Transportation Facilities**

| Roadway                 | Functional Classification <sup>1</sup> | Number of Vehicle Lanes | Posted Speed (miles/hour) | Sidewalks Present?   | Bicycle Lanes Present? | On-Street Parking Present? |
|-------------------------|----------------------------------------|-------------------------|---------------------------|----------------------|------------------------|----------------------------|
| Tannler Drive           | Neighborhood Route                     | 2                       | 25                        | No                   | No                     | No                         |
| Blankenship Road        | Collector                              | 2                       | 25                        | Partial <sup>2</sup> | Partial <sup>3</sup>   | No                         |
| Salamo Road             | Minor Arterial                         | 2                       | 35                        | Partial <sup>2</sup> | Yes <sup>4</sup>       | No                         |
| 10 <sup>th</sup> Street | Minor Arterial                         | 2-4                     | 25                        | Partial <sup>2</sup> | Partial                | No                         |
| I-205                   | Freeway                                | 4                       | 65                        | No                   | No                     | No                         |
| 8 <sup>th</sup> Avenue  | Local                                  | 2                       | 25                        | Partial <sup>2</sup> | No                     | Yes                        |
| 8 <sup>th</sup> Court   | Local                                  | 2                       | Not Posted                | Yes                  | No                     | Yes                        |

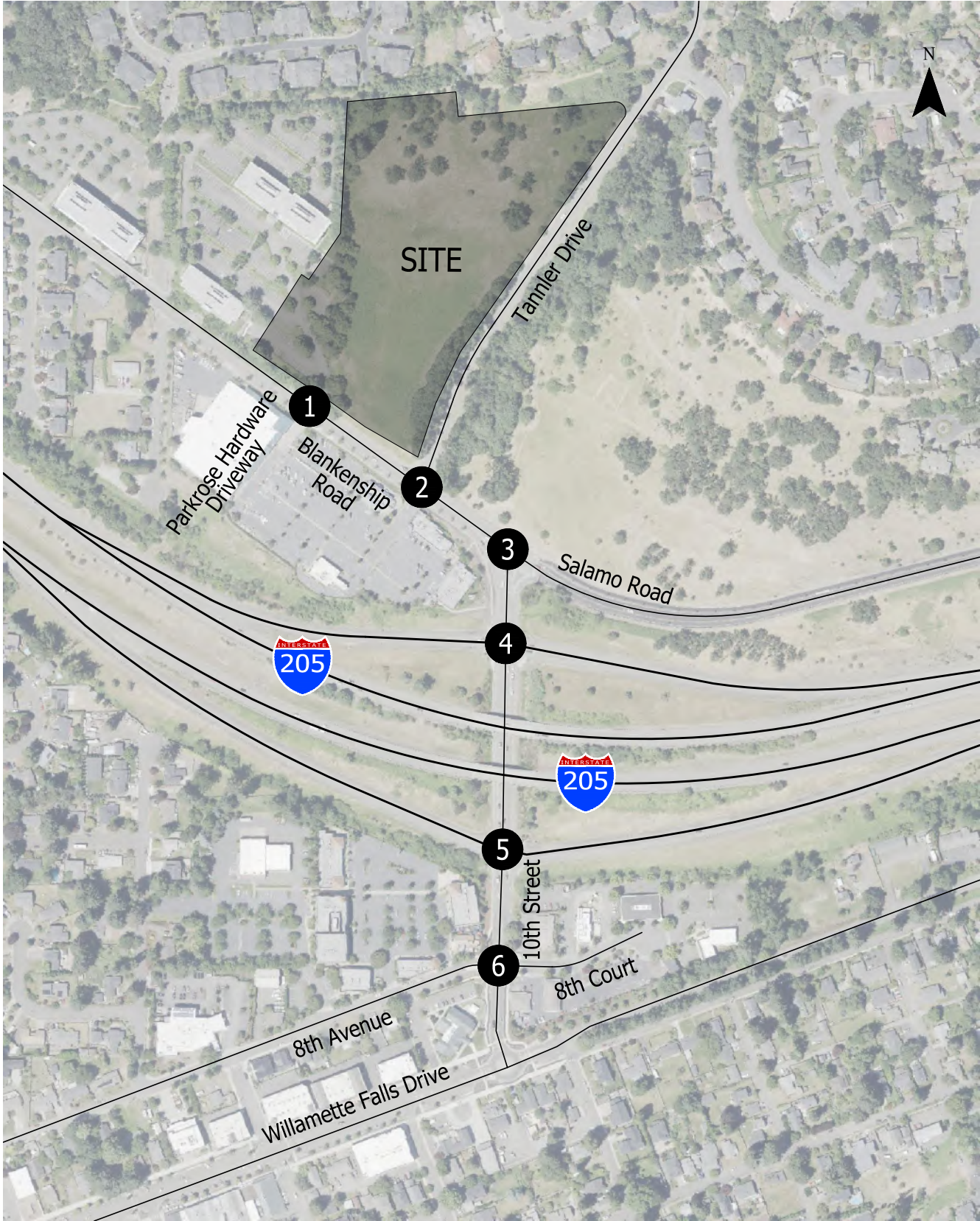
1. Source: West Linn Transportation System Plan (TSP)
2. Sidewalk on one side only for certain segments of the street
3. Marked bike lanes on both directions along Blankenship Road west of Tannler Drive
4. Provided via multi-use path on the north side of the road

## Bicycle and Pedestrian Facilities

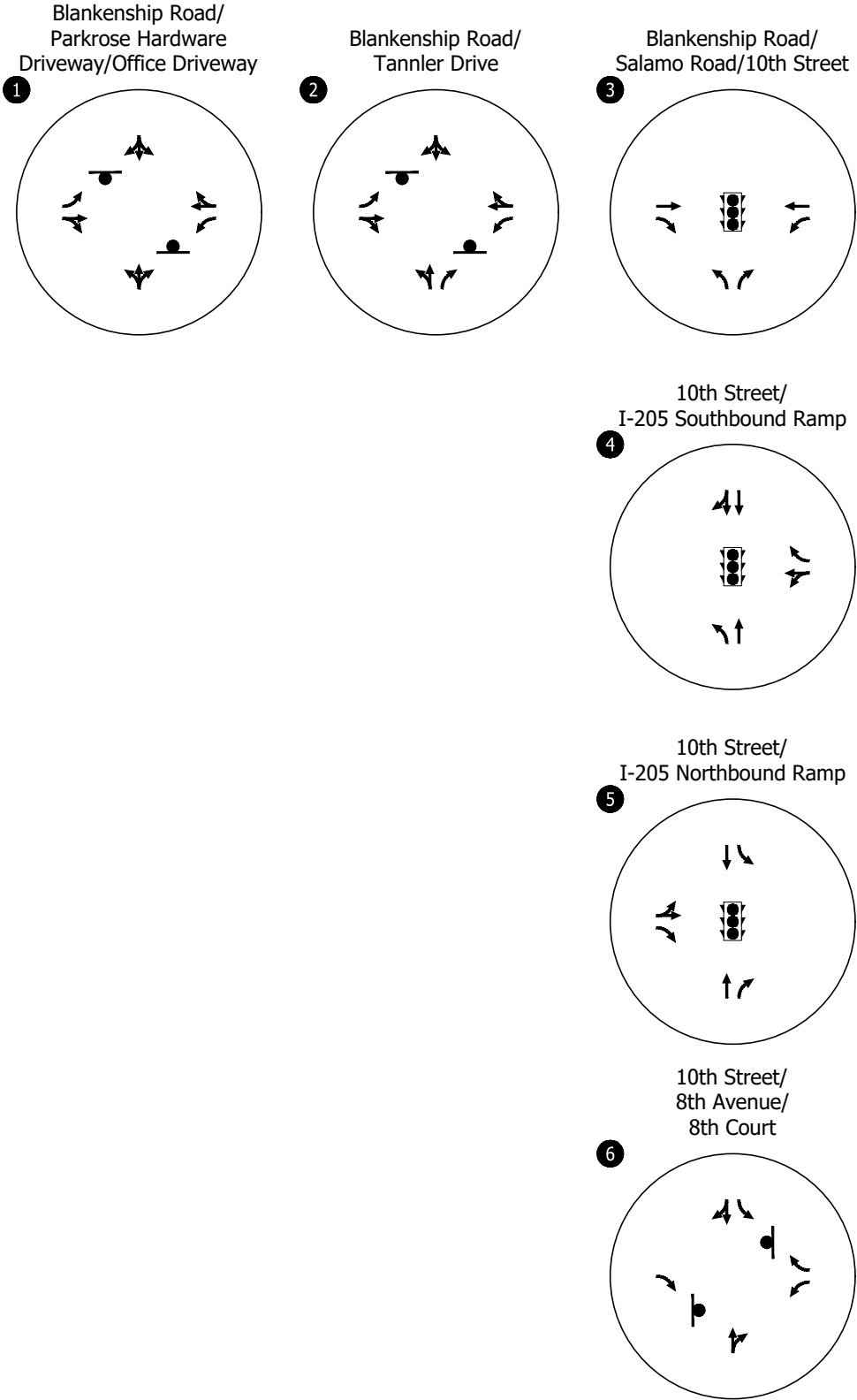
The City's TSP identifies several bike and pedestrian projects near the project site. The identified projects include installing sidewalks on the north side of Blankenship Road, installing sidewalks along Tannler Drive from Blankenship Road to Greene Street, and installing two-way cycle tracks on the north side of Salamo Road from Tannler Drive to Barrington Drive. The two-way cycle track along Salamo Road has been completed. Tannler Drive and Blankenship Road in the proposed project area are also listed on the TSP's Trails Master Plan as on-street connection trails.

The development proposes a 12-foot-wide multiuse path along the west side of the realigned Tannler Drive. Near the realigned intersection with Blankenship Road, the multiuse path transitions into separate sidewalks and on-street bike lanes. These pedestrian and bicycle improvements are consistent with the project identified in the City's TSP. Eight-foot-wide sidewalks are proposed along the east side of the realigned Tannler Drive adjacent to the southeastern portion of the development. Additional sidewalk improvements would occur along the east side of the existing Tannler Drive alignment, extending north to the point where Tannler Drive realignment begins.

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-  - STOP SIGN
-  - TRAFFIC SIGNAL



Existing Lane Configurations  
and Traffic Control Devices  
West Linn, OR

Figure  
3

## Transit Facilities

The proposed site is located near two pairs of transit stops that enable local and regional transit connections. At the intersection of Tannler Drive and Blankenship Road directly south of the site, access to TriMet line 153 is provided. Less than half a mile away south of the site at the intersection of 10<sup>th</sup> Street, 8<sup>th</sup> Avenue, and 8<sup>th</sup> Court, access is available to TriMet line 76. Further details on the two routes are provided below:

- TriMet Route 153 operates between West Linn and Lake Oswego. The route operates hourly between approximately 6AM and 5PM on weekdays.
- TriMet Route 76 operates between Oregon City and Beaverton. It is a frequent service route that operates between approximately 6AM and 11PM daily at 15-minute intervals for most of the day. The route offers broad regional connectivity via its connection to the TriMet MAX light rail system in Beaverton and the WES commuter rail in Tigard.

At the time this report was prepared, TriMet was evaluating significant changes in service levels, including the potential elimination of Route 153 and shortening Route 76 to extend only from Oregon City Transit Center to Meridian Park Hospital. We also note that TriMet's Forward Together Final report identifies further service reductions within West Linn over time.

## Routes to Nearest Schools

According to both the West Linn-Wilsonville School District boundaries for the 2025-26 school year (Reference 5) and the proposed school boundaries for the 2026-27 school year (Reference 6), school-aged children of the proposed development would attend the Willamette Primary School, Athey Creek Middle School, and the West Linn High School. The Primary School is approximately 0.6 miles away, the Middle School is approximately 1.6 miles away and the High School is nearly 3 miles away. As such, the proposed development is located outside of the Walk Zones of all three schools, and busing would be available for students living in the proposed development.

## TRAFFIC VOLUMES AND PEAK HOUR OPERATIONS ANALYSIS

Vehicle turning movement, pedestrian and bicycle counts were collected at the study intersections. Counts were collected on a mid-week day in September 2025 for all study intersections except the Blankenship Road/Parkrose Hardware Driveway/Office Driveway intersection. Counts at this intersection were collected on a mid-week day in December 2025 and adjusted to match the traffic volumes at the other remaining study intersections. All traffic counts were conducted during the weekday morning (7:00 AM - 9:00 AM) and evening (4:00 PM – 6:00 PM) hours and there were no adverse weather conditions that occurred that would affect daily travel. Local schools were in session at the times of the traffic counts.

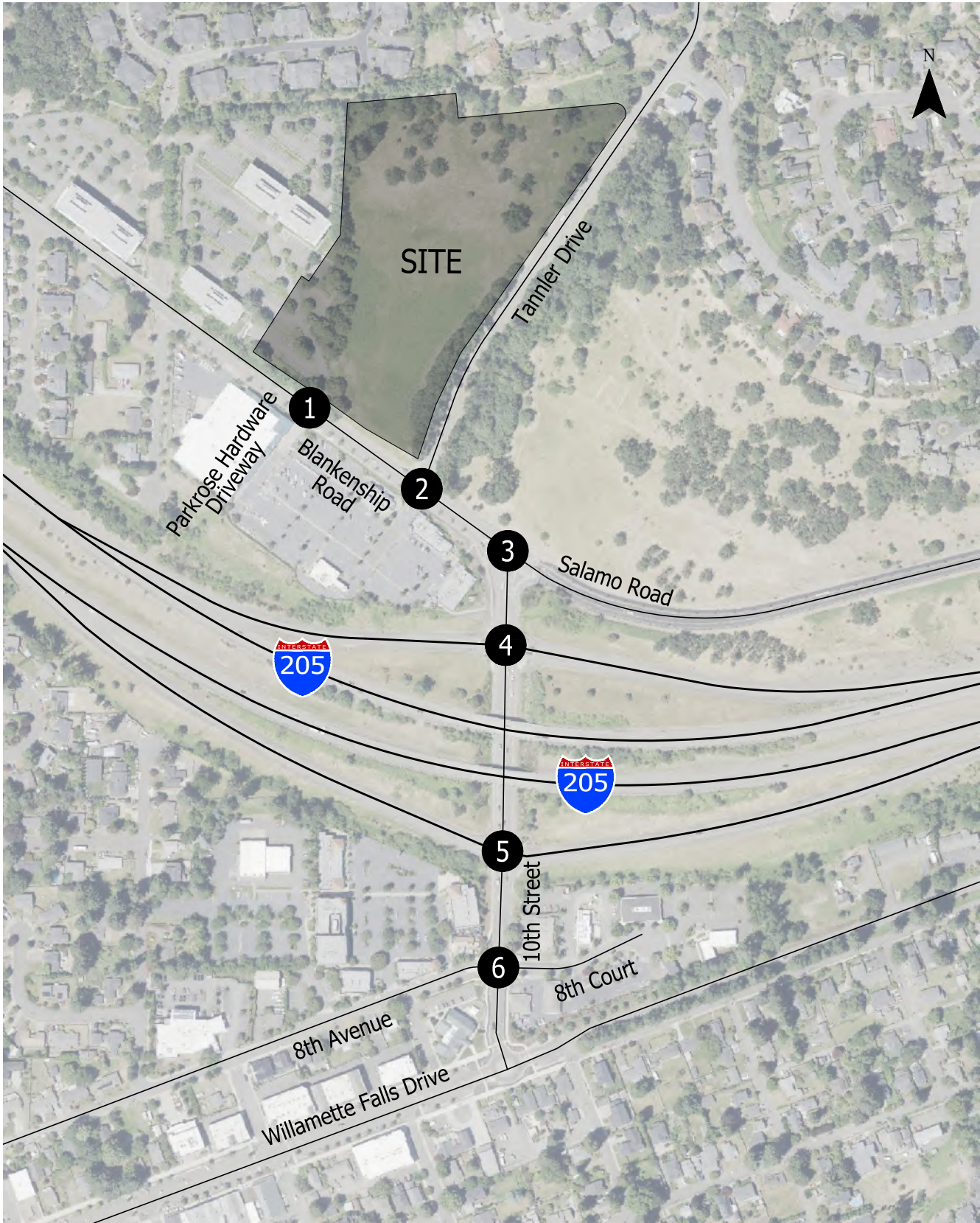
On the day of the counts, the morning peak hour occurred from 7:40 AM – 8:40 AM at the I-205 ramp intersections (study intersections #4 and #5). The evening peak hour at these two intersections occurred from 4:55 PM – 5:55 PM. These AM and PM peak hours were analyzed at all the study intersections to evaluate operations and queues. Current traffic signal phasing and signal cycle length information for the signalized study intersections were obtained from ODOT, which operates the traffic signals. *Appendix B contains the traffic count worksheets.* Figure 4 and Figure 5 summarize the existing traffic conditions during the weekday AM and PM peak hours, respectively.

For the two City-owned intersections (study intersections #1 and #2), movement and approach delay, V/C, and delay were analyzed to understand compliance with the City's operational performance metrics. Table 2 and Table 3 show the delay, LOS, and V/C by movement and approach for study intersection #1 and #2 during the weekday AM and PM peak hours, respectively, under existing traffic conditions. The intersection operations at the two City of West Linn intersections meet the City's LOS "E" standard during the AM peak hour. During the PM peak hour, the northbound access point from the private Parkrose Hardware driveway at intersection #1 and the southbound Tannler Drive approach at intersection #2 each operate with delays corresponding to LOS "F".

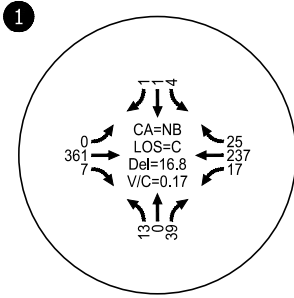
The intersection operations of the four ODOT intersections within the study area satisfy the mobility target during both the AM and PM peak hours (only the first peak hour was analyzed given the mobility targets were satisfied).

*Existing conditions operations analysis worksheets are provided in Appendix C.*

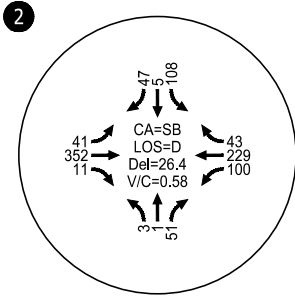
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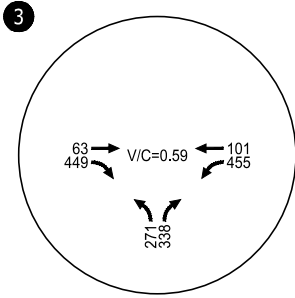
Blankenship Road/  
Parkrose Hardware  
Driveway/Office Driveway



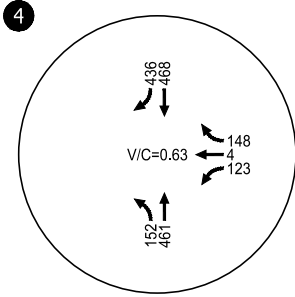
Blankenship Road/  
Tannler Drive



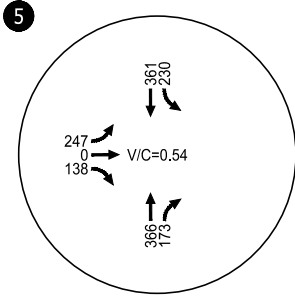
Blankenship Road/  
Salamo Road/10th Street



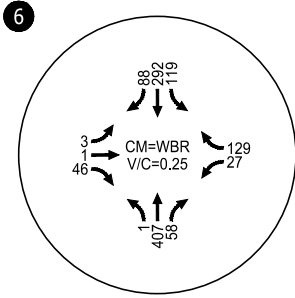
10th Street/  
I-205 Southbound Ramp



10th Street/  
I-205 Northbound Ramp



10th Street/  
8th Avenue/  
8th Court

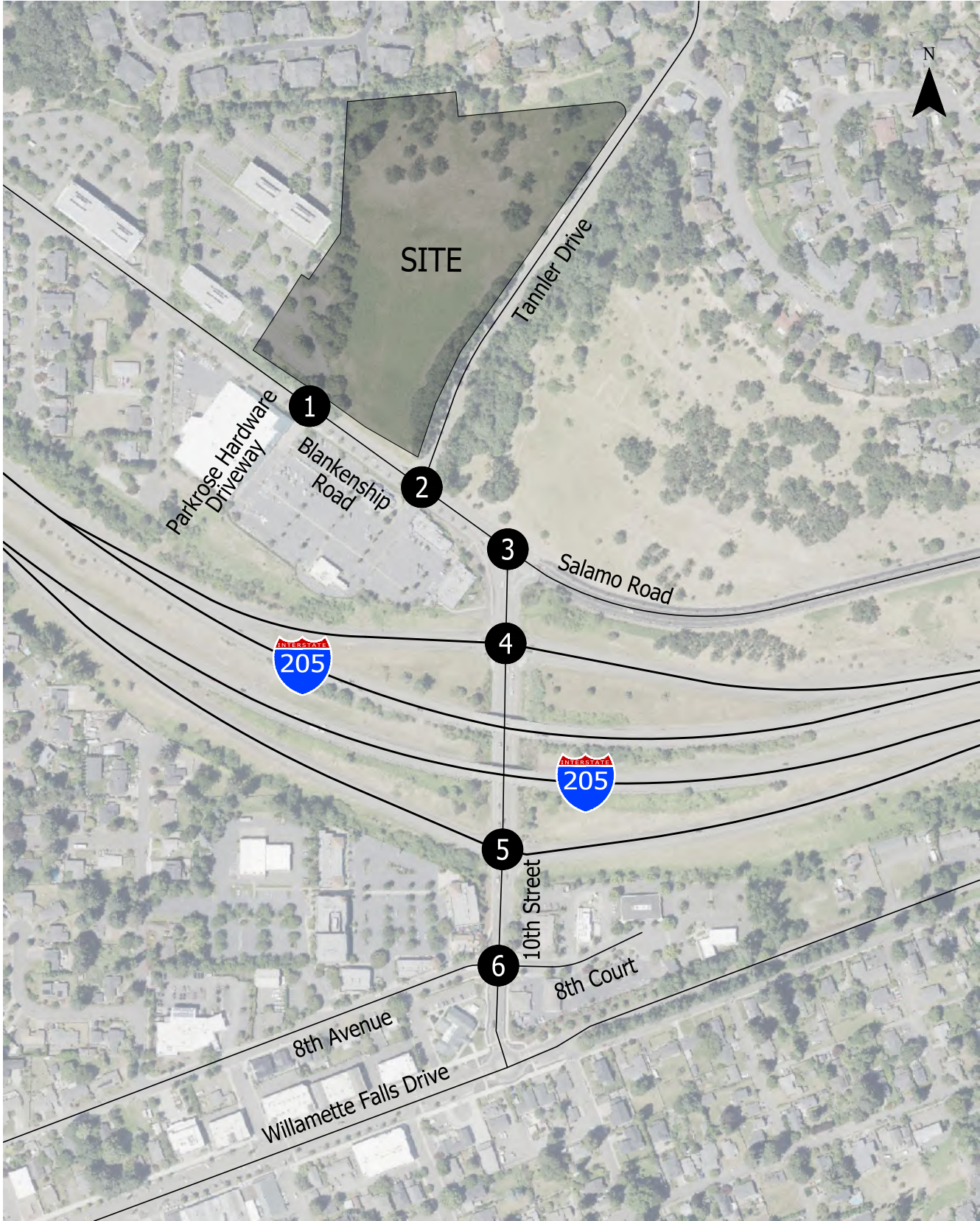


CA = CRITICAL APPROACH (TWSC SINGLE-LANE)  
CM = CRITICAL MOVEMENT (TWSC MULTI-LANE)  
LOS = INTERSECTION LEVEL OF SERVICE (SIGNALIZED) / CRITICAL APPROACH LEVEL OF SERVICE (TWSC)  
Del = INTERSECTION AVERAGE CONTROL DELAY (SIGNALIZED) / CRITICAL APPROACH CONTROL DELAY (TWSC)  
TWSC = TWO-WAY STOP CONTROL

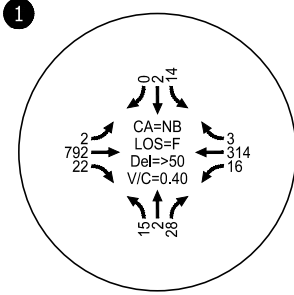
Existing Traffic Conditions  
Weekday AM Peak Hour  
West Linn, OR

Figure  
4

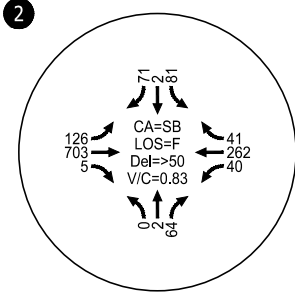
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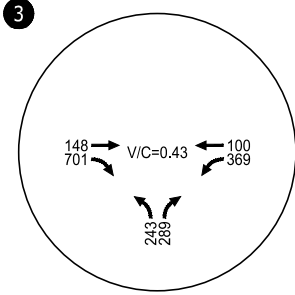
Blankenship Road/  
Parkrose Hardware  
Driveway/Office Driveway



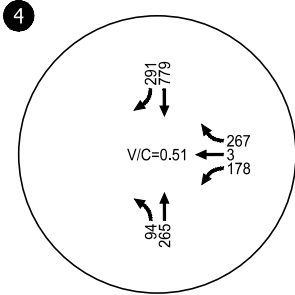
Blankenship Road/  
Tannler Drive



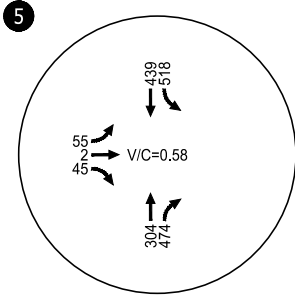
Blankenship Road/  
Salamo Road/10th Street



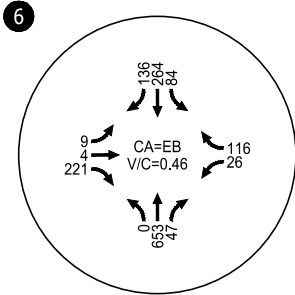
10th Street/  
I-205 Southbound Ramp



10th Street/  
I-205 Northbound Ramp



10th Street/  
8th Avenue/  
8th Court



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Del = INTERSECTION AVERAGE CONTROL DELAY (SIGNALIZED) / CRITICAL APPROACH CONTROL DELAY (TWSC)  
TWSC = TWO-WAY STOP CONTROL

Existing Traffic Conditions  
Weekday PM Peak Hour  
West Linn, OR

Figure  
5

**Table 2. Existing AM Operations Summary by Movement at Site Intersections**

| Intersection |                                                             | Approach | V/C  | Delay | LOS | Mvmt  | V/C  | Delay | LOS |
|--------------|-------------------------------------------------------------|----------|------|-------|-----|-------|------|-------|-----|
| 1            | Blankenship Road/Parkrose Hardware Driveway/Office Driveway | NB       | 0.17 | 16.8  | C   | NBLTR | 0.17 | 16.8  | C   |
|              |                                                             | SB       | 0.01 | 14.5  | B   | SBLTR | 0.01 | 14.5  | B   |
|              |                                                             | EB       | 0    | 0     | A   | EBL   | 0.00 | 7.8   | A   |
|              |                                                             |          |      |       |     | EBTR  | 0.00 | 0.0   | A   |
|              |                                                             | WB       | 0.02 | 0.5   | A   | WBL   | 0.02 | 8.2   | A   |
|              |                                                             |          |      |       |     | WBTR  | 0.00 | 0.0   | A   |
| 2            | Blankenship Road/Tannler Drive                              | NB       | 0.14 | 13.4  | B   | NBLT  | 0.04 | 36.4  | E   |
|              |                                                             |          |      |       |     | NBR   | 0.10 | 11.7  | B   |
|              |                                                             | SB       | 0.58 | 26.4  | D   | SBLT  | 0.51 | 33.3  | D   |
|              |                                                             |          |      |       |     | SBR   | 0.07 | 9.8   | A   |
|              |                                                             | EB       | 0.04 | 0.8   | A   | EBL   | 0.04 | 8.0   | A   |
|              |                                                             |          |      |       |     | EBTR  | 0.00 | 0.0   | A   |
|              |                                                             | WB       | 0.10 | 2.3   | A   | WBL   | 0.10 | 8.5   | A   |
|              |                                                             |          |      |       |     | WBTR  | 0.00 | 0.0   | A   |

Where: LOS = Level of Service, V/C = Volume-to-Capacity ratio, NB = Northbound, SB = Southbound, EB = Eastbound, WB = Westbound, L = Left-turn, T=Through, R = Right-turn

**Table 3. Existing PM Operations Summary by Movement at Site Intersections**

| Intersection |                                                              | Approach | V/C  | Delay | LOS | Mvmt  | V/C  | Delay | LOS |
|--------------|--------------------------------------------------------------|----------|------|-------|-----|-------|------|-------|-----|
| 1            | Blankenship Road/Parkrose Hardware Driveway/ Office Driveway | NB       | 0.40 | 52.8  | F   | NBLTR | 0.40 | 52.8  | F   |
|              |                                                              | SB       | 0.09 | 26.7  | D   | SBLTR | 0.09 | 26.7  | D   |
|              |                                                              | EB       | 0    | 0.02  | A   | EBL   | 0.00 | 7.9   | A   |
|              |                                                              |          |      |       |     | EBTR  | 0.01 | 0.0   | A   |
|              |                                                              | WB       | 0.02 | 0.46  | A   | WBL   | 0.02 | 9.8   | A   |
|              |                                                              |          |      |       |     | WBTR  | 0.00 | 0.0   | A   |
| 2            | Blankenship Road/Tannler Drive                               | NB       | 0.23 | 19.4  | C   | NBLT  | 0.03 | 87.1  | F   |
|              |                                                              |          |      |       |     | NBR   | 0.20 | 18.1  | C   |
|              |                                                              | SB       | 0.83 | 52.1  | F   | SBLT  | 0.73 | 88.0  | F   |
|              |                                                              |          |      |       |     | SBR   | 0.10 | 10.1  | B   |
|              |                                                              | EB       | 0.11 | 1.3   | A   | EBL   | 0.11 | 8.3   | A   |
|              |                                                              |          |      |       |     | EBTR  | 0.01 | 0.0   | A   |
|              |                                                              | WB       | 0.05 | 1.1   | A   | WBL   | 0.05 | 9.5   | A   |
|              |                                                              |          |      |       |     | WBTR  | 0.00 | 0.0   | A   |

Where: LOS = Level of Service, V/C = Volume-to-Capacity ratio, NB = Northbound, SB = Southbound, EB = Eastbound, WB = Westbound, L = Left-turn, T=Through, R = Right-turn

## TRAFFIC SAFETY

The ODOT Crash Data System was queried to obtain crash records at the study intersections for the five-year period from January 1, 2020 to December 31, 2024 (the 2025 data provided by ODOT was deemed preliminary at the time this report was prepared and was not considered). The crash type classifications at each intersection with reported crashes were reviewed to assess whether crash patterns might be identifiable. Table 4 shows the reported crashes by type and severity. *Appendix D contains detailed crash summary worksheets.*

**Table 4. Intersection Crash History (January 1, 2020 – December 31, 2024)**

| Location |                                                            | Crash Type |         |       |            |         |              |                    |         |       | Severity         |              |                | Crash Total |
|----------|------------------------------------------------------------|------------|---------|-------|------------|---------|--------------|--------------------|---------|-------|------------------|--------------|----------------|-------------|
|          |                                                            | Rear-end   | Turning | Angle | Side Swipe | Backing | Fixed Object | Pedestrian or Bike | Head-On | Other | PDO <sup>1</sup> | Minor Injury | Serious Injury |             |
| 1        | Blankenship Rd/Parkrose Hardware Driveway/Office Driveway  | 0          | 0       | 0     | 0          | 0       | 0            | 0                  | 0       | 0     | 0                | 0            | 0              | 0           |
| 2        | Blankenship Rd/Tannler Dr                                  | 0          | 1       | 1     | 0          | 0       | 0            | 0                  | 0       | 0     | 0                | 2            | 0              | 2           |
| 3        | Blankenship Rd/Salamo Rd/10 <sup>th</sup> St               | 2          | 0       | 0     | 1          | 0       | 1            | 0                  | 0       | 0     | 1                | 2            | 1              | 4           |
| 4        | 10 <sup>th</sup> St/I-205 SB Ramp                          | 3          | 1       | 0     | 0          | 1       | 0            | 0                  | 0       | 0     | 2                | 3            | 0              | 5           |
| 5        | 10 <sup>th</sup> St/I-205 NB Ramp                          | 0          | 0       | 0     | 1          | 0       | 0            | 0                  | 0       | 1     | 1                | 0            | 1              | 2           |
| 6        | 10 <sup>th</sup> St/8 <sup>th</sup> Ave/8 <sup>th</sup> Ct | 1          | 5       | 3     | 0          | 0       | 0            | 0                  | 0       | 0     | 7                | 2            | 0              | 9           |

<sup>1</sup> PDO: Property Damage Only

As shown in Table 4, there were no reported crashes involving someone walking or riding a bike during the five years in which the data was available. No fatal crashes were reported. There were a total of two serious injury crashes (classified by ODOT as Injury A) reported at the study intersections as described below:

- On October 23, 2023, at the Blankenship Road/Salamo Road/10<sup>th</sup> Street intersection, a passenger car turning right from northbound direction made an improper turn from the wrong lane at

approximately midnight, colliding with the curb. The driver sustained incapacitating injuries. There were no passengers. The crash occurred under clear, dry conditions at night with streetlights.

- On October 21, 2024, at the intersection of the northbound I-205 entrance ramp and 10<sup>th</sup> Street, a motorcyclist turning left from the southbound direction on wet roads lost control while turning. The motorcyclist fell or jumped from the vehicle and sustained incapacitating injuries.

Observed intersection crash rates were calculated and compared to statewide crash rate performance thresholds as shown in Table 5. The observed intersection crash rate was compared to the 90<sup>th</sup> percentile crash rates for urban intersections by traffic control and 3- versus 4-legged configurations (as appropriate) following the analysis methodology presented in the *ODOT Analysis Procedures Manual* (APM, Reference 7). Per the APM, intersections with observed crash rates that exceed the 90<sup>th</sup> percentile values shown in APM Exhibit 4-1 should be flagged for further analysis. As shown, all study intersection crash rates are below the 90<sup>th</sup> percentile crash rate.

**Table 5. Intersection Crash Rate Assessment (January 1, 2020 – December 31, 2024)**

| Intersection |                                                            | Total Reported Crashes | Observed Crash Rate per MEV <sup>1</sup> | 90 <sup>th</sup> Percentile Crash Rate per MEV <sup>1</sup> | Observed Crash Rate > 90 <sup>th</sup> Percentile Crash Rate? |
|--------------|------------------------------------------------------------|------------------------|------------------------------------------|-------------------------------------------------------------|---------------------------------------------------------------|
| 1            | Blankenship Rd/Parkrose Hardware Driveway/Office Driveway  | 0                      | 0                                        | 0.408                                                       | No                                                            |
| 2            | Blankenship Rd/Tannler Dr                                  | 2                      | 0.08                                     | 0.408                                                       | No                                                            |
| 3            | Blankenship Rd/Salamo Rd/10 <sup>th</sup> St               | 4                      | 0.12                                     | 0.509                                                       | No                                                            |
| 4            | 10 <sup>th</sup> St/I-205 SB Ramp                          | 5                      | 0.15                                     | 0.509                                                       | No                                                            |
| 5            | 10 <sup>th</sup> St/I-205 NB Ramp                          | 2                      | 0.06                                     | 0.509                                                       | No                                                            |
| 6            | 10 <sup>th</sup> St/8 <sup>th</sup> Ave/8 <sup>th</sup> Ct | 9                      | 0.32                                     | 0.408                                                       | No                                                            |

<sup>1</sup> MEV = Million entering vehicles

The 2024 ODOT Safety Priority Index System (SPIS) was also reviewed to identify any intersections flagged within the top 10 to 15 percent in Region 1 based on crash rate, frequency, and severity. No study intersections were identified as SPIS locations in the 2024 report.

We also note that there were no clear trends in the crash patterns at the study intersections. Based on the above observations, no crash-related changes to the intersections are recommended.

## INTERSECTION AND STOPPING SIGHT DISTANCE

Intersection sight distance documentation at the site access points and along the site frontage will be documented on the civil engineering plans provided through the site plan application process.

We recommend that on-site landscaping, signage, and any new above-ground utilities be appropriately located and maintained to provide adequate intersection sight distance per applicable City requirements.

## Background Conditions

The background traffic conditions analysis identifies how the study intersections are projected to operate in the 2029 horizon year without the construction of the proposed development.

No in-process developments were identified during the scoping process with City and ODOT staff, and no funded transportation improvements have been identified at the study intersections that will be completed by the horizon year 2029.

We do note that the adopted City of West Linn TSP identifies the following projects within the site vicinity (none of which are currently funded for construction by 2029):

- The provision of continuous sidewalks on the northside of Blankenship Road and Salamo Road in areas where there are currently gaps (*Site frontage improvements along Blankenship Road will be completed as part of the new apartments and retail*).
- The provision of sidewalks on both sides of Tannler Drive north of Blankenship Road. (*Site frontage improvements along Blankenship Road will be completed as part of the new apartments and retail*).
- The installation of a two-way cycle track on the north side of Salamo Road from Tannler Drive to Barrington Drive.
- The widening of 10<sup>th</sup> Street between Blankenship/Salamo Road and Willamette Falls Drive to provide two travel lanes in each direction, continuous sidewalks and both sides of the street and enhanced bike facilities. Per the City's Capital Improvement Plan (2026 – 2031, Reference 8), construction of these improvements are partially funded in the year 2030 but the bulk of the costs are unfunded at this time.
- The realignment of Tannler Drive as a neighborhood route from its current intersection on Blankenship Road to a location opposite the Parkrose Hardware entry (*The realignment of Tannler Drive is assumed as part of this development application*).

## TRAFFIC GROWTH ASSUMPTIONS

A two-percent annual growth rate was applied to the existing traffic volumes to reflect near-term growth for background traffic per City staff direction.

## BACKGROUND TRAFFIC VOLUMES AND OPERATIONAL ANALYSIS

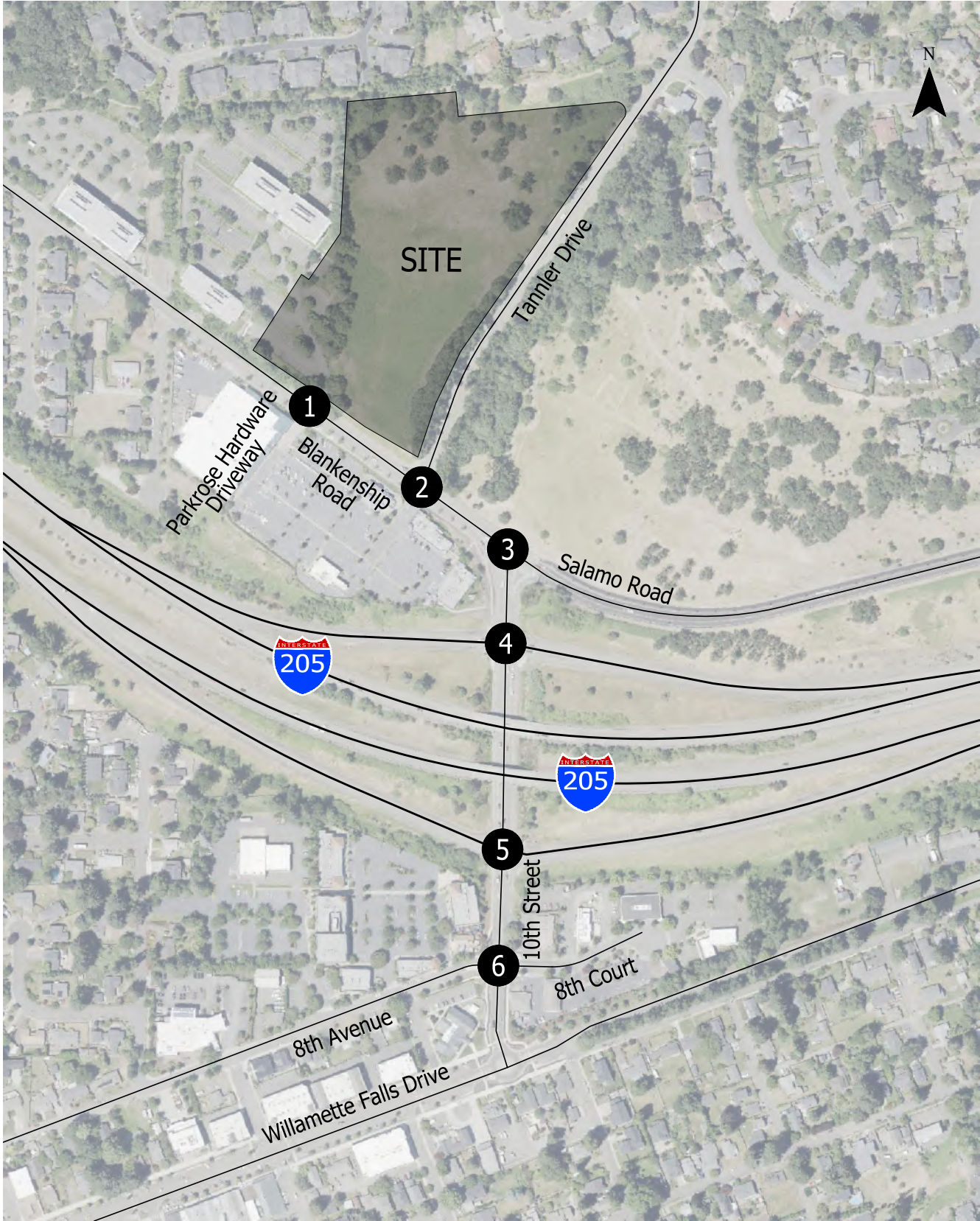
The 2025 weekday AM and PM peak hour existing traffic volumes along all public streets were increased with a two-percent annual growth rate to calculate the anticipated 2029 traffic volumes. The resultant year 2029 Background weekday AM and PM peak hour traffic volumes and intersection operations are shown in Figure 6 and Figure 7.

Table 6 and Table 7 show the delay, LOS, and V/C by movement and approach for the two City-owned intersections for the weekday AM and PM peak hours, respectively, under background growth traffic conditions. The intersection operations at the two intersections meet the City's LOS "E" mobility standard during the AM peak hour. During the PM peak hour, neither intersection meets the City's mobility standard. As noted in the existing conditions, during the PM peak hour, the northbound access point from the private Parkrose Hardware driveway at intersection #1 and the southbound Tannler Drive approach at intersection #2 operate with delays corresponding to LOS "F". The background conditions at the two City intersections will be mitigated through a combination of the Tannler Drive realignment, turn lane improvements, and signalization assumed to occur in conjunction with site development.

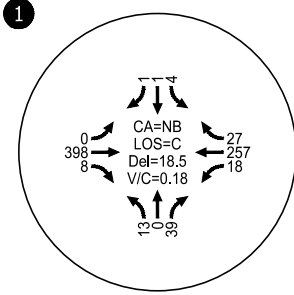
The intersection operations of the four ODOT intersections within the study area satisfy the mobility target during both the AM and PM peak hours.

*Appendix E contains the year 2029 background traffic conditions worksheets.*

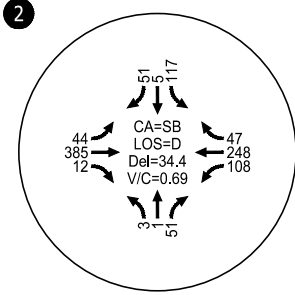
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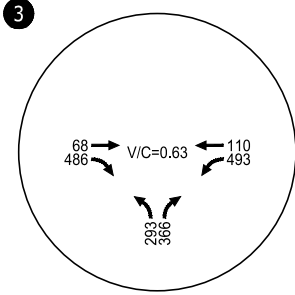
Blankenship Road/  
Parkrose Hardware  
Driveway/Office Driveway



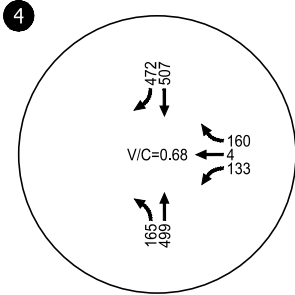
Blankenship Road/  
Tannler Drive



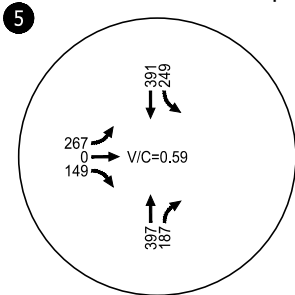
Blankenship Road/  
Salamo Road/10th Street



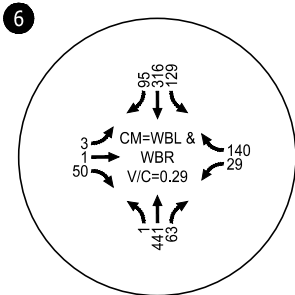
10th Street/  
I-205 Southbound Ramp



10th Street/  
I-205 Northbound Ramp



10th Street/  
8th Avenue/  
8th Court



CA = CRITICAL APPROACH (TWSC SINGLE-LANE)  
CM = CRITICAL MOVEMENT (TWSC MULTI-LANE)  
LOS = INTERSECTION LEVEL OF SERVICE (SIGNALIZED) / CRITICAL APPROACH LEVEL OF SERVICE (TWSC)  
Del = INTERSECTION AVERAGE CONTROL DELAY (SIGNALIZED) / CRITICAL APPROACH CONTROL DELAY (TWSC)  
TWSC = TWO-WAY STOP CONTROL

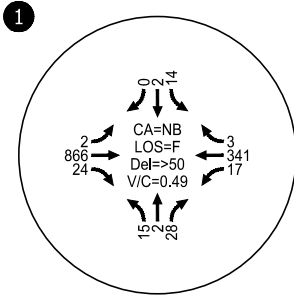
Background 2029 Traffic Conditions  
Weekday AM Peak Hour  
West Linn, OR

Figure  
6

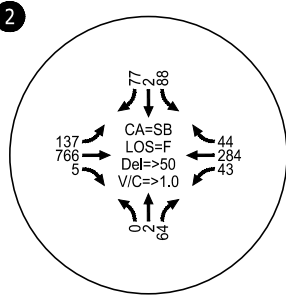
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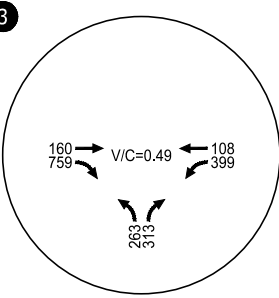
Blankenship Road/  
Parkrose Hardware  
Driveway/Office Driveway



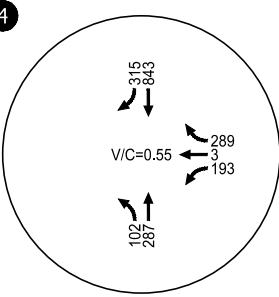
Blankenship Road/  
Tannler Drive



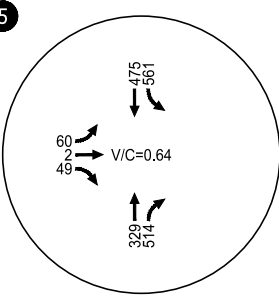
Blankenship Road/  
Salamo Road/10th Street



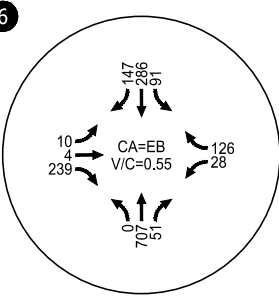
10th Street/  
I-205 Southbound Ramp



10th Street/  
I-205 Northbound Ramp



10th Street/  
8th Avenue/  
8th Court



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Del = INTERSECTION AVERAGE CONTROL DELAY (SIGNALIZED) / CRITICAL APPROACH CONTROL DELAY (TWSC)  
TWSC = TWO-WAY STOP CONTROL

Background 2029 Traffic Conditions  
Weekday PM Peak Hour  
West Linn, OR

Figure  
7

**Table 6. Background AM Operations Summary by Movement at Site Intersections**

| Intersection |                                                                  | Approach | V/C  | Delay | LOS | Mvmt  | V/C  | Delay | LOS |
|--------------|------------------------------------------------------------------|----------|------|-------|-----|-------|------|-------|-----|
| 1            | Blankenship Road/<br>Parkrose Hardware Driveway/ Office Driveway | NB       | 0.18 | 18.5  | C   | NBLTR | 0.18 | 18.5  | C   |
|              |                                                                  | SB       | 0.02 | 15.4  | C   | SBLTR | 0.02 | 15.4  | C   |
|              |                                                                  | EB       | 0    | 0     | A   | EBL   | 0.00 | 7.9   | A   |
|              |                                                                  |          |      |       |     | EBTR  | 0.00 | 0.0   | A   |
|              |                                                                  | WB       | 0.02 | 0.5   | A   | WBL   | 0.02 | 8.4   | A   |
|              |                                                                  |          |      |       |     | WBTR  | 0.00 | 0.0   | A   |
| 2            | Blankenship Road/<br>Tannler Drive                               | NB       | 0.14 | 14.2  | B   | NBLT  | 0.04 | 43.3  | E   |
|              |                                                                  |          |      |       |     | NBR   | 0.10 | 12.2  | B   |
|              |                                                                  | SB       | 0.69 | 34.4  | D   | SBLT  | 0.62 | 44.6  | E   |
|              |                                                                  |          |      |       |     | SBR   | 0.07 | 9.9   | A   |
|              |                                                                  | EB       | 0.04 | 0.8   | A   | EBL   | 0.04 | 8.1   | A   |
|              |                                                                  |          |      |       |     | EBTR  | 0.00 | 0.0   | A   |
|              |                                                                  | WB       | 0.11 | 2.3   | A   | WBL   | 0.11 | 8.7   | A   |
|              |                                                                  |          |      |       |     | WBTR  | 0.00 | 0.0   | A   |

Where: LOS = Level of Service, V/C = Volume-to-Capacity ratio, NB = Northbound, SB = Southbound, EB = Eastbound, WB = Westbound, L = Left-turn, T=Through, R = Right-turn

**Table 7. Background PM Operations Summary by Movement at Site Intersections**

| Intersection |                                                                  | Approach | V/C  | Delay | LOS | Mvmt  | V/C  | Delay | LOS |
|--------------|------------------------------------------------------------------|----------|------|-------|-----|-------|------|-------|-----|
| 1            | Blankenship Road/<br>Parkrose Hardware Driveway/ Office Driveway | NB       | 0.49 | 73.3  | F   | NBLTR | 0.49 | >50   | F   |
|              |                                                                  | SB       | 0.11 | 31.2  | D   | SBLTR | 0.11 | 31.2  | D   |
|              |                                                                  | EB       | 0    | 0.02  | A   | EBL   | 0.00 | 8.0   | A   |
|              |                                                                  |          |      |       |     | EBTR  | 0.01 | 0.0   | A   |
|              |                                                                  | WB       | 0.03 | 0.47  | A   | WBL   | 0.03 | 10.1  | B   |
|              |                                                                  |          |      |       |     | WBTR  | 0.00 | 0.0   | A   |
| 2            | Blankenship Road/<br>Tannler Drive                               | NB       | 0.27 | 21.7  | C   | NBLT  | 0.04 | >50   | F   |
|              |                                                                  |          |      |       |     | NBR   | 0.23 | 20.0  | C   |
|              |                                                                  | SB       | 1.09 | 92.2  | F   | SBLT  | 0.98 | >50   | F   |
|              |                                                                  |          |      |       |     | SBR   | 0.11 | 10.3  | B   |
|              |                                                                  | EB       | 0.12 | 1.3   | A   | EBL   | 0.12 | 8.4   | A   |
|              |                                                                  |          |      |       |     | EBTR  | 0.01 | 0.0   | A   |
|              |                                                                  | WB       | 0.06 | 1.1   | A   | WBL   | 0.06 | 9.8   | A   |
|              |                                                                  |          |      |       |     | WBTR  | 0.00 | 0.0   | A   |

Where: LOS = Level of Service, V/C = Volume-to-Capacity ratio, NB = Northbound, SB = Southbound, EB = Eastbound, WB = Westbound, L = Left-turn, T=Through, R = Right-turn

## Full Buildout Traffic Conditions

This section forecasts how the study intersections are anticipated to operate at the 2029 horizon year with the additional traffic associated with full construction and occupancy of the proposed development. Per the direction from City staff, the report assumes that Tannler Drive will be realigned opposite the existing Blakenship Road/Parkrose Hardware Drive/Office Drive intersection as part of the development, consistent with the City's TSP.

As part of the assumed realignment, the existing Office Driveway on Blankenship Road aligned with the Parkrose Hardware Access will be relocated and tied into the new Tannler Drive alignment approximately 220 feet to the north. The reconfigured driveway for the Office will provide full access to Tannler Drive. In addition, the full buildout conditions assume the installation of a traffic signal at the realigned Tannler Drive/Blankenship Road intersection<sup>1</sup>. Figure 8 illustrates the assumed future lane configurations and traffic control devices at the study intersections.

*Appendix F shows the rerouted trips as part of the assumed Tannler Drive realignment. The rerouting includes both the realignment of Tannler Drive to the Parkrose Hardway Drive intersection and the rerouting of the office-related trips (including some to/from the north on Tannler Drive).*

## TRIP GENERATION

Table 8 shows the trip generation estimates prepared for the proposed project based on the rates included in the *Trip Generation Manual, 12<sup>th</sup> Edition* (Reference 9), as published by the Institute of Transportation Engineers (ITE). The fitted curve equations (when available) were used for the housing and retail land uses, consistent with ITE methodology. Although industry practice would typically involve application of a pass-by rate for the retail trips to recognize retail customers currently driving past the site, the analysis assumes that all trips are new to the intersections in order to provide a more conservative estimation of potential operations at the intersections.

**Table 8. Trip Generation Estimate**

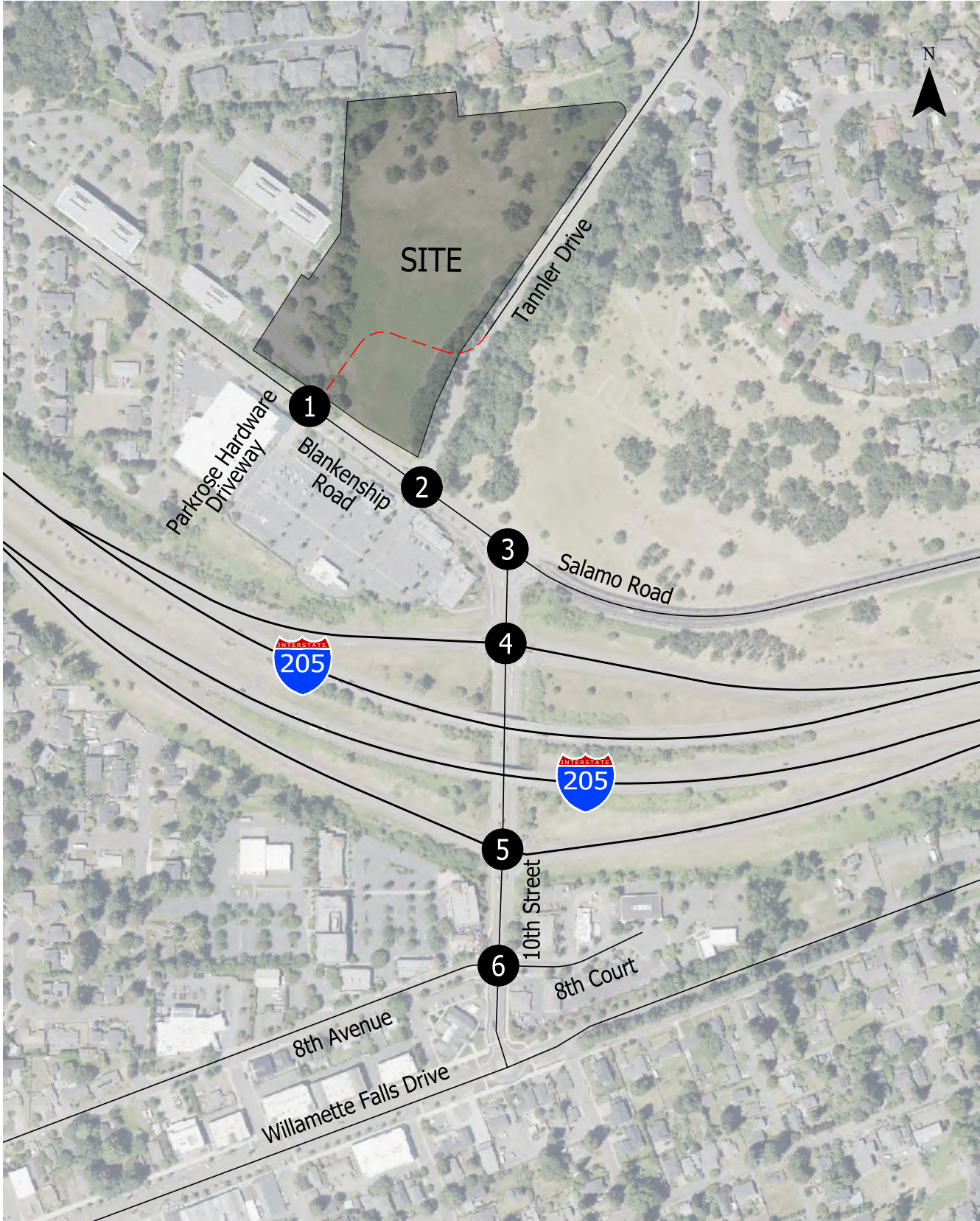
| Land Use                    | ITE Code | Size         | Daily Trips | AM Peak Hour Trips |    |     | PM Peak Hour Trips |     |     |
|-----------------------------|----------|--------------|-------------|--------------------|----|-----|--------------------|-----|-----|
|                             |          |              |             | Total              | In | Out | Total              | In  | Out |
| Mid-Rise Housing            | 221      | 320 units    | 1,438       | 127                | 29 | 98  | 122                | 78  | 44  |
| Retail < 40,000 square feet | 822      | 12,100 sq ft | 740         | 48                 | 26 | 22  | 87                 | 44  | 43  |
| Total Site Trips            |          |              | 2,178       | 175                | 55 | 120 | 209                | 122 | 87  |

## TRIP DISTRIBUTION

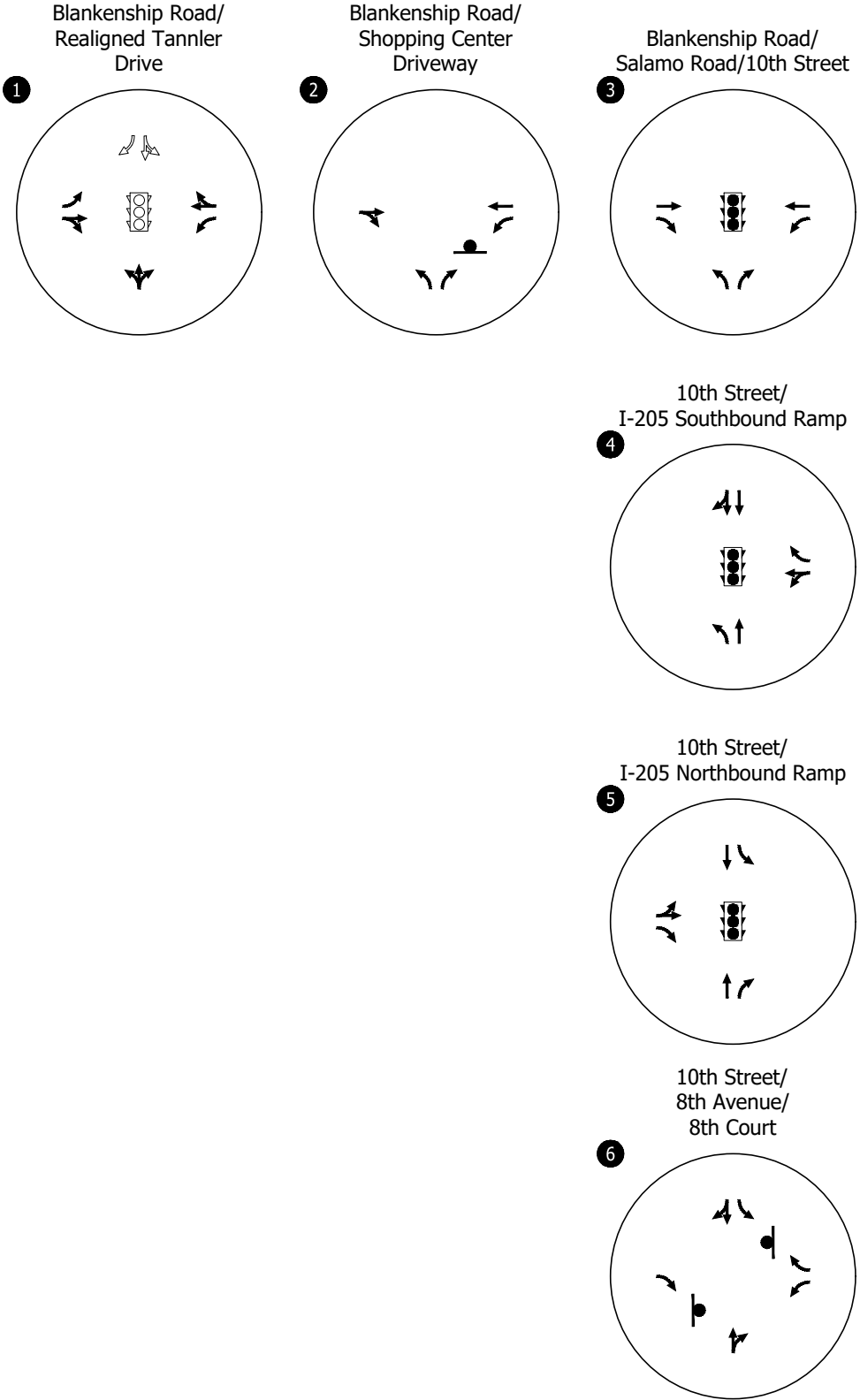
The distribution pattern for the site-generated trips during the weekday AM and PM peak hours shown in Table 8 is reflected Figure 9 and Figure 10 respectively.

<sup>1</sup> If the new intersection were to be operated with two-way stop-control, the peak hours delay and LOS would exceed City requirements and long queuing would result at the Tannler Drive southbound approach similar to the LOS "F" findings of the background traffic conditions analysis.

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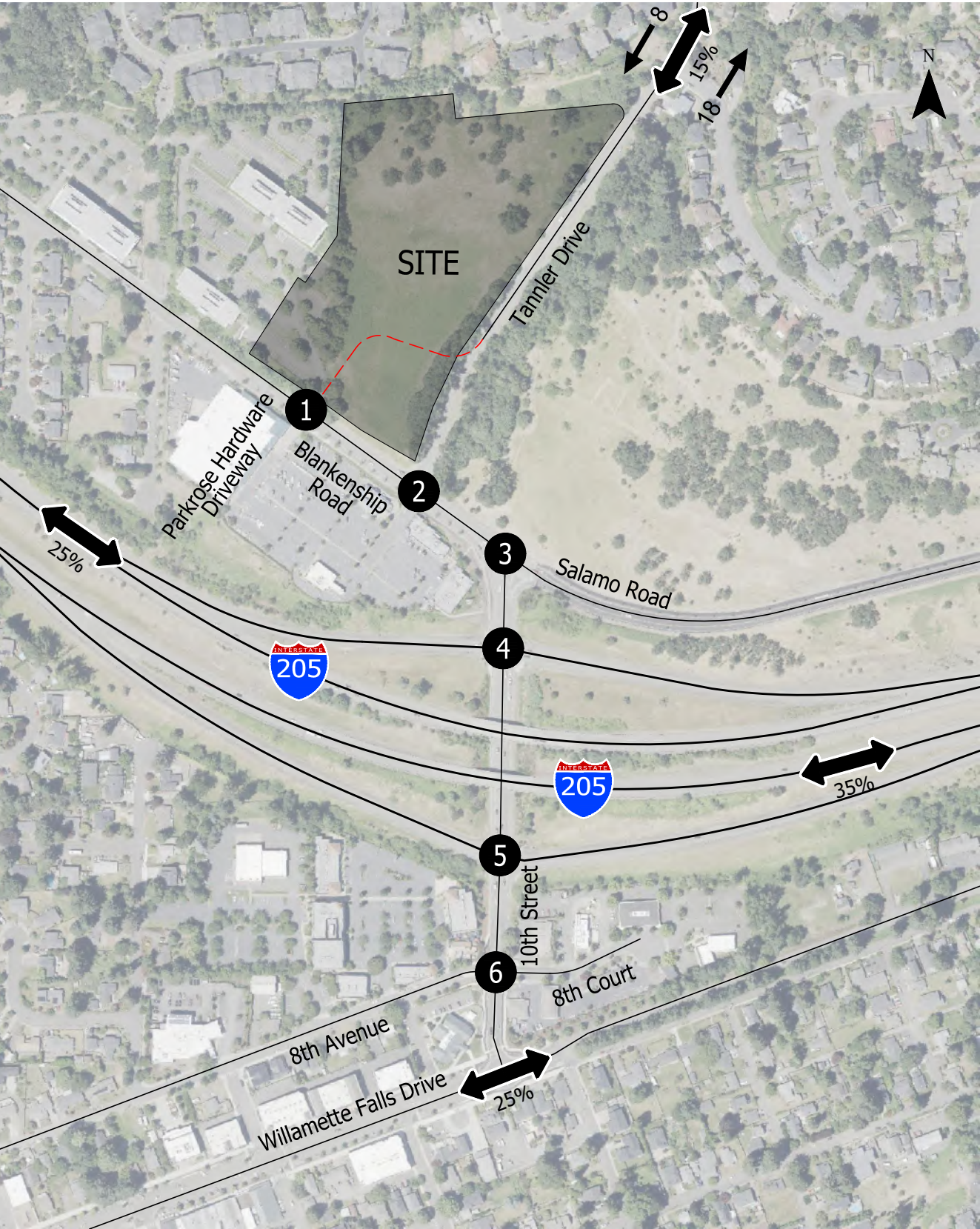
-  - STOP SIGN
-  - TRAFFIC SIGNAL
-  - FUTURE PROPOSED MOVEMENT
-  - FUTURE PROPOSED ROAD REALIGNMENT
-  - FUTURE PROPOSED TRAFFIC SIGNAL



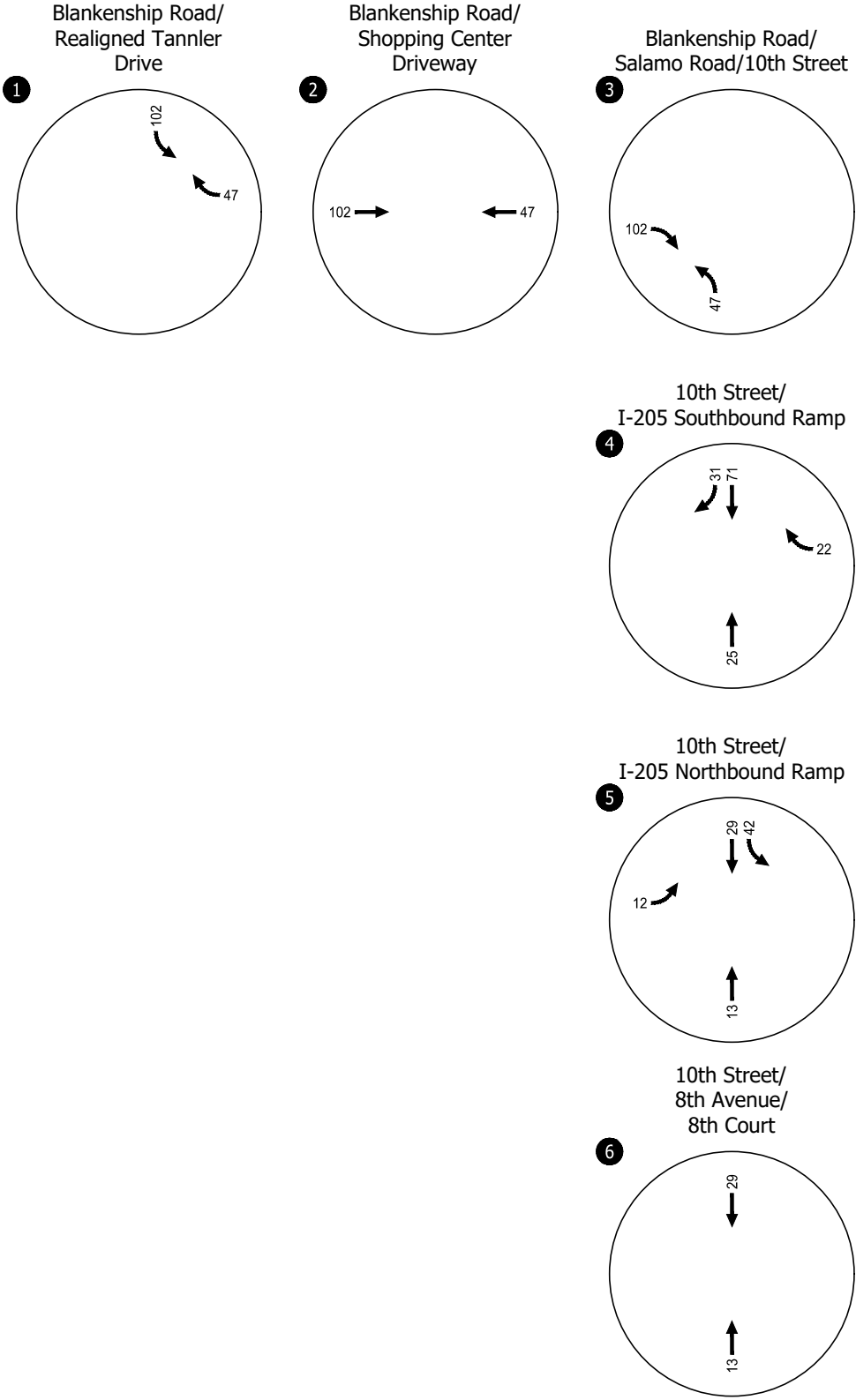
Assumed 2029 Lane Configurations  
and Traffic Control Devices  
West Linn, OR

Figure  
8

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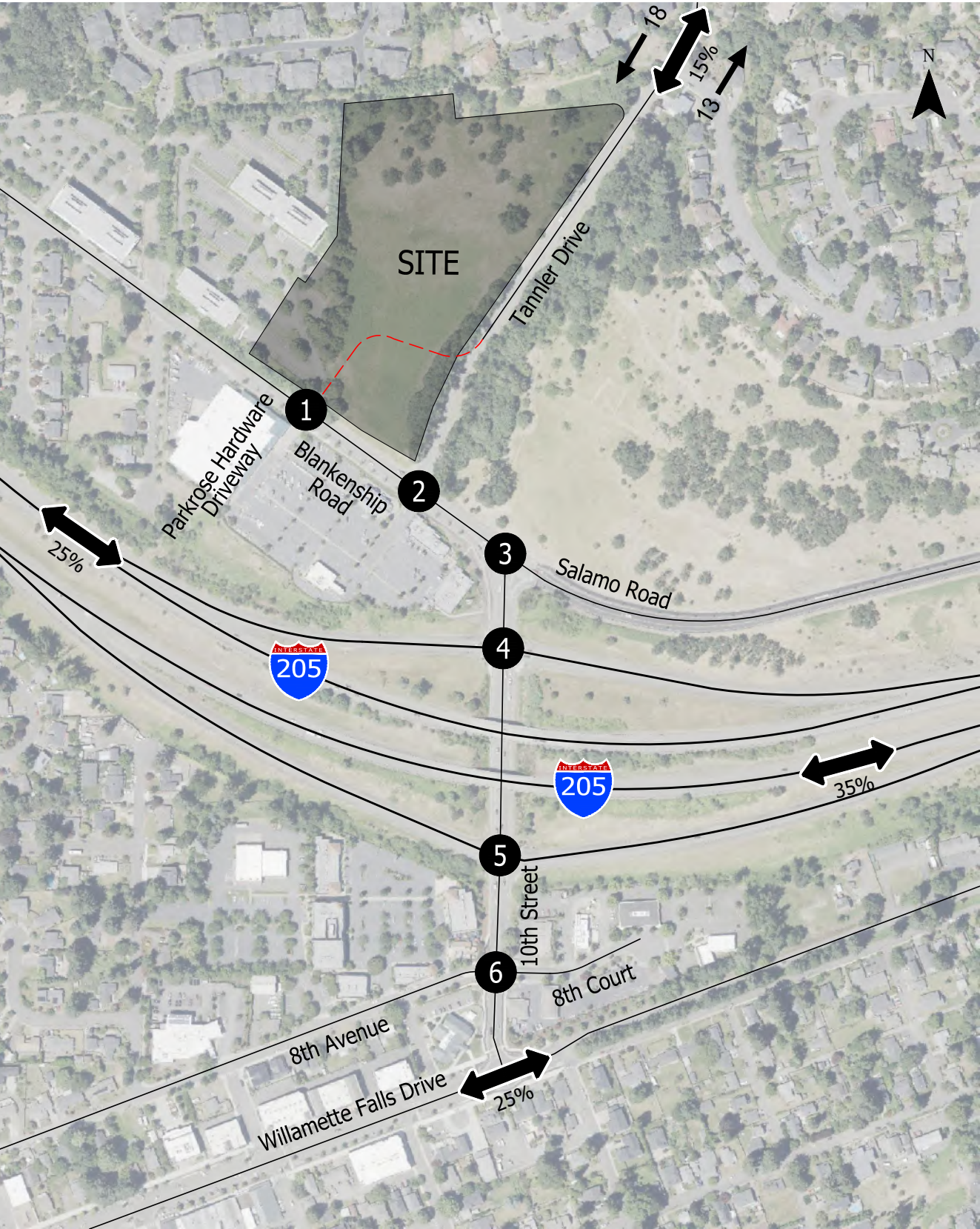
- TRIP DISTRIBUTION PERCENTAGES  
XX%  
 - FUTURE PROPOSED ROAD REALIGNMENT



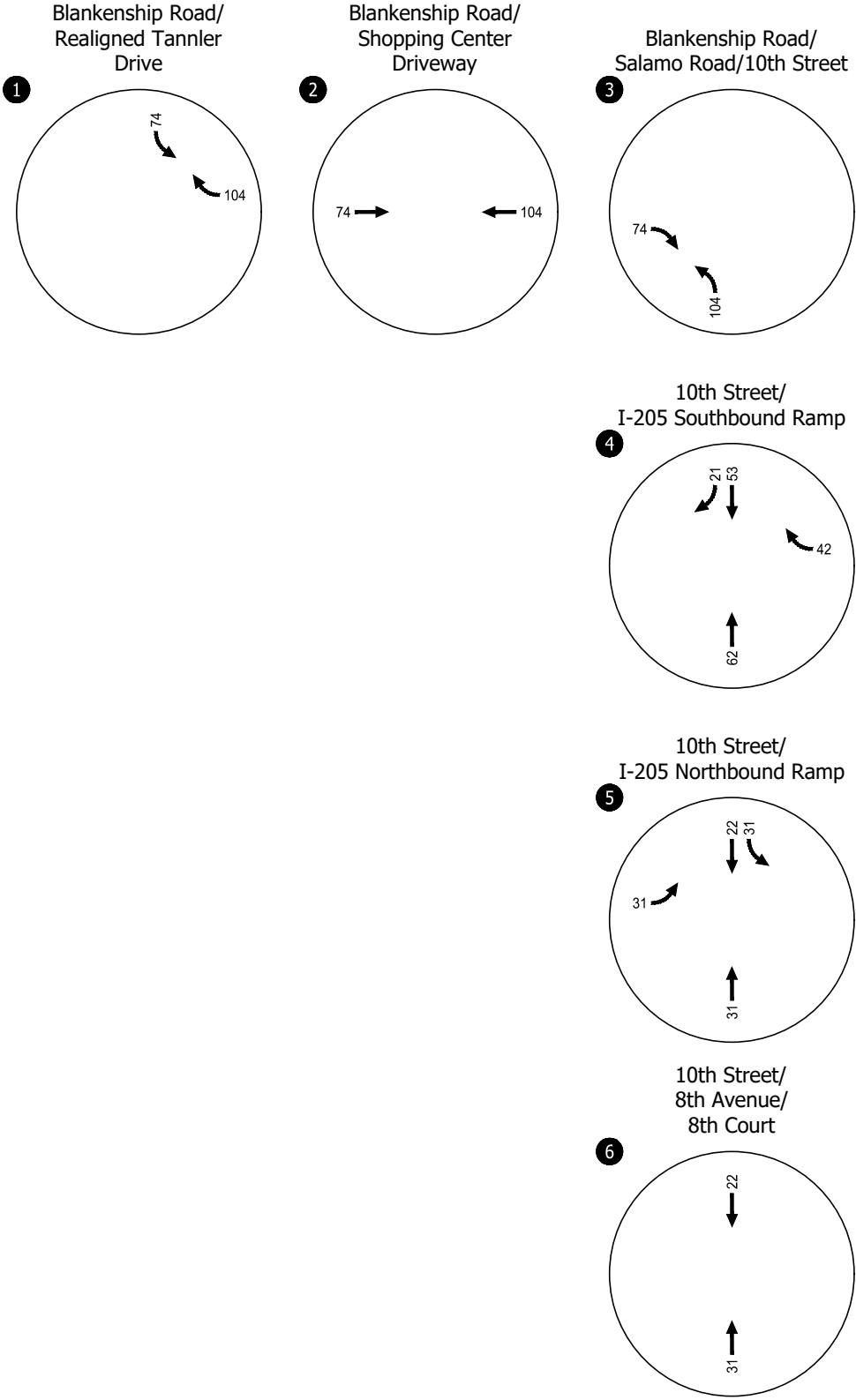
Estimated Trip Distribution Pattern and Site-Generated Trip Assignment  
Weekday AM Peak Hour  
West Linn, OR

Figure  
9

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- TRIP DISTRIBUTION PERCENTAGES  
XX%  
 - FUTURE PROPOSED ROAD REALIGNMENT



Estimated Trip Distribution Pattern and Site-Generated Trip Assignment  
Weekday PM Peak Hour  
West Linn, OR

Figure  
10

## FULL BUILDOUT TRAFFIC VOLUMES AND INTERSECTION OPERATIONAL ANALYSIS

The full buildout traffic conditions analysis forecasts how the study intersections will operate with the traffic associated with full occupancy and operation of the proposed development. The site-generated trips shown in Figure 9 and Figure 10 were added to the 2029 background traffic volumes reflected in Figure 6 and Figure 7 to arrive at the 2029 full buildout traffic volumes shown in Figure 11 and Figure 12.

Figure 11 and Figure 12 also include the resulting intersection operations under full buildout traffic conditions. Table 9 and Table 10 show the delay, LOS, and V/C by movement and approach for the weekday AM and PM peak hours, respectively, under full buildout traffic conditions and assuming a traffic signal at the Blankenship Road/realigned Tannler Drive intersection.

The intersection operations of the four ODOT intersections within the study area satisfy the mobility target during both the AM and PM peak hours. With a signal in-place, the intersection operations at the Blankenship Road/realigned Tannler Drive intersection comply with City standards.

Following a realignment of Tannler Drive to the west, the existing two-way left turn lane along Blankenship Road can be extended to the Shopping Center Driveway (at Intersection 2). This change can allow drivers who are turning left out of the driveway onto Blankenship Road to make the northbound left-turn in two stages, queuing in the two-way left turn lane while awaiting a gap in the westbound through traffic. By providing two-stage gap maneuvers, the traffic operations for this northbound left movement improves from LOS "F" during the PM peak hour to LOS "D". We further note that the northbound left-turns at this unsignalized access will have alternative access available via the shopping center to the future signalized Blankenship Road/realigned Tannler Drive intersection.

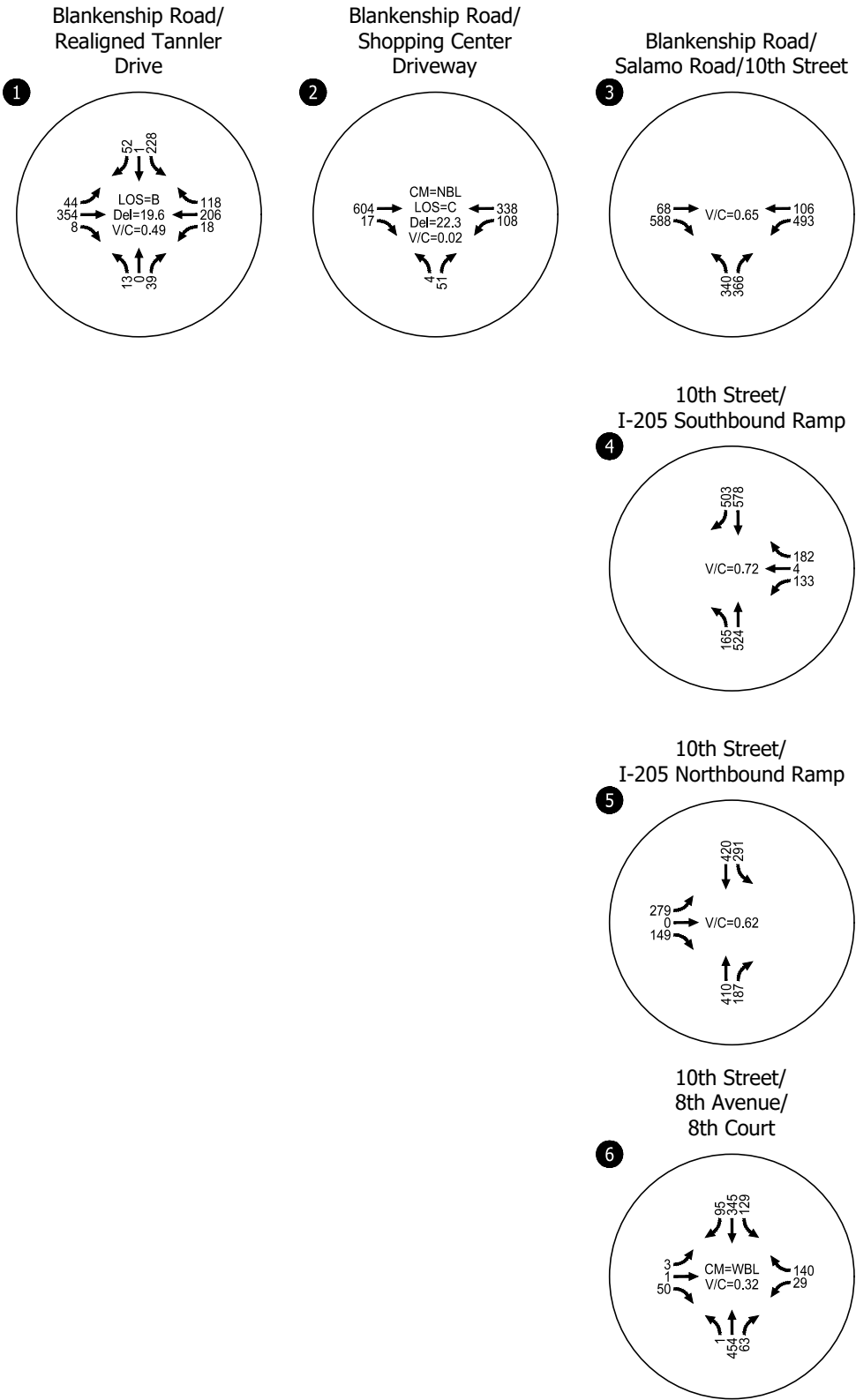
*Appendix G contains the year 2029 full buildout traffic analysis worksheets.*

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CA = CRITICAL APPROACH (TWSC SINGLE-LANE)  
CM = CRITICAL MOVEMENT (TWSC MULTI-LANE)  
LOS = INTERSECTION LEVEL OF SERVICE (SIGNALIZED) / CRITICAL APPROACH LEVEL OF SERVICE (TWSC)  
Del = INTERSECTION AVERAGE CONTROL DELAY (SIGNALIZED) / CRITICAL APPROACH CONTROL DELAY (TWSC)  
TWSC = TWO-WAY STOP CONTROL

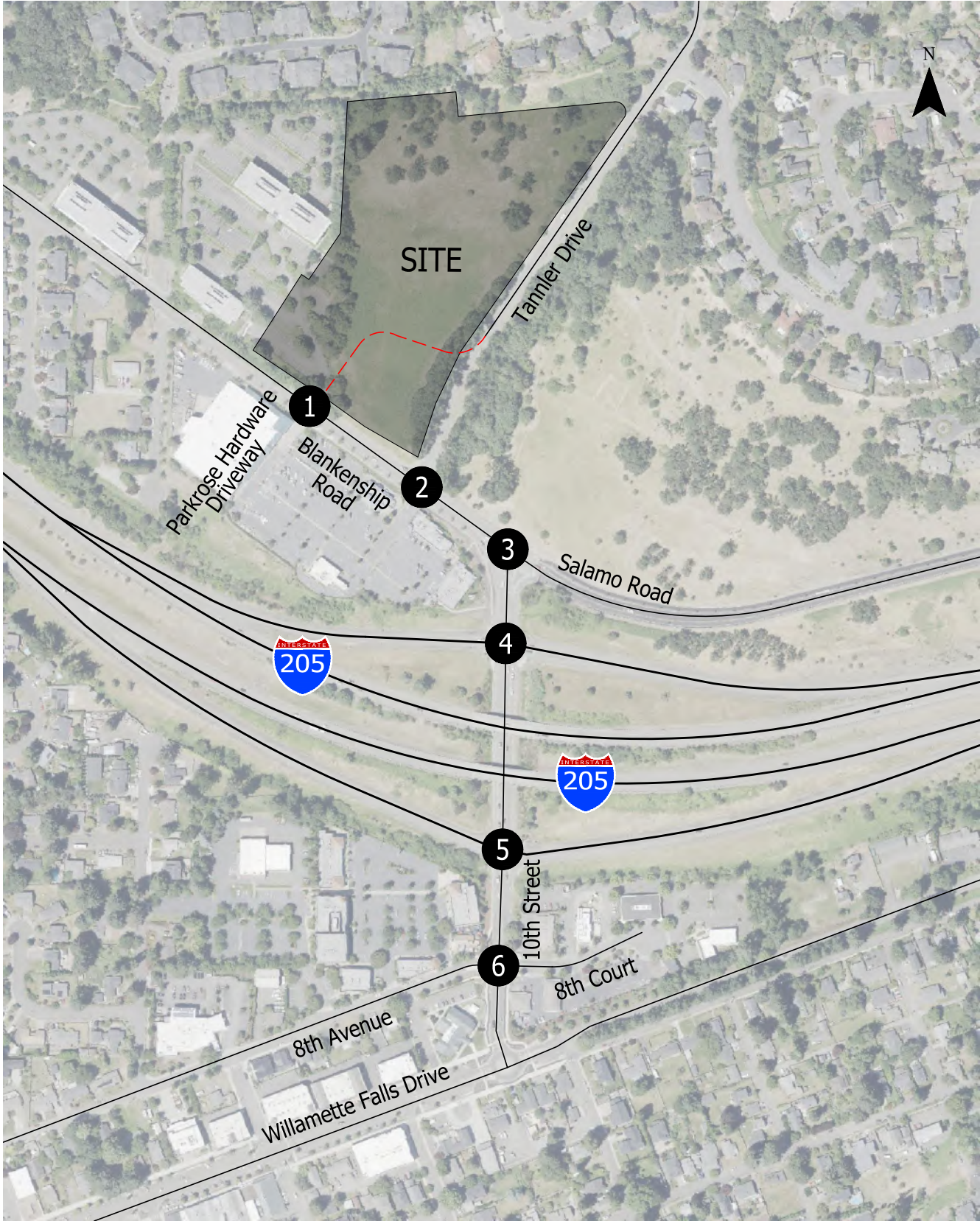
--- - FUTURE PROPOSED ROAD REALIGNMENT



Total 2029 Traffic Conditions  
Weekday AM Peak Hour  
West Linn, OR

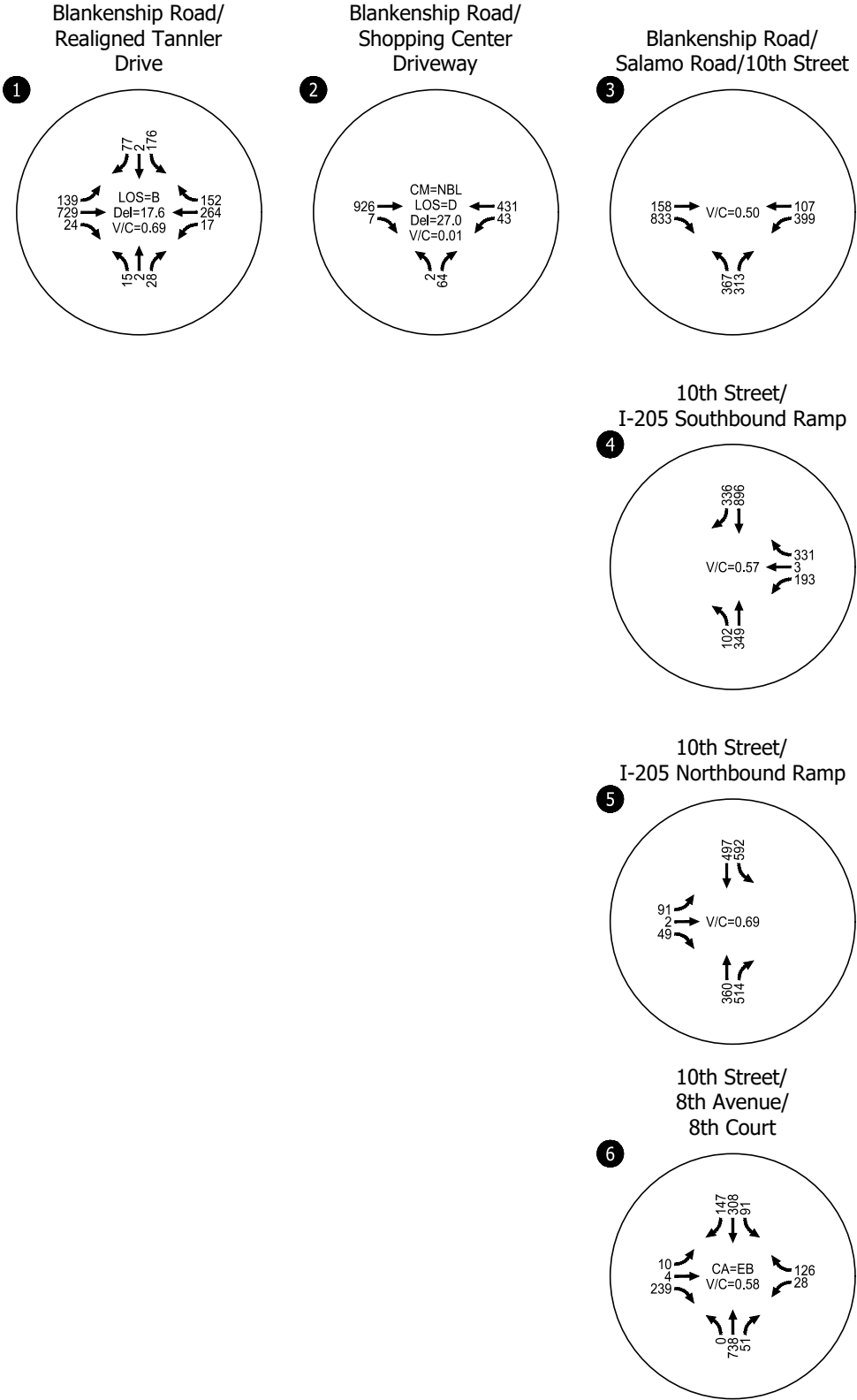
Figure  
11

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TWSC = TWO-WAY STOP CONTROL

--- - FUTURE PROPOSED ROAD REALIGNMENT



Total 2029 Traffic Conditions  
Weekday PM Peak Hour  
West Linn, OR

Figure  
12

**Table 9. Total AM Operations Summary by Movement at Blankenship Road/Shopping Center Driveway Intersection (assuming the Center Turn Lane is extended)**

| Intersection |                                               | Approach | V/C  | Delay | LOS | Mvmt | V/C  | Delay | LOS |
|--------------|-----------------------------------------------|----------|------|-------|-----|------|------|-------|-----|
| 2            | Blankenship Road/<br>Shopping Center Driveway | NB       | 0.17 | 16.4  | C   | NBL  | 0.02 | 22.3  | C   |
|              |                                               |          |      |       |     | NBR  | 0.15 | 16.0  | C   |
|              |                                               | EB       | 0    | 0     | A   | EBTR | 0.01 | 0.0   | A   |
|              |                                               | WB       | 0.14 | 2.3   | A   | WBL  | 0.14 | 9.7   | A   |
|              |                                               |          |      |       |     | WBT  | 0.00 | 0.0   | A   |

Where: LOS = Level of Service, V/C = Volume-to-Capacity ratio, NB = Northbound, SB = Southbound, EB = Eastbound, WB = Westbound, L = Left-turn, T= Through, R = Right-turn

**Table 10. Total PM Operations Summary by Movement at Blankenship Road/Shopping Center Driveway Intersection (assuming the Center Turn Lane is extended)**

| Intersection |                                               | Approach | V/C  | Delay | LOS | Mvmt | V/C  | Delay | LOS |
|--------------|-----------------------------------------------|----------|------|-------|-----|------|------|-------|-----|
| 2            | Blankenship Road/<br>Shopping Center Driveway | NB       | 0.31 | 26.4  | D   | NBL  | 0.01 | 27.0  | D   |
|              |                                               |          |      |       |     | NBR  | 0.30 | 26.4  | D   |
|              |                                               | EB       | 0    | 0     | A   | EBTR | 0.01 | 0.0   | A   |
|              |                                               | WB       | 0.07 | 1.0   | A   | WBL  | 0.07 | 10.7  | B   |
|              |                                               |          |      |       |     | WBT  | 0.00 | 0.0   | A   |

Where: LOS = Level of Service, V/C = Volume-to-Capacity ratio, NB = Northbound, SB = Southbound, EB = Eastbound, WB = Westbound, L = Left-turn, T= Through, R = Right-turn

## **SITE CIRCULATION AND PARKING**

Seven curb cuts are proposed along Tannler Drive to provide vehicle access to the proposed buildings. As shown in Figure 2, the four northern curb cuts form two on-site driveway loops that connect buildings and associated parking with Tannler Drive.

The existing Blankenship Road vehicle access to buildings within 205 Willamette Corporate Center will be relocated in conjunction with the Tannler Drive realignment. The new re-aligned office building access will connect to Tannler Drive approximately 220 feet north of Blankenship Road and will also serve Building 8 of the proposed development as well as surface parking for Buildings 8 and overflow parking for Building 9. The relocated driveway is not anticipated to be blocked by 95<sup>th</sup> percentile queues southbound queues on Tannler Drive during either the weekday AM or PM peak hours.

The City's TSP specifies access spacing standards for roads under its jurisdiction. Accordingly, private driveways need to be spaced 50 feet apart along neighborhood routes (i.e., Tannler Drive's classification). The City's Public Works Design Standards Section 5.0070 further requires that each driveway curb cut have a minimum width of 16 feet and a maximum width of 36 feet.

The proposed curb cuts are between 24 and 30 feet in width and are separated over 50 feet apart from each other and existing intersections. The proposed curb cuts and driveway locations meet City standards.

## **INTERSECTION AND SITE-ACCESS DRIVEWAY QUEUING ANALYSIS**

A 95<sup>th</sup>-percentile queuing analysis was performed in Vistro for study intersection #1 and #2, the two intersections that will be impacted directly by the proposed development.

Table 11 shows that the existing and future weekday AM and PM peak hour 95<sup>th</sup>-percentile queues can be accommodated assuming a peak 15-minute flow rate. Queues are rounded up to the nearest vehicle length. Each vehicle was assumed to occupy approximately 25 feet.

**Table 11. 95<sup>th</sup>-Percentile Queue Summary**

| Intersection                                  | Movement          | Storage (feet)     | 95 <sup>th</sup> -Percentile Queue (feet) |     |     |              |     |     | Adequate Storage Provided? |
|-----------------------------------------------|-------------------|--------------------|-------------------------------------------|-----|-----|--------------|-----|-----|----------------------------|
|                                               |                   |                    | AM Peak Hour                              |     |     | PM Peak Hour |     |     |                            |
|                                               |                   |                    | EX                                        | BK  | TT  | EX           | BK  | TT  |                            |
| Blankenship Road/<br>Realigned Tannler Drive  | NBLTR             | >100 <sup>1</sup>  | 25                                        | 25  | 50  | 50           | 75  | 50  | Yes                        |
|                                               | SBLT              | 220 <sup>2</sup>   | 25                                        | 25  | 200 | 25           | 25  | 175 | Yes                        |
|                                               | SBR               | 200 <sup>2</sup>   | N/A                                       | N/A | 50  | N/A          | N/A | 75  | Yes                        |
|                                               | EBL               | 325                | 0                                         | 0   | 50  | 25           | 25  | 100 | Yes                        |
|                                               | EBTR              | 450                | 0                                         | 0   | 200 | 0            | 0   | 400 | Yes                        |
|                                               | WBL               | 150 <sup>3</sup>   | 25                                        | 25  | 25  | 25           | 25  | 25  | Yes                        |
|                                               | WBTR              | 325                | 0                                         | 0   | 200 | 0            | 0   | 125 | Yes                        |
| Blankenship Road/<br>Shopping Center Driveway | NBTL <sup>6</sup> | >100 <sup>1</sup>  | 25                                        | 25  | 25  | 25           | 25  | 25  | Yes                        |
|                                               | NBR               | >100 <sup>1</sup>  | 25                                        | 25  | 25  | 25           | 25  | 50  | Yes                        |
|                                               | SBTL              | 1,250 <sup>4</sup> | 75                                        | 100 | N/A | 125          | 150 | N/A | Yes                        |
|                                               | SBR               | 1,250 <sup>4</sup> | 25                                        | 25  | N/A | 25           | 25  | N/A | Yes                        |
|                                               | EBL               | 150 <sup>5</sup>   | 25                                        | 25  | N/A | 25           | 25  | N/A | Yes                        |
|                                               | EBTR              | 325                | 0                                         | 0   | 0   | 0            | 0   | 0   | Yes                        |
|                                               | WBL               | 100                | 25                                        | 25  | 25  | 25           | 25  | 25  | Yes                        |
|                                               | WBTR <sup>7</sup> | 250                | 0                                         | 0   | 0   | 0            | 0   | 0   | Yes                        |

Where: EX = Existing Traffic Conditions, BK = Background Traffic Conditions, TT = Total Traffic Conditions, NB = Northbound, SB = Southbound, EB=Eastbound, WB = Westbound, L = left-turn lane, R = right-turn lane, TL = shared through/left, TR = shared through/right lane, LTR = shared left/through/right lane, N/A = Not applicable (does not exist).

<sup>1</sup> The existing driveway is connected to the business parking lot which offers additional storage. The storage length shown are proposed storage length as shown on the project site plan.

<sup>2</sup> Proposed distance to the full-access driveway to access the existing office building along Tannler Drive (205 Willamette Corporate Center).

<sup>3</sup> Movement shares a two-way left-turn lane with the Blankenship Road/Tannler Drive intersection.

<sup>4</sup> Existing southbound approach at the Blankenship Road/Tannler Drive intersection features a shared left/through/right lane and has approximately 1,250 feet of storage. Field observation shows existing southbound right-turning vehicles utilizing the additional lane width near the intersection as a flared right-turn lane, similar to as if a separate right-turn lane is provided at the approach. The 95<sup>th</sup> percentile queue for southbound right-turning vehicles under existing and background conditions are therefore calculated separately from through or left-turning vehicles.

<sup>5</sup> Movement shares a two-way left-turn lane with the Blankenship Road/Parkrose Hardware Driveway/Office Driveway intersection.

<sup>6</sup> Northbound through movement is not possible in full buildout traffic conditions due to Tannler Drive relocation. In full buildout traffic conditions, only northbound left-turn movement is evaluated.

<sup>7</sup> Westbound right-turn movement is not possible in full buildout traffic conditions due to Tannler Drive relocation. In full buildout traffic conditions, only westbound through movement is evaluated.

## TRAFFIC SIGNAL WARRANT EVALUATION

The *Manual on Uniform Traffic Control Devices* (MUTCD, Reference 10) identifies nine warrants for traffic signal installation. Table 12 identifies the results of a preliminary traffic signal warrant analysis for each of the nine MUTCD signal warrants at the Blankenship Road/realigned Tannler Drive intersection assuming the development is fully occupied.

**Table 12. MUTCD Signal Warrant Analyses**

| Warrant |                           | Signal Warrant Met? | Assessment                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|---------|---------------------------|---------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| #1      | 8-Hour Volume             | No                  | This warrant is intended for application where a large volume of intersecting traffic is the principal reason to consider a traffic control signal.                                                                                                                                                                                                                                                                                                                     |
| #2      | 4-Hour Volume             | Yes                 | This warrant is intended to be applied where the volume of intersecting traffic is the principal reason to consider installing a traffic control signal.                                                                                                                                                                                                                                                                                                                |
| #3      | Peak Hour                 | Not Applicable      | This warrant is intended for use at a location where traffic conditions are such that for a minimum of 1 hour of an average day, the minor street traffic suffers undue delay when entering or crossing the major street. This signal warrant shall be applied only in unusual cases, such as office complexes, manufacturing plants, industrial complexes, or high-occupancy vehicle facilities that attract or discharge large numbers of vehicles over a short time. |
| #4      | Pedestrian Volume         | No                  | This warrant is designed to be applied where pedestrians experience excessive delay trying to cross a street due to heavy traffic volumes. Pedestrian volumes alone are not expected to warrant signalization.                                                                                                                                                                                                                                                          |
| #5      | School Crossing           | Not Applicable      | This warrant is designed to be applied at locations where school children are trying to cross a major street and there are not adequate gaps in the major street traffic stream. There is no school in close proximity to justify signalization.                                                                                                                                                                                                                        |
| #6      | Coordinated Signal System | No                  | This warrant is intended to facilitate progressed traffic flow within a coordinated traffic signal system and allows for installation of traffic control signals at intersections where they would otherwise not be needed in order to maintain proper platooning of vehicles.                                                                                                                                                                                          |
| #7      | Crash Experience          | No                  | This warrant is intended for application where the severity and frequency of crashes are the principal reasons to consider traffic signal installation. The reported crash patterns did not identify a pattern of five or more crashes within a 12-month period that would warrant signalization.                                                                                                                                                                       |

| Warrant |                                    | Signal Warrant Met? | Assessment                                                                                                                                                                                                                                                                                                                                                                                     |
|---------|------------------------------------|---------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| #8      | Roadway Network                    | Not Applicable      | This warrant involves installing a traffic signal at an intersection to encourage concentration and organization of traffic flow on a roadway network. The warrant requires the intersection of two or more major routes that serve as the principal roadway network for through traffic flow. The intersecting streets are neighborhood routes or collectors, so this warrant does not apply. |
| #9      | Intersection Near a Grade Crossing | Not Applicable      | This warrant is intended for use at a location where the proximity to the intersection of a railroad grade crossing on an intersection approach controlled by a STOP or YIELD sign is the principal reason to consider installing a traffic signal.                                                                                                                                            |

As shown, a signal is anticipated to be warranted at this intersection based on the MUTCD warrant #2 upon buildout.

*Appendix H details the preliminary signal warrant #1 and #2 analysis under the full buildout traffic conditions.*

## RECOMMENDED BLANKENSHIP ROAD/REALIGNED TANNER DRIVE INTERSECTION MITIGATION

Based on the total traffic conditions assessment documented above, we recommend the signalized Blankenship Road/realigned Tanner Drive intersection be reconfigured and signalized in conjunction with site development to provide the following:

- Provide permissive left-turn signal phasing on the Blankenship Road eastbound-westbound approaches and split phasing on the northbound/southbound approaches.
- Re-stripe the existing Blankenship Road two-way left-turn lane to separate left-turn lanes with at least 100 feet of storage on both the eastbound and westbound intersection approaches.
- Construct a southbound right-turn lane with at least 75 feet of storage and a separate shared through/left-turn lane on the relocated Tanner Drive at its intersection with Blankenship Road.

## Conclusions and Recommendations

As discussed herein, the proposed uses can be constructed and occupied while maintaining acceptable operations at the study intersections and access points, assuming provision of the following recommendations in conjunction with site development (subject to City and ODOT approval).

- Collaborate with the City to identify funding to construct a traffic signal at the relocated Blankenship Road/Tannler Drive intersection prior to the occupancy of the proposed homes or retail space. As part of the signal implementation, the following is recommended:
  - Provide permissive left-turn signal phasing on the Blankenship Road eastbound-westbound approaches and split phasing on the northbound/southbound approaches.
  - Re-stripe the existing Blankenship Road two-way left-turn lane to separate left-turn lanes with at least 100 feet of storage on both the eastbound and westbound intersection approaches.
  - Construct a southbound right-turn lane with at least 75 feet of storage and a separate shared through/left-turn lane on the relocated Tannler Drive at its intersection with Blankenship Road.
- Extend the existing two-way left turn lane along Blankenship Road to the southeastern Shopping Center Driveway.
- Place and maintain all vegetation, landscaping, and above ground objects adjacent to the site access points along the public street site frontage, and throughout the site to provide adequate minimum sight distance in accordance with the City requirements.

## References

1. City of West Linn. *West Linn Transportation System Plan*. 2016.
2. Transportation Research Board. *Highway Capacity Manual, 7<sup>th</sup> Edition*. 2022.
3. City of West Linn. *City of West Linn Public Works Design Standards*. 2025.
4. ODOT. *1999 Oregon Highway Plan*. 2023.
5. West Linn-Wilsonville School District. *West Linn-Wilsonville School Locator*. 2025.  
<https://maulfoster.maps.arcgis.com/apps/instant/lookup/index.html?appid=42f61a29e36f4e7c92484539524b42e4>.
6. West Linn-Wilsonville School District. *West Linn-Wilsonville School Locator – BTF Recommendation (2026–2027)*. 2026.  
<https://maulfoster.maps.arcgis.com/apps/instant/lookup/index.html?appid=4ab35a8e91064fdc928d91bc17fe043c>.
7. ODOT. *Analysis Procedures Manual*. 2025.
8. City of West Linn. *City of West Linn Capital Improvement Plan 2026-2031*. 2025
9. Institute of Transportation Engineers. *Trip Generation Manual, 12<sup>th</sup> Edition*. 2025.
10. U.S Department of Transportation Federal Highway Administration. *Manual on Uniform Traffic Control Devices*. 11<sup>th</sup> Edition. 2023.

## Appendix

- A. Scoping Memo
- B. Study Intersection Traffic Count Data
- C. Existing Traffic Conditions Analysis Worksheets
- D. ODOT Crash Data
- E. Year 2029 Background Traffic Conditions Analysis Worksheets
- F. Existing Network Trip Reassignment
- G. Year 2029 Full Buildout Traffic Conditions Analysis Worksheets
- H. Signal Warrant Analysis

## Appendix A

### Scoping Memo

# SCOPING MEMORANDUM

September 24, 2025

Project# 32068

To: Erich Lais, PE City of West Linn  
John Russell, PE & Marah Danielson, ODOT  
Chad Encinas, Mill Creek

From: Julia Kuhn, PE, Jackson Lynch, Edward Guo & Nick Polenske, PE

RE: Tannler Drive Development Traffic Impact Analysis Scope – Updated with ODOT Comments

Mill Creek Residential Trust is proposing to develop approximately 320 apartments and 15,000 square feet of neighborhood retail space at the site located north of Blankenship Road along Tannler Drive. Site access is proposed via Blankenship Road and a realigned Tannler Drive.

Per the City of West Linn's Community Development Code (CDC) Section 85.170(B)(2)(d), a Traffic Impact Analysis (TIA) is required to support the development given the site trip generation exceeds 250 average daily trips.

The remainder of this memorandum summarizes the scope of the traffic impact analysis (TIA) to support the site uses. The memorandum includes the study area, estimated trip generation, estimated trip distribution pattern, and the proposed analysis methodology.

## PROJECT DESCRIPTION

The development plan envisions up to 320 apartments with associated on-site amenities as well as 15,000 square feet of retail. Consistent with the City's Transportation System Plan (TSP), Tannler Drive will be realigned from its current intersection with Blankenship Road to a location approximately 350 feet to the west opposite the Parkrose Hardware access. Along the realigned Tannler Drive, six access points are proposed to serve the site. No access is proposed to Blankenship Road.

Full occupancy of the site is anticipated in February 2029. A preliminary site plan is provided in Appendix A.

## TRIP GENERATION

Table 1 shows the trip generation estimates prepared for the proposed uses using the *Trip Generation Manual, 11th Edition*, as published by the Institute of Transportation Engineers (ITE). The fitted curve equations were used for the housing and retail land uses, consistent with ITE methodology. A 34 percent pass-by rate was assumed for the retail trips.

**Table 1. Trip Generation Estimate**

| Land Use                    | ITE Code | Size         | Daily Trips | AM Peak Hour Trips |    |     | PM Peak Hour Trips |     |     |
|-----------------------------|----------|--------------|-------------|--------------------|----|-----|--------------------|-----|-----|
|                             |          |              |             | Total              | In | Out | Total              | In  | Out |
| Mid-Rise Housing            | 221      | 320 units    | 1,480       | 129                | 30 | 99  | 125                | 76  | 49  |
| Retail < 40,000 square feet | 822      | 15,000 sq ft | 863         | 38                 | 23 | 15  | 104                | 52  | 52  |
| Pass-by Trips (34%)         |          |              | 293         | 13                 | 8  | 5   | 35                 | 18  | 17  |
| Net New Retail              |          |              | 570         | 25                 | 15 | 10  | 69                 | 34  | 35  |
| Total Site Trips            |          |              | 2,343       | 167                | 53 | 114 | 229                | 128 | 101 |
| Net New Site Trips          |          |              | 2,050       | 154                | 45 | 109 | 194                | 110 | 84  |

## TRIP DISTRIBUTION/ASSIGNMENT

Based on the location of employment and retail areas, the trips shown in Table 1 are expected to follow the estimated trip distribution pattern shown below:

- 15 percent to/from the north via Tannler Drive;
- 25 percent to/from the south via Tannler Drive and 10th Street;
- 35 percent to/from the east via Interstate 205; and,
- 25 percent to/from the west via Interstate 205.

## STUDY INTERSECTIONS

The TIA study area, per CDC Section 85.170(B)(2)(d), need to include all points of access onto the public street system, all intersections of arterials, collectors, and neighborhoods routes within 1,000 linear feet from all points of access onto the public street system, and all intersections where the traffic generated by the proposed development exceeds five percent of existing AM or PM peak hour total intersection traffic volume.

In addition, Oregon Department of Transportation (ODOT) may require more analysis when intersections under its jurisdiction receive more than 50 peak hour trips as the result of a proposed land use action.

Accordingly, we propose to study the following locations:

- Blankenship Road/Tannler Drive;
- Blankenship Road/Salamo Road/10th Street;
- 10th Street/Interstate 205 Southbound Ramp;
- 10th Street/Interstate 205 Northbound Ramp; and,
- 10th Street/8<sup>th</sup> Avenue/8<sup>th</sup> Court.

## TRAFFIC VOLUMES & ANALYSIS PERIODS

Traffic counts will be collected on in the fall 2025 on a typical weekday when schools are in-session during the weekday AM (7 – 9 AM) and PM (4 – 6 PM) peak hours. We will assess existing year 2025, future year 2029 background, and future year 2029 total intersection operations during weekday AM and PM peak hours.

## **INTERSECTION PERFORMANCE METRICS**

Per the City's Public Works Design Standards (PWDS) Section 5.0014(G), The City of West Linn requires all intersections within the study area to maintain an acceptable level of service (LOS) upon buildout of the proposed land use action. The minimum acceptable LOS for signalized intersections is "D" or better for the intersection as a whole. No approach should operate at worse than LOS "E", and a volume-to-capacity (V/C) ratio not higher than 1.0 is required for the sum of critical movements. The minimum acceptable LOS for non-signalized intersections is "E" or better for the poorest operating approach. No movement serving more than 20 peak hour vehicles should operate at worse than LOS "E". LOS "F" will be tolerated for minor movements during a peak hour.

Several of the proposed intersections are under the jurisdiction of the Oregon Department of Transportation (ODOT). The LOS standards of ODOT intersections are specified in the Oregon Highway Plan. Accordingly, the V/C ratio target is 0.99 for the first as well as the second hour during the two-hour peak operating conditions.

## **BACKGROUND AND IN-PROCESS DEVELOPMENTS**

We propose applying a two-percent annual background growth rate to the 2025 volumes to account for general regional growth through 2029. Would you please provide us with any in-process developments to include in our study?

## **SAFETY**

We will obtain and review the most recent five-year crash records at the existing study intersections from ODOT. Using the ODOT data, we will calculate intersection crash rates and compare them to statewide crash rate performance thresholds. For this analysis, the critical crash rate will be calculated and compared to the 90<sup>th</sup> percentile crash rates.

## **MULTIMODAL FACILITIES**

We will document the availability of pedestrian and bicycle facilities as well as the adjacent transit service.

We note that the City's TSP identifies several bike and pedestrian projects near the project site. The projects include installing sidewalks on the north side of Blankenship Road, installing sidewalks along Tannler Drive up to Greene Street, and installing two-way cycle tracks on the north side of Salamo Road from Tannler Drive to Barrington Drive. Tannler Drive and Blankenship Road in the proposed project area are also listed on the TSP's Trails Master Plan as on-street connection trails.

## **INTERSECTION GEOMETRY AND LANE CONFIGURATION EVALUATION**

As part of the TIA, we will evaluate the traffic control and lane geometry needs at the realigned Tannler Drive/Blankenship Road intersection.

## **TIA SCOPE**

Per PWDS 5.0014(C), the TIA will include following items:

- Table of Contents
- Executive Summary
- Introduction and Description of Proposed Development
- Existing Conditions (2025)
- Background Conditions (2029)
- Full Buildout Traffic Conditions, Impacts, and Mitigation (2029)
- Conclusions and Recommendations
- Appendices

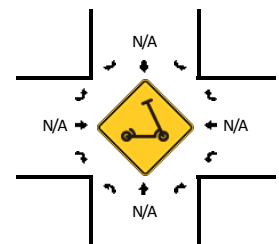
## **NEXT STEPS**

We trust this memorandum provides adequate documentation of the key assumptions associated with the TIA for the proposed Mill Creek development. We look forward to working with you on this project.

## Appendix B

### Study Intersection Traffic Count Data

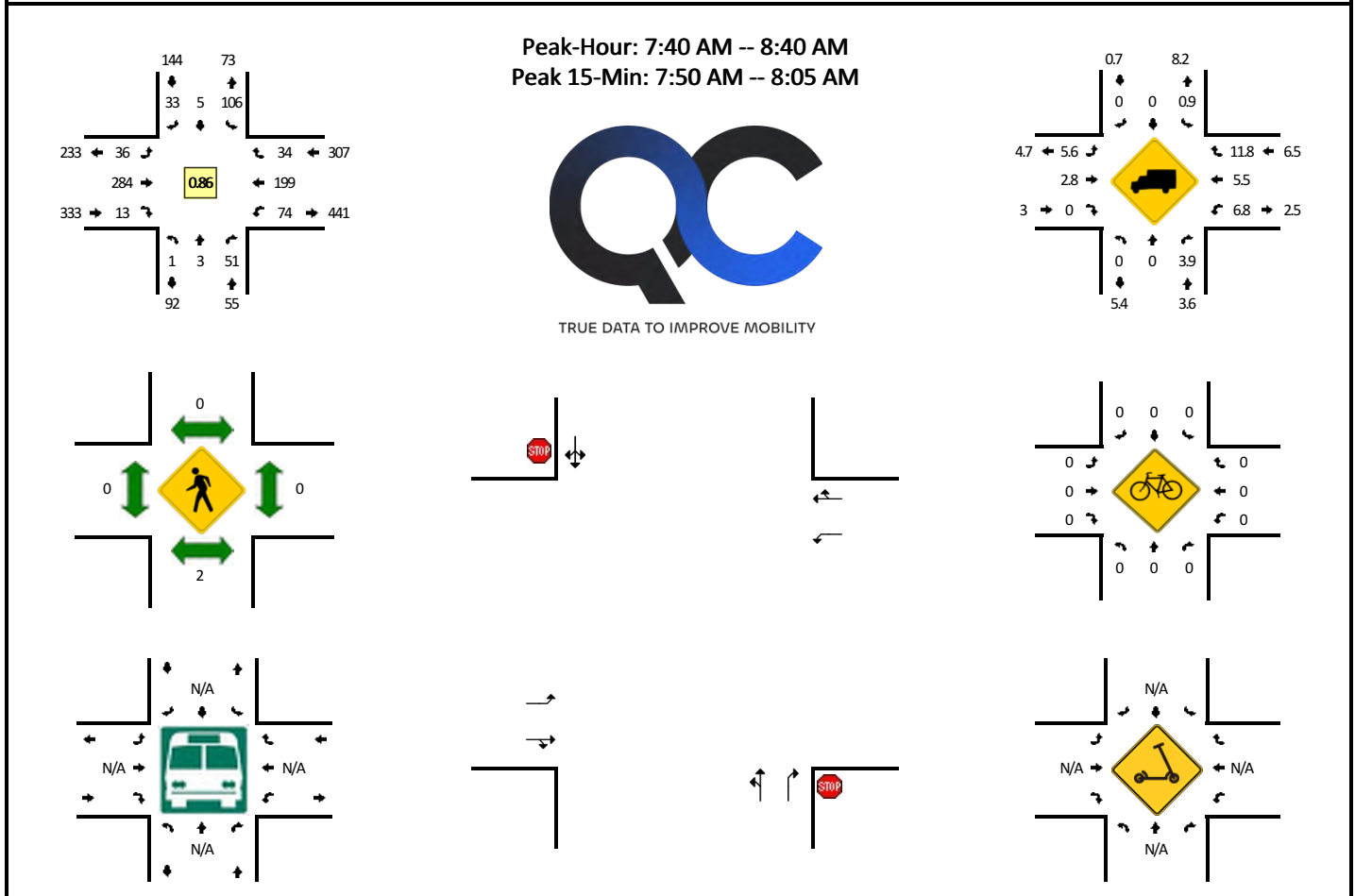
QC JOB #: 17369407  
DATE: Wed, Dec 10 2025



*Comments:*

**LOCATION:** Tannler Dr -- Blankenship Rd  
**CITY/STATE:** West Linn, OR

**QC JOB #:** 17369409  
**DATE:** Wed, Dec 10 2025



| 5-Min Count Period Beginning At | Tannler Dr (Northbound) |      |       |   | Tannler Dr (Southbound) |      |       |   | Blankenship Rd (Eastbound) |      |       |   | Blankenship Rd (Westbound) |      |       |   | Total | Hourly Totals |
|---------------------------------|-------------------------|------|-------|---|-------------------------|------|-------|---|----------------------------|------|-------|---|----------------------------|------|-------|---|-------|---------------|
|                                 | Left                    | Thru | Right | U | Left                    | Thru | Right | U | Left                       | Thru | Right | U | Left                       | Thru | Right | U |       |               |
| 7:40 AM                         | 0                       | 0    | 5     | 0 | 13                      | 0    | 3     | 0 | 4                          | 23   | 3     | 0 | 6                          | 19   | 2     | 0 | 78    |               |
| 7:45 AM                         | 0                       | 0    | 3     | 0 | 9                       | 1    | 3     | 0 | 3                          | 34   | 0     | 0 | 6                          | 14   | 0     | 0 | 73    |               |
| 7:50 AM                         | 0                       | 0    | 6     | 0 | 8                       | 0    | 7     | 0 | 1                          | 22   | 1     | 0 | 8                          | 16   | 8     | 0 | 77    |               |
| 7:55 AM                         | 0                       | 0    | 4     | 0 | 6                       | 1    | 5     | 0 | 3                          | 31   | 1     | 0 | 6                          | 25   | 6     | 0 | 88    |               |
| 8:00 AM                         | 0                       | 0    | 5     | 0 | 11                      | 1    | 2     | 0 | 5                          | 29   | 3     | 0 | 6                          | 15   | 2     | 0 | 79    |               |
| 8:05 AM                         | 0                       | 0    | 4     | 0 | 12                      | 0    | 3     | 0 | 5                          | 22   | 1     | 0 | 6                          | 19   | 2     | 0 | 74    |               |
| 8:10 AM                         | 0                       | 0    | 7     | 0 | 7                       | 0    | 1     | 0 | 3                          | 26   | 0     | 0 | 6                          | 16   | 1     | 0 | 67    |               |
| 8:15 AM                         | 0                       | 0    | 5     | 0 | 14                      | 1    | 0     | 0 | 3                          | 29   | 2     | 0 | 7                          | 16   | 2     | 0 | 79    |               |
| 8:20 AM                         | 0                       | 2    | 4     | 0 | 6                       | 1    | 4     | 0 | 3                          | 16   | 1     | 0 | 4                          | 17   | 1     | 0 | 59    |               |
| 8:25 AM                         | 0                       | 1    | 2     | 0 | 11                      | 0    | 3     | 0 | 1                          | 20   | 0     | 0 | 7                          | 12   | 5     | 0 | 62    |               |
| 8:30 AM                         | 0                       | 0    | 5     | 0 | 5                       | 0    | 0     | 0 | 1                          | 16   | 1     | 0 | 6                          | 19   | 3     | 0 | 56    |               |
| 8:35 AM                         | 1                       | 0    | 1     | 0 | 4                       | 0    | 2     | 0 | 4                          | 16   | 0     | 0 | 6                          | 11   | 2     | 0 | 47    | 839           |
| Peak 15-Min Flowrates           | Northbound              |      |       |   | Southbound              |      |       |   | Eastbound                  |      |       |   | Westbound                  |      |       |   | Total |               |
|                                 | Left                    | Thru | Right | U | Left                    | Thru | Right | U | Left                       | Thru | Right | U | Left                       | Thru | Right | U |       |               |
| All Vehicles                    | 0                       | 0    | 60    | 0 | 100                     | 8    | 56    | 0 | 36                         | 328  | 20    | 0 | 80                         | 224  | 64    | 0 | 976   |               |
| Heavy Trucks                    | 0                       | 0    | 4     |   | 0                       | 0    | 0     |   | 4                          | 4    | 0     |   | 8                          | 20   | 8     |   | 48    |               |
| Buses                           |                         |      |       |   |                         |      |       |   |                            |      |       |   |                            |      |       |   |       |               |
| Pedestrians                     |                         | 0    |       |   |                         | 0    |       |   |                            | 0    |       |   |                            | 0    |       |   | 0     |               |
| Bicycles                        | 0                       | 0    | 0     |   | 0                       | 0    | 0     |   | 0                          | 0    | 0     |   | 0                          | 0    | 0     |   | 0     |               |
| Scooters                        |                         |      |       |   |                         |      |       |   |                            |      |       |   |                            |      |       |   |       |               |

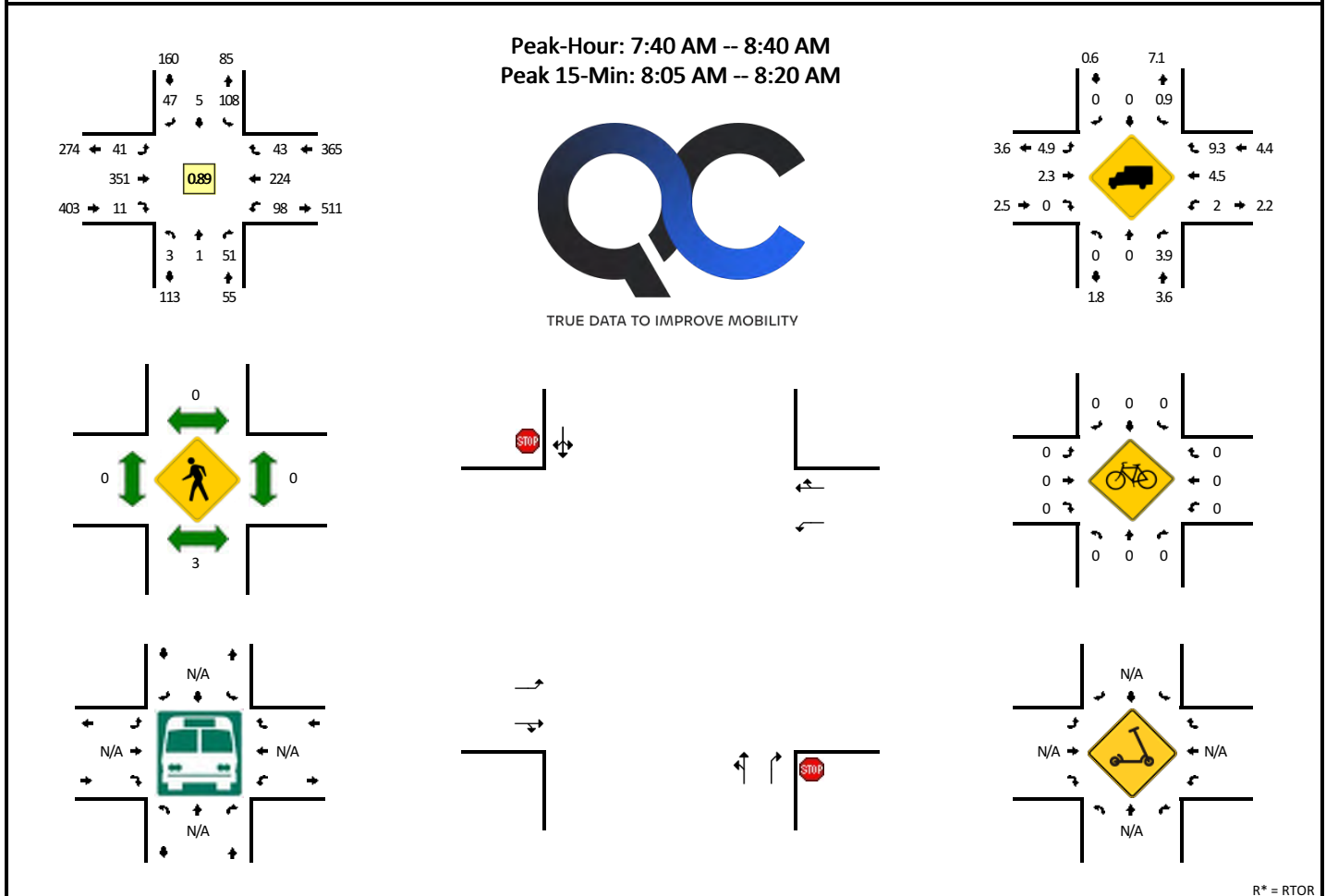
**Comments:**

Report generated on 1/28/2026 4:16 PM

SOURCE: Quality Counts, LLC (<http://www.qualitycounts.net>) 1-877-580-2212

**LOCATION:** Tannler Dr -- Blankenship Rd  
**CITY/STATE:** West Linn, OR

**QC JOB #:** 17268001  
**DATE:** Tue, Sep 30 2025



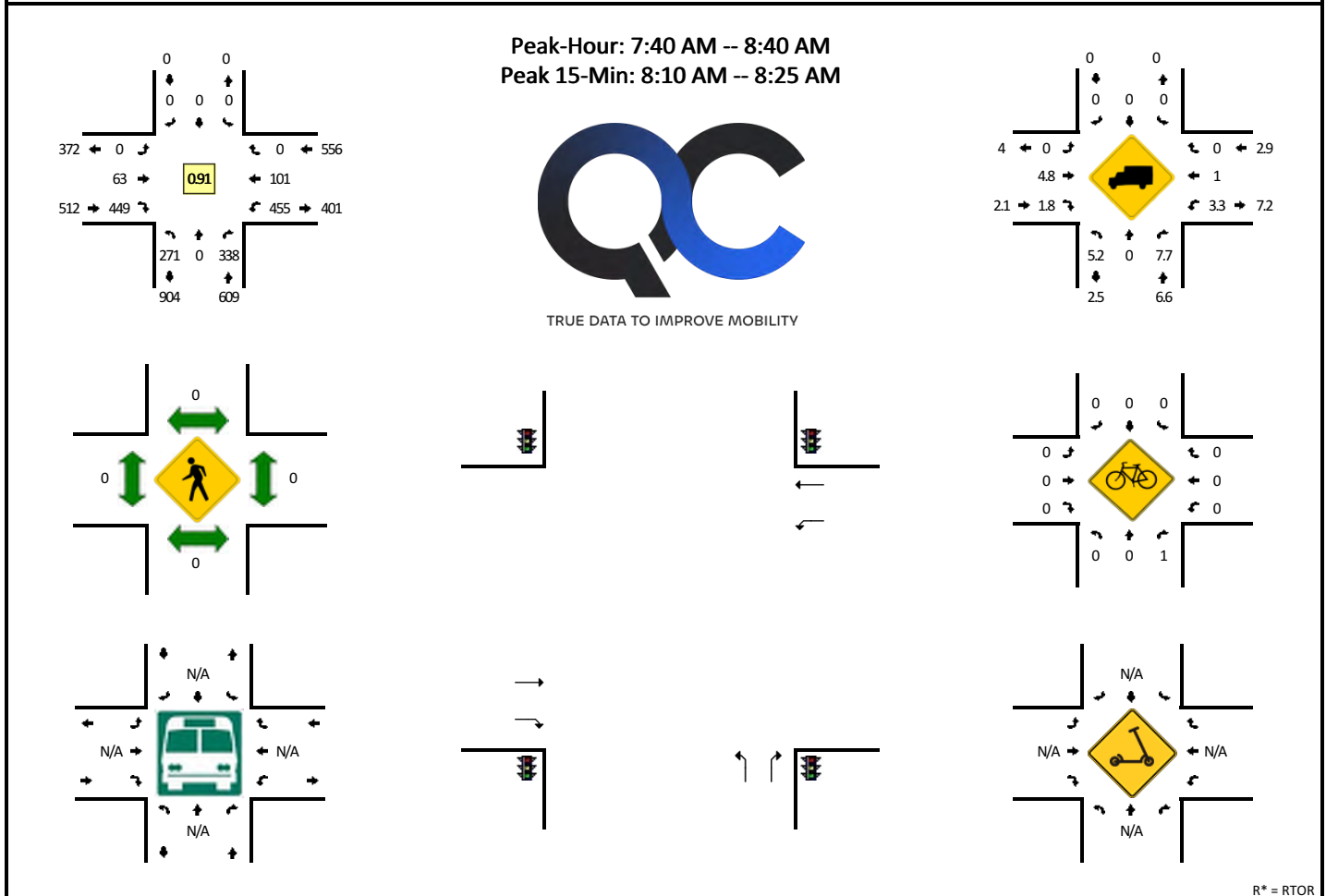
R\* = RTOR

| 5-Min Count Period<br>Beginning At | Tannler Dr (Northbound) |      |       |   |    | Tannler Dr (Southbound) |      |       |   |    | Blankenship Rd (Eastbound) |      |       |   |    | Blankenship Rd (Westbound) |      |       |   |    | Total | Hourly Totals |
|------------------------------------|-------------------------|------|-------|---|----|-------------------------|------|-------|---|----|----------------------------|------|-------|---|----|----------------------------|------|-------|---|----|-------|---------------|
|                                    | Left                    | Thru | Right | U | R* | Left                    | Thru | Right | U | R* | Left                       | Thru | Right | U | R* | Left                       | Thru | Right | U | R* |       |               |
| 7:00 AM                            | 0                       | 0    | 4     | 0 | 0  | 9                       | 0    | 0     | 0 | 0  | 3                          | 18   | 0     | 0 | 0  | 4                          | 19   | 0     | 0 | 0  | 57    |               |
| 7:05 AM                            | 0                       | 0    | 3     | 0 | 0  | 9                       | 0    | 1     | 0 | 0  | 1                          | 23   | 1     | 0 | 0  | 3                          | 7    | 3     | 0 | 0  | 51    |               |
| 7:10 AM                            | 0                       | 0    | 3     | 0 | 0  | 5                       | 0    | 0     | 0 | 0  | 5                          | 20   | 0     | 0 | 0  | 3                          | 10   | 4     | 0 | 0  | 50    |               |
| 7:15 AM                            | 0                       | 0    | 3     | 0 | 0  | 5                       | 1    | 0     | 0 | 0  | 4                          | 24   | 1     | 0 | 0  | 8                          | 14   | 0     | 0 | 0  | 60    |               |
| 7:20 AM                            | 0                       | 1    | 5     | 0 | 0  | 4                       | 0    | 5     | 0 | 0  | 1                          | 19   | 0     | 0 | 0  | 3                          | 18   | 0     | 0 | 0  | 56    |               |
| 7:25 AM                            | 0                       | 0    | 6     | 0 | 0  | 4                       | 0    | 0     | 0 | 0  | 1                          | 21   | 0     | 0 | 0  | 5                          | 16   | 0     | 0 | 0  | 53    |               |
| 7:30 AM                            | 0                       | 0    | 4     | 0 | 0  | 11                      | 0    | 4     | 0 | 0  | 3                          | 28   | 0     | 0 | 0  | 3                          | 17   | 4     | 0 | 0  | 74    |               |
| 7:35 AM                            | 0                       | 0    | 1     | 0 | 0  | 3                       | 0    | 5     | 0 | 0  | 0                          | 35   | 0     | 0 | 0  | 8                          | 16   | 1     | 1 | 0  | 70    |               |
| 7:40 AM                            | 0                       | 0    | 2     | 0 | 0  | 15                      | 0    | 3     | 0 | 0  | 3                          | 44   | 0     | 0 | 0  | 3                          | 12   | 4     | 0 | 0  | 86    |               |
| 7:45 AM                            | 1                       | 1    | 3     | 0 | 0  | 8                       | 0    | 5     | 0 | 0  | 4                          | 28   | 1     | 0 | 0  | 5                          | 23   | 7     | 0 | 0  | 86    |               |
| 7:50 AM                            | 0                       | 0    | 1     | 0 | 0  | 10                      | 0    | 6     | 0 | 0  | 3                          | 20   | 1     | 0 | 0  | 6                          | 17   | 4     | 0 | 0  | 68    |               |
| 7:55 AM                            | 0                       | 0    | 9     | 0 | 0  | 4                       | 0    | 4     | 0 | 0  | 3                          | 15   | 1     | 0 | 0  | 6                          | 25   | 4     | 0 | 0  | 71    | 782           |
| 8:00 AM                            | 0                       | 0    | 5     | 0 | 0  | 9                       | 0    | 6     | 0 | 0  | 5                          | 24   | 1     | 0 | 0  | 13                         | 25   | 3     | 0 | 0  | 91    | 816           |
| 8:05 AM                            | 0                       | 0    | 3     | 0 | 0  | 10                      | 1    | 4     | 0 | 0  | 1                          | 34   | 1     | 0 | 0  | 13                         | 14   | 5     | 0 | 0  | 86    | 851           |
| 8:10 AM                            | 1                       | 0    | 9     | 0 | 0  | 14                      | 1    | 4     | 0 | 0  | 4                          | 33   | 0     | 0 | 0  | 6                          | 15   | 2     | 0 | 0  | 89    | 890           |
| 8:15 AM                            | 0                       | 0    | 5     | 0 | 0  | 6                       | 1    | 4     | 0 | 0  | 7                          | 47   | 1     | 0 | 0  | 7                          | 17   | 4     | 1 | 0  | 100   | 930           |
| 8:20 AM                            | 0                       | 0    | 5     | 0 | 0  | 11                      | 0    | 5     | 0 | 0  | 2                          | 25   | 0     | 0 | 0  | 12                         | 13   | 2     | 0 | 0  | 75    | 949           |
| 8:25 AM                            | 0                       | 0    | 3     | 0 | 0  | 8                       | 0    | 3     | 0 | 0  | 2                          | 24   | 3     | 0 | 0  | 9                          | 23   | 1     | 0 | 0  | 76    | 972           |
| 8:30 AM                            | 1                       | 0    | 2     | 0 | 0  | 6                       | 2    | 3     | 0 | 0  | 3                          | 30   | 1     | 0 | 0  | 9                          | 15   | 4     | 0 | 0  | 76    | 974           |
| 8:35 AM                            | 0                       | 0    | 4     | 0 | 0  | 7                       | 0    | 0     | 0 | 0  | 4                          | 27   | 1     | 0 | 0  | 8                          | 25   | 3     | 0 | 0  | 79    | 983           |
| 8:40 AM                            | 1                       | 0    | 2     | 0 | 0  | 6                       | 0    | 4     | 0 | 0  | 2                          | 28   | 0     | 0 | 0  | 7                          | 22   | 3     | 0 | 0  | 75    | 972           |
| 8:45 AM                            | 0                       | 0    | 4     | 0 | 0  | 9                       | 0    | 2     | 0 | 0  | 2                          | 22   | 0     | 0 | 0  | 7                          | 26   | 1     | 0 | 0  | 73    | 959           |
| 8:50 AM                            | 0                       | 0    | 2     | 0 | 0  | 7                       | 0    | 9     | 0 | 0  | 2                          | 15   | 1     | 0 | 0  | 7                          | 29   | 5     | 1 | 0  | 78    | 969           |
| 8:55 AM                            | 0                       | 1    | 3     | 0 | 0  | 9                       | 2    | 8     | 0 | 0  | 1                          | 28   | 1     | 0 | 0  | 5                          | 24   | 3     | 1 | 0  | 86    | 984           |
| Peak 15-Min Flowrates              | Northbound              |      |       |   |    | Southbound              |      |       |   |    | Eastbound                  |      |       |   |    | Westbound                  |      |       |   |    | Total |               |
|                                    | Left                    | Thru | Right | U | R* | Left                    | Thru | Right | U | R* | Left                       | Thru | Right | U | R* | Left                       | Thru | Right | U | R* |       |               |
| All Vehicles                       | 4                       | 0    | 68    | 0 | 0  | 120                     | 12   | 48    | 0 | 0  | 48                         | 456  | 8     | 0 | 0  | 104                        | 184  | 44    | 4 | 0  | 1100  |               |
| Heavy Trucks                       | 0                       | 0    | 0     |   |    | 0                       | 0    | 0     |   |    | 4                          | 20   | 0     |   |    | 0                          | 8    | 0     |   |    | 32    |               |
| Buses                              |                         |      |       |   |    |                         |      |       |   |    |                            |      |       |   |    |                            |      |       |   |    |       |               |
| Pedestrians                        |                         | 4    |       |   |    |                         | 0    |       |   |    |                            | 0    |       |   |    |                            | 0    |       |   |    | 4     |               |
| Bicycles                           | 0                       | 0    | 0     |   |    | 0                       | 0    | 0     |   |    | 0                          | 0    | 0     |   |    | 0                          | 0    | 0     |   |    | 0     |               |
| Scoters                            |                         |      |       |   |    |                         |      |       |   |    |                            |      |       |   |    |                            |      |       |   |    |       |               |

**Comments:**

**LOCATION:** 10th St -- Blankenship Rd/Salamo Rd  
**CITY/STATE:** West Linn, OR

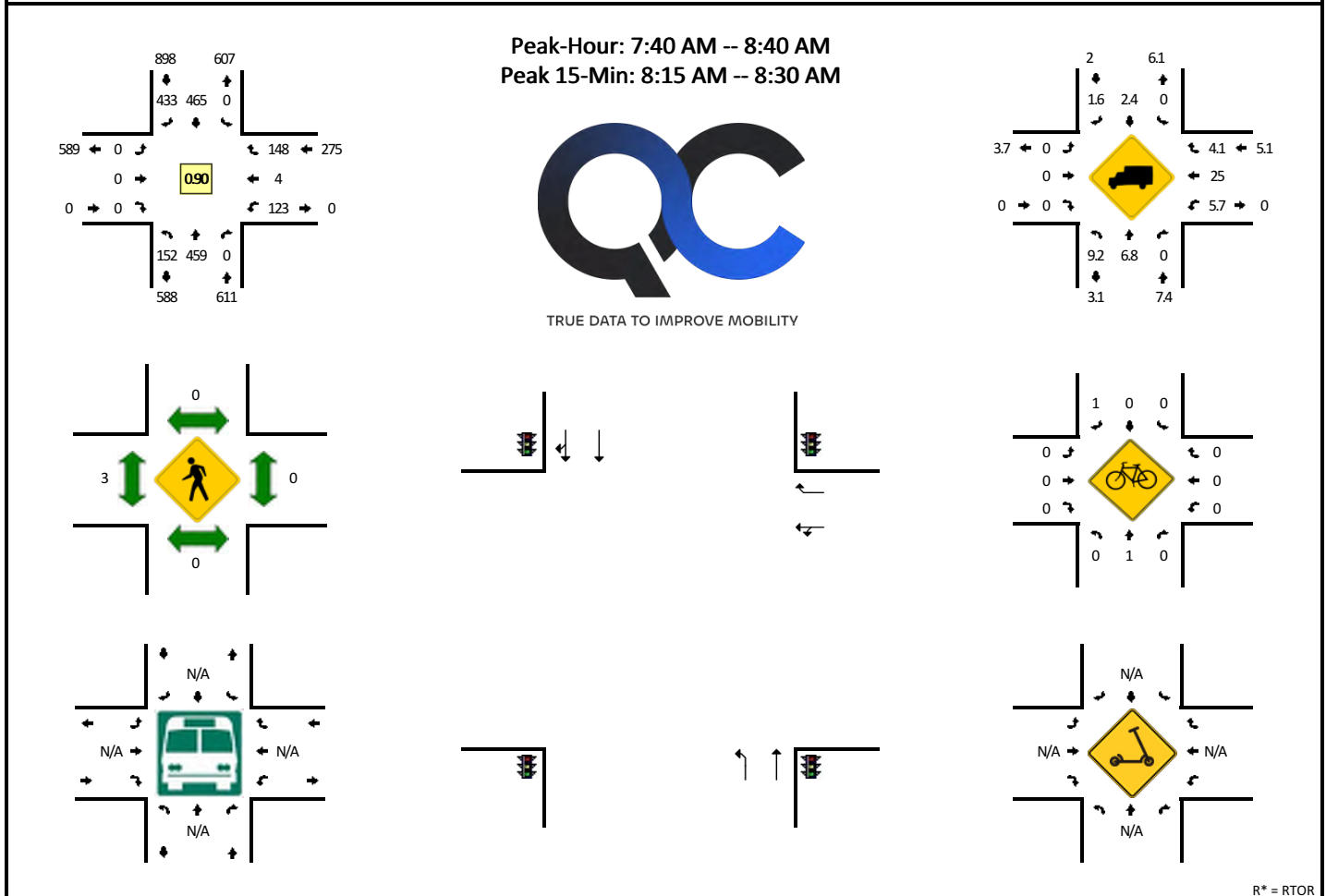
**QC JOB #:** 17268003  
**DATE:** Tue, Sep 30 2025



R\* = RTOR

| 5-Min Count Period<br>Beginning At | 10th St<br>(Northbound) |      |       |   |    | 10th St<br>(Southbound) |      |       |   |    | Blankenship Rd/Salamo Rd<br>(Eastbound) |      |       |   |    | Blankenship Rd/Salamo Rd<br>(Westbound) |      |       |   |    | Total | Hourly<br>Totals |      |
|------------------------------------|-------------------------|------|-------|---|----|-------------------------|------|-------|---|----|-----------------------------------------|------|-------|---|----|-----------------------------------------|------|-------|---|----|-------|------------------|------|
|                                    | Left                    | Thru | Right | U | R* | Left                    | Thru | Right | U | R* | Left                                    | Thru | Right | U | R* | Left                                    | Thru | Right | U | R* |       |                  |      |
| 7:00 AM                            | 21                      | 0    | 17    | 0 | 0  | 0                       | 0    | 0     | 0 | 0  | 0                                       | 4    | 23    | 0 | 4  | 31                                      | 1    | 0     | 0 | 0  | 101   |                  |      |
| 7:05 AM                            | 9                       | 0    | 18    | 0 | 0  | 0                       | 0    | 0     | 0 | 0  | 0                                       | 0    | 27    | 0 | 6  | 36                                      | 2    | 0     | 0 | 0  | 98    |                  |      |
| 7:10 AM                            | 16                      | 0    | 24    | 0 | 0  | 0                       | 0    | 0     | 0 | 0  | 0                                       | 1    | 25    | 0 | 1  | 33                                      | 2    | 0     | 0 | 0  | 102   |                  |      |
| 7:15 AM                            | 18                      | 0    | 19    | 0 | 0  | 0                       | 0    | 0     | 0 | 0  | 0                                       | 3    | 27    | 0 | 5  | 33                                      | 4    | 0     | 0 | 0  | 109   |                  |      |
| 7:20 AM                            | 17                      | 0    | 25    | 0 | 0  | 0                       | 0    | 0     | 0 | 0  | 0                                       | 2    | 23    | 0 | 3  | 26                                      | 4    | 0     | 0 | 0  | 100   |                  |      |
| 7:25 AM                            | 16                      | 0    | 15    | 0 | 0  | 0                       | 0    | 0     | 0 | 0  | 0                                       | 2    | 27    | 0 | 3  | 45                                      | 9    | 0     | 0 | 0  | 117   |                  |      |
| 7:30 AM                            | 19                      | 0    | 14    | 0 | 0  | 0                       | 0    | 0     | 0 | 0  | 0                                       | 2    | 37    | 0 | 1  | 34                                      | 4    | 0     | 0 | 0  | 111   |                  |      |
| 7:35 AM                            | 16                      | 0    | 18    | 0 | 0  | 0                       | 0    | 0     | 0 | 0  | 0                                       | 2    | 35    | 0 | 4  | 39                                      | 10   | 0     | 0 | 0  | 124   |                  |      |
| 7:40 AM                            | 11                      | 0    | 18    | 0 | 1  | 0                       | 0    | 0     | 0 | 0  | 0                                       | 9    | 45    | 0 | 3  | 38                                      | 9    | 0     | 0 | 0  | 134   | 1389             |      |
| 7:45 AM                            | 25                      | 0    | 17    | 0 | 0  | 0                       | 0    | 0     | 0 | 0  | 0                                       | 6    | 37    | 0 | 1  | 41                                      | 9    | 0     | 0 | 0  | 136   |                  |      |
| 7:50 AM                            | 19                      | 0    | 27    | 0 | 0  | 0                       | 0    | 0     | 0 | 0  | 0                                       | 2    | 21    | 0 | 4  | 36                                      | 11   | 0     | 0 | 0  | 120   |                  |      |
| 7:55 AM                            | 23                      | 0    | 26    | 0 | 0  | 0                       | 0    | 0     | 0 | 0  | 0                                       | 6    | 24    | 0 | 3  | 43                                      | 12   | 0     | 0 | 0  | 137   |                  |      |
| 8:00 AM                            | 32                      | 0    | 35    | 0 | 1  | 0                       | 0    | 0     | 0 | 0  | 0                                       | 5    | 33    | 0 | 0  | 28                                      | 10   | 0     | 0 | 0  | 144   |                  |      |
| 8:05 AM                            | 25                      | 0    | 33    | 0 | 2  | 0                       | 0    | 0     | 0 | 0  | 0                                       | 5    | 36    | 0 | 2  | 26                                      | 7    | 0     | 0 | 0  | 136   |                  | 1432 |
| 8:10 AM                            | 17                      | 0    | 28    | 0 | 0  | 0                       | 0    | 0     | 0 | 0  | 0                                       | 8    | 46    | 0 | 2  | 47                                      | 4    | 0     | 0 | 0  | 152   |                  | 1520 |
| 8:15 AM                            | 21                      | 0    | 43    | 0 | 0  | 0                       | 0    | 0     | 0 | 0  | 0                                       | 2    | 60    | 0 | 1  | 34                                      | 9    | 0     | 0 | 0  | 170   |                  | 1581 |
| 8:20 AM                            | 20                      | 0    | 28    | 0 | 0  | 0                       | 0    | 0     | 0 | 0  | 0                                       | 9    | 27    | 0 | 2  | 47                                      | 8    | 0     | 0 | 0  | 141   | 1622             |      |
| 8:25 AM                            | 30                      | 0    | 31    | 0 | 0  | 0                       | 0    | 0     | 0 | 0  | 0                                       | 2    | 35    | 0 | 3  | 37                                      | 6    | 0     | 0 | 0  | 144   | 1649             |      |
| 8:30 AM                            | 19                      | 0    | 13    | 0 | 0  | 0                       | 0    | 0     | 0 | 0  | 0                                       | 6    | 25    | 0 | 6  | 47                                      | 10   | 0     | 0 | 0  | 126   | 1664             |      |
| 8:35 AM                            | 29                      | 0    | 35    | 0 | 0  | 0                       | 0    | 0     | 0 | 0  | 0                                       | 3    | 27    | 0 | 6  | 31                                      | 6    | 0     | 0 | 0  | 137   | 1677             |      |
| 8:40 AM                            | 26                      | 0    | 19    | 0 | 0  | 0                       | 0    | 0     | 0 | 0  | 0                                       | 6    | 29    | 0 | 3  | 36                                      | 9    | 0     | 0 | 0  | 128   | 1671             |      |
| 8:45 AM                            | 26                      | 0    | 25    | 0 | 0  | 0                       | 0    | 0     | 0 | 0  | 0                                       | 5    | 25    | 0 | 3  | 39                                      | 5    | 0     | 0 | 0  | 128   | 1663             |      |
| 8:50 AM                            | 37                      | 0    | 26    | 0 | 0  | 0                       | 0    | 0     | 0 | 0  | 0                                       | 4    | 22    | 0 | 2  | 41                                      | 10   | 0     | 0 | 0  | 142   | 1685             |      |
| 8:55 AM                            | 20                      | 0    | 19    | 0 | 0  | 0                       | 0    | 0     | 0 | 0  | 0                                       | 4    | 33    | 0 | 0  | 36                                      | 10   | 0     | 0 | 0  | 122   | 1670             |      |
| Peak 15-Min<br>Flowrates           | Northbound              |      |       |   |    | Southbound              |      |       |   |    | Eastbound                               |      |       |   |    | Westbound                               |      |       |   |    | Total |                  |      |
|                                    | Left                    | Thru | Right | U | R* | Left                    | Thru | Right | U | R* | Left                                    | Thru | Right | U | R* | Left                                    | Thru | Right | U | R* |       |                  |      |
| All Vehicles                       | 232                     | 0    | 396   | 0 | 0  | 0                       | 0    | 0     | 0 | 0  | 0                                       | 76   | 552   | 0 | 20 | 512                                     | 84   | 0     | 0 | 0  | 1872  |                  |      |
| Heavy Trucks                       | 8                       | 0    | 20    |   |    | 0                       | 0    | 0     |   |    | 0                                       | 0    | 8     |   |    | 20                                      | 4    | 0     |   |    | 60    |                  |      |
| Buses                              |                         |      |       |   |    |                         |      |       |   |    |                                         |      |       |   |    |                                         |      |       |   |    |       |                  |      |
| Pedestrians                        |                         | 0    |       |   |    |                         | 0    |       |   |    |                                         | 0    |       |   |    |                                         | 0    |       |   |    | 0     |                  |      |
| Bicycles                           | 0                       | 0    | 4     |   |    | 0                       | 0    | 0     |   |    | 0                                       | 0    | 0     |   |    | 0                                       | 0    | 0     |   |    | 4     |                  |      |
| Scoters                            |                         |      |       |   |    |                         |      |       |   |    |                                         |      |       |   |    |                                         |      |       |   |    |       |                  |      |

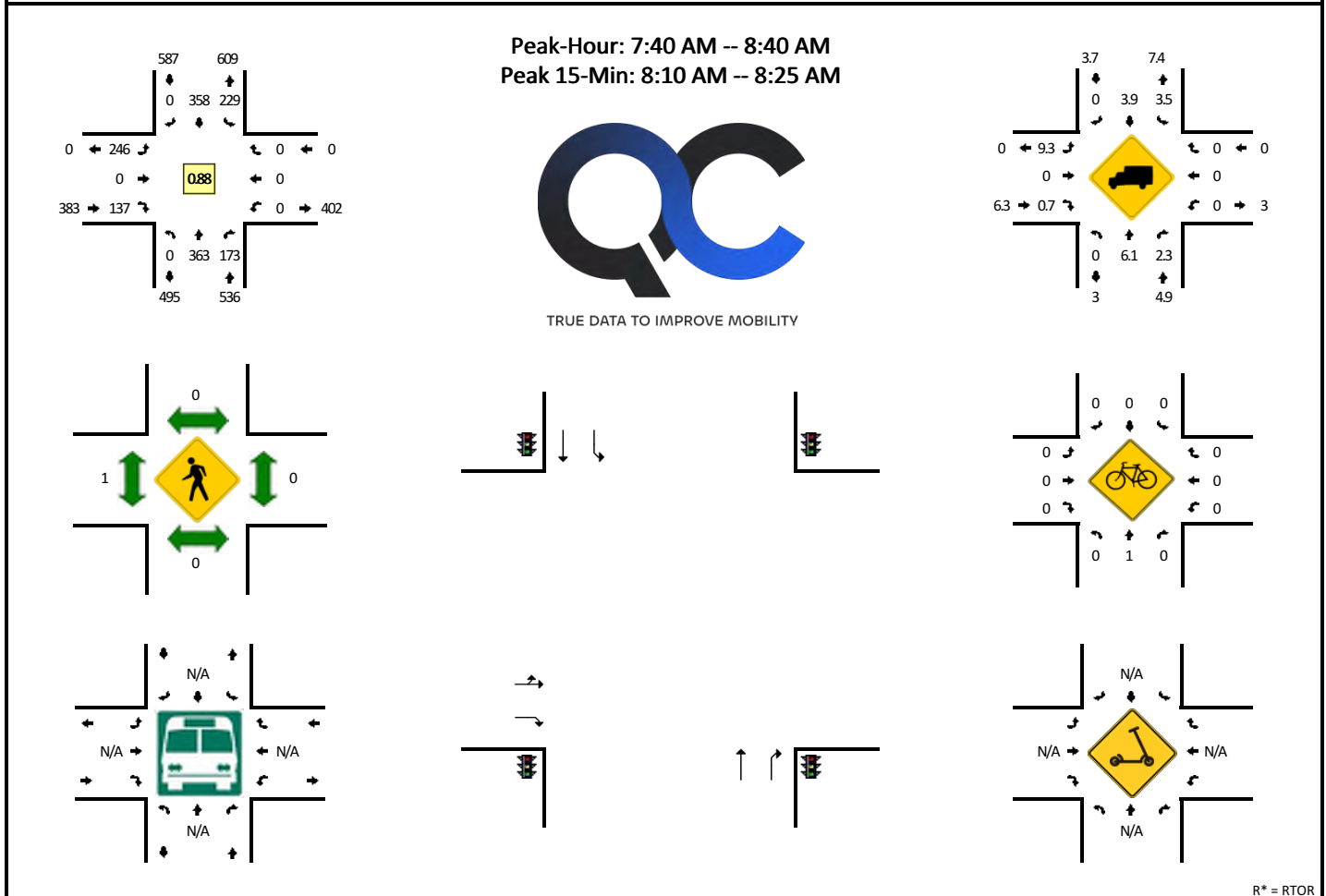
**Comments:**

**LOCATION:** 10th St -- I-205 SB Ramps**CITY/STATE:** West Linn, OR**QC JOB #:** 17268005**DATE:** Tue, Sep 30 2025

R\* = RTOR

| 5-Min Count Period Beginning At | 10th St (Northbound) |      |       |   |    | 10th St (Southbound) |      |       |   |     | I-205 SB Ramps (Eastbound) |      |       |   |    | I-205 SB Ramps (Westbound) |      |       |   |    | Total | Hourly Totals |
|---------------------------------|----------------------|------|-------|---|----|----------------------|------|-------|---|-----|----------------------------|------|-------|---|----|----------------------------|------|-------|---|----|-------|---------------|
|                                 | Left                 | Thru | Right | U | R* | Left                 | Thru | Right | U | R*  | Left                       | Thru | Right | U | R* | Left                       | Thru | Right | U | R* |       |               |
| 7:00 AM                         | 5                    | 26   | 0     | 0 | 0  | 0                    | 26   | 19    | 0 | 13  | 0                          | 0    | 0     | 0 | 0  | 5                          | 0    | 5     | 0 | 7  | 106   |               |
| 7:05 AM                         | 12                   | 17   | 0     | 0 | 0  | 0                    | 27   | 22    | 0 | 15  | 0                          | 0    | 0     | 0 | 0  | 9                          | 0    | 5     | 0 | 5  | 112   |               |
| 7:10 AM                         | 18                   | 30   | 0     | 0 | 0  | 0                    | 25   | 26    | 0 | 9   | 0                          | 0    | 0     | 0 | 0  | 8                          | 0    | 5     | 0 | 5  | 126   |               |
| 7:15 AM                         | 11                   | 32   | 0     | 0 | 0  | 0                    | 29   | 23    | 0 | 17  | 0                          | 0    | 0     | 0 | 0  | 7                          | 1    | 1     | 0 | 4  | 125   |               |
| 7:20 AM                         | 25                   | 33   | 0     | 0 | 0  | 0                    | 25   | 19    | 0 | 8   | 0                          | 0    | 0     | 0 | 0  | 7                          | 0    | 5     | 0 | 4  | 126   |               |
| 7:25 AM                         | 11                   | 26   | 0     | 0 | 0  | 0                    | 33   | 25    | 0 | 13  | 0                          | 0    | 0     | 0 | 0  | 13                         | 0    | 1     | 0 | 4  | 126   |               |
| 7:30 AM                         | 12                   | 22   | 0     | 0 | 0  | 0                    | 38   | 22    | 0 | 10  | 0                          | 0    | 0     | 0 | 0  | 11                         | 0    | 7     | 0 | 7  | 129   |               |
| 7:35 AM                         | 18                   | 22   | 0     | 0 | 0  | 0                    | 44   | 27    | 0 | 11  | 0                          | 0    | 0     | 0 | 0  | 8                          | 0    | 3     | 0 | 7  | 140   |               |
| 7:40 AM                         | 10                   | 24   | 0     | 0 | 0  | 0                    | 39   | 29    | 0 | 14  | 0                          | 0    | 0     | 0 | 0  | 15                         | 0    | 3     | 0 | 3  | 137   |               |
| 7:45 AM                         | 17                   | 37   | 0     | 0 | 0  | 0                    | 38   | 27    | 0 | 10  | 0                          | 0    | 0     | 0 | 0  | 4                          | 0    | 3     | 0 | 5  | 141   |               |
| 7:50 AM                         | 10                   | 34   | 0     | 0 | 0  | 0                    | 33   | 16    | 0 | 14  | 0                          | 0    | 0     | 0 | 0  | 13                         | 2    | 5     | 0 | 3  | 130   |               |
| 7:55 AM                         | 13                   | 37   | 0     | 0 | 0  | 0                    | 30   | 30    | 0 | 7   | 0                          | 0    | 0     | 0 | 0  | 12                         | 0    | 8     | 0 | 5  | 142   |               |
| 8:00 AM                         | 8                    | 49   | 0     | 0 | 0  | 0                    | 31   | 27    | 0 | 10  | 0                          | 0    | 0     | 0 | 0  | 12                         | 0    | 12    | 0 | 7  | 156   | 1540          |
| 8:05 AM                         | 15                   | 46   | 0     | 0 | 0  | 0                    | 31   | 24    | 0 | 7   | 0                          | 0    | 0     | 0 | 0  | 11                         | 1    | 8     | 0 | 5  | 148   | 1626          |
| 8:10 AM                         | 8                    | 35   | 0     | 0 | 0  | 0                    | 51   | 30    | 0 | 10  | 0                          | 0    | 0     | 0 | 0  | 11                         | 0    | 2     | 0 | 7  | 154   | 1654          |
| 8:15 AM                         | 11                   | 57   | 0     | 0 | 0  | 0                    | 65   | 21    | 0 | 11  | 0                          | 0    | 0     | 0 | 0  | 11                         | 1    | 3     | 0 | 7  | 187   | 1716          |
| 8:20 AM                         | 13                   | 30   | 0     | 0 | 0  | 0                    | 38   | 27    | 0 | 7   | 0                          | 0    | 0     | 0 | 0  | 8                          | 0    | 9     | 0 | 7  | 139   | 1729          |
| 8:25 AM                         | 19                   | 43   | 0     | 0 | 0  | 0                    | 36   | 33    | 0 | 10  | 0                          | 0    | 0     | 0 | 0  | 9                          | 0    | 10    | 0 | 7  | 167   | 1770          |
| 8:30 AM                         | 13                   | 22   | 0     | 0 | 0  | 0                    | 44   | 23    | 0 | 11  | 0                          | 0    | 0     | 0 | 0  | 9                          | 0    | 3     | 0 | 8  | 133   | 1774          |
| 8:35 AM                         | 15                   | 45   | 0     | 0 | 0  | 0                    | 29   | 24    | 0 | 11  | 0                          | 0    | 0     | 0 | 0  | 8                          | 0    | 9     | 0 | 9  | 150   | 1784          |
| 8:40 AM                         | 8                    | 31   | 0     | 0 | 0  | 0                    | 34   | 20    | 0 | 16  | 0                          | 0    | 0     | 0 | 0  | 12                         | 0    | 7     | 0 | 6  | 134   | 1781          |
| 8:45 AM                         | 8                    | 31   | 0     | 0 | 0  | 0                    | 30   | 22    | 0 | 11  | 0                          | 0    | 0     | 0 | 0  | 14                         | 0    | 13    | 0 | 9  | 138   | 1778          |
| 8:50 AM                         | 8                    | 43   | 0     | 0 | 0  | 0                    | 29   | 18    | 0 | 20  | 0                          | 0    | 0     | 0 | 0  | 8                          | 0    | 10    | 0 | 9  | 145   | 1793          |
| 8:55 AM                         | 15                   | 30   | 0     | 0 | 0  | 0                    | 35   | 27    | 0 | 5   | 0                          | 0    | 0     | 0 | 0  | 17                         | 0    | 5     | 0 | 3  | 137   | 1788          |
| Peak 15-Min Flowrates           | Northbound           |      |       |   |    | Southbound           |      |       |   |     | Eastbound                  |      |       |   |    | Westbound                  |      |       |   |    | Total |               |
|                                 | Left                 | Thru | Right | U | R* | Left                 | Thru | Right | U | R*  | Left                       | Thru | Right | U | R* | Left                       | Thru | Right | U | R* |       |               |
| All Vehicles                    | 172                  | 520  | 0     | 0 | 0  | 0                    | 556  | 436   | 0 | 112 | 0                          | 0    | 0     | 0 | 0  | 112                        | 4    | 172   | 0 | 84 | 2168  |               |
| Heavy Trucks                    | 20                   | 28   | 0     |   |    | 0                    | 4    | 4     |   |     | 0                          | 0    | 0     |   |    | 4                          | 0    | 12    |   |    | 72    |               |
| Buses                           |                      |      |       |   |    |                      |      |       |   |     |                            |      |       |   |    |                            |      |       |   |    |       |               |
| Pedestrians                     |                      | 0    |       |   |    |                      | 0    |       |   |     |                            | 4    |       |   |    |                            | 0    |       |   |    | 4     |               |
| Bicycles                        | 0                    | 4    | 0     |   |    | 0                    | 0    | 0     |   |     | 0                          | 0    | 0     |   |    | 0                          | 0    | 0     |   |    | 4     |               |
| Scoters                         |                      |      |       |   |    |                      |      |       |   |     |                            |      |       |   |    |                            |      |       |   |    |       |               |

**Comments:**

**LOCATION:** 10th St -- I-205 NB Ramps**CITY/STATE:** West Linn, OR**QC JOB #:** 17268007**DATE:** Tue, Sep 30 2025

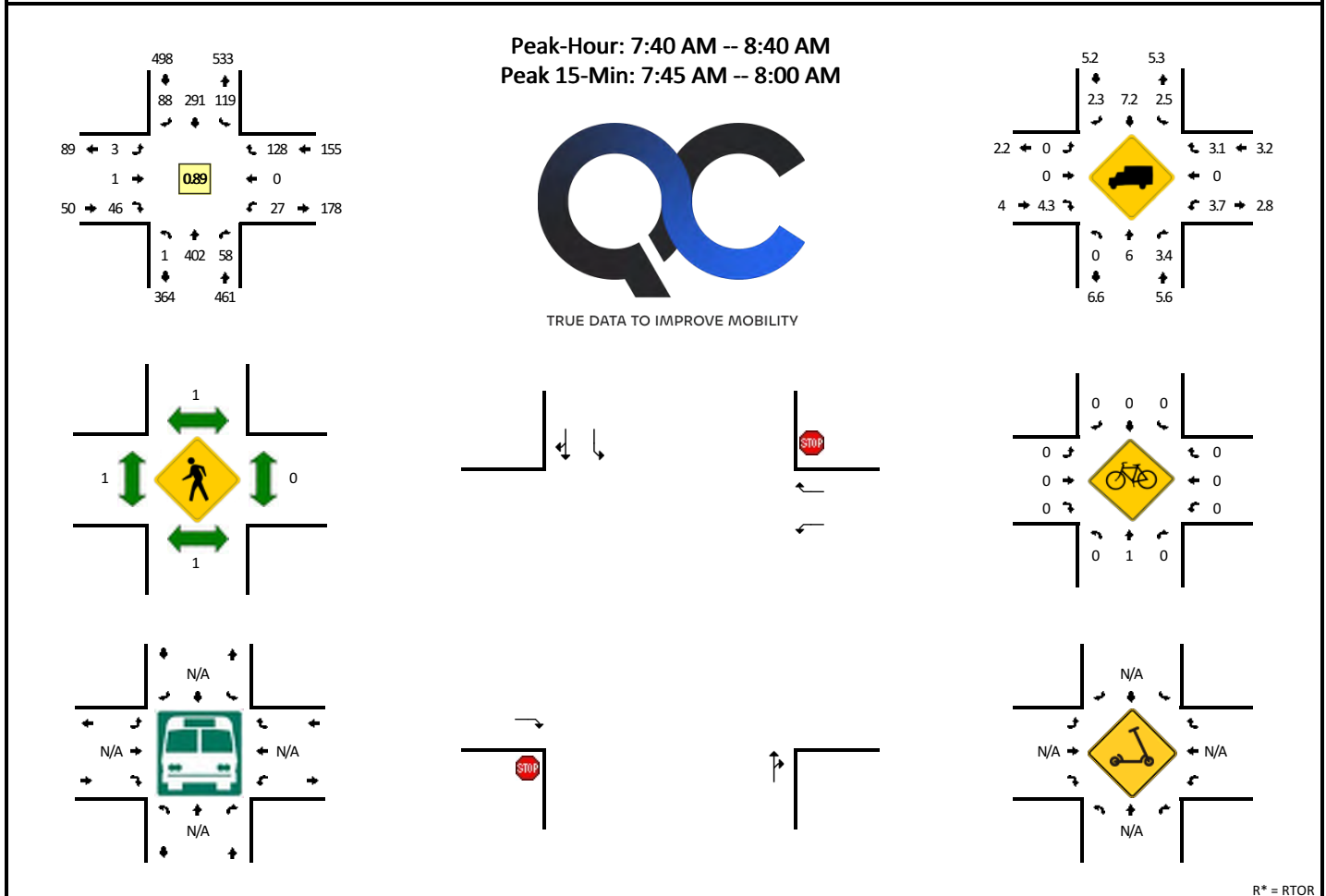
R\* = RTOR

| 5-Min Count Period Beginning At | 10th St (Northbound) |      |       |   |    | 10th St (Southbound) |      |       |   |    | I-205 NB Ramps (Eastbound) |      |       |   |    | I-205 NB Ramps (Westbound) |      |       |   |    | Total | Hourly Totals |
|---------------------------------|----------------------|------|-------|---|----|----------------------|------|-------|---|----|----------------------------|------|-------|---|----|----------------------------|------|-------|---|----|-------|---------------|
|                                 | Left                 | Thru | Right | U | R* | Left                 | Thru | Right | U | R* | Left                       | Thru | Right | U | R* | Left                       | Thru | Right | U | R* |       |               |
| 7:00 AM                         | 0                    | 15   | 9     | 0 | 3  | 15                   | 17   | 0     | 0 | 0  | 20                         | 0    | 2     | 0 | 4  | 0                          | 0    | 0     | 0 | 0  | 85    |               |
| 7:05 AM                         | 0                    | 19   | 7     | 0 | 0  | 13                   | 22   | 0     | 0 | 0  | 13                         | 0    | 3     | 0 | 3  | 0                          | 0    | 0     | 0 | 0  | 80    |               |
| 7:10 AM                         | 0                    | 24   | 11    | 0 | 5  | 14                   | 16   | 0     | 0 | 0  | 20                         | 0    | 7     | 0 | 3  | 0                          | 0    | 0     | 0 | 0  | 100   |               |
| 7:15 AM                         | 0                    | 38   | 6     | 0 | 2  | 11                   | 21   | 0     | 0 | 0  | 14                         | 0    | 2     | 0 | 5  | 0                          | 0    | 0     | 0 | 0  | 99    |               |
| 7:20 AM                         | 0                    | 31   | 2     | 0 | 1  | 17                   | 21   | 0     | 0 | 0  | 17                         | 0    | 3     | 0 | 7  | 0                          | 0    | 0     | 0 | 0  | 99    |               |
| 7:25 AM                         | 0                    | 26   | 8     | 0 | 5  | 19                   | 25   | 0     | 0 | 0  | 17                         | 0    | 2     | 0 | 9  | 0                          | 0    | 0     | 0 | 0  | 111   |               |
| 7:30 AM                         | 0                    | 25   | 13    | 0 | 1  | 20                   | 24   | 0     | 0 | 0  | 9                          | 0    | 1     | 0 | 14 | 0                          | 0    | 0     | 0 | 0  | 107   |               |
| 7:35 AM                         | 0                    | 24   | 11    | 0 | 4  | 24                   | 32   | 0     | 0 | 0  | 10                         | 0    | 3     | 0 | 9  | 0                          | 0    | 0     | 0 | 0  | 117   |               |
| 7:40 AM                         | 0                    | 16   | 5     | 0 | 4  | 16                   | 39   | 0     | 0 | 0  | 20                         | 0    | 7     | 0 | 4  | 0                          | 0    | 0     | 0 | 0  | 111   |               |
| 7:45 AM                         | 0                    | 38   | 14    | 0 | 5  | 18                   | 27   | 0     | 0 | 0  | 11                         | 0    | 4     | 0 | 7  | 0                          | 0    | 0     | 0 | 0  | 124   |               |
| 7:50 AM                         | 0                    | 38   | 14    | 0 | 7  | 16                   | 29   | 0     | 0 | 0  | 18                         | 0    | 3     | 0 | 8  | 0                          | 0    | 0     | 0 | 0  | 133   |               |
| 7:55 AM                         | 0                    | 26   | 13    | 0 | 5  | 8                    | 34   | 0     | 0 | 0  | 25                         | 0    | 5     | 0 | 11 | 0                          | 0    | 0     | 0 | 0  | 127   |               |
| 8:00 AM                         | 0                    | 36   | 7     | 0 | 7  | 13                   | 25   | 0     | 0 | 0  | 16                         | 0    | 3     | 0 | 8  | 0                          | 0    | 0     | 0 | 0  | 115   | 1293          |
| 8:05 AM                         | 0                    | 29   | 6     | 0 | 3  | 21                   | 25   | 0     | 0 | 0  | 25                         | 0    | 4     | 0 | 9  | 0                          | 0    | 0     | 0 | 0  | 122   | 1365          |
| 8:10 AM                         | 0                    | 35   | 3     | 0 | 6  | 28                   | 34   | 0     | 0 | 0  | 26                         | 0    | 5     | 0 | 12 | 0                          | 0    | 0     | 0 | 0  | 149   | 1414          |
| 8:15 AM                         | 0                    | 29   | 12    | 0 | 6  | 29                   | 41   | 0     | 0 | 0  | 23                         | 0    | 2     | 0 | 5  | 0                          | 0    | 0     | 0 | 0  | 147   | 1462          |
| 8:20 AM                         | 0                    | 29   | 13    | 0 | 4  | 25                   | 24   | 0     | 0 | 0  | 28                         | 0    | 4     | 0 | 6  | 0                          | 0    | 0     | 0 | 0  | 133   | 1496          |
| 8:25 AM                         | 0                    | 32   | 3     | 0 | 5  | 17                   | 25   | 0     | 0 | 0  | 16                         | 0    | 3     | 0 | 11 | 0                          | 0    | 0     | 0 | 0  | 112   | 1497          |
| 8:30 AM                         | 0                    | 29   | 12    | 0 | 1  | 24                   | 31   | 0     | 0 | 0  | 16                         | 0    | 5     | 0 | 7  | 0                          | 0    | 0     | 0 | 0  | 125   | 1515          |
| 8:35 AM                         | 0                    | 26   | 11    | 0 | 7  | 14                   | 24   | 0     | 0 | 0  | 22                         | 0    | 1     | 0 | 3  | 0                          | 0    | 0     | 0 | 0  | 108   | 1506          |
| 8:40 AM                         | 0                    | 26   | 8     | 0 | 3  | 19                   | 27   | 0     | 0 | 0  | 13                         | 0    | 5     | 0 | 7  | 0                          | 0    | 0     | 0 | 0  | 108   | 1503          |
| 8:45 AM                         | 0                    | 31   | 9     | 0 | 3  | 20                   | 23   | 0     | 0 | 0  | 18                         | 0    | 1     | 0 | 10 | 0                          | 0    | 0     | 0 | 0  | 115   | 1494          |
| 8:50 AM                         | 0                    | 21   | 9     | 0 | 5  | 11                   | 25   | 0     | 0 | 0  | 19                         | 0    | 3     | 0 | 9  | 0                          | 0    | 0     | 0 | 0  | 102   | 1463          |
| 8:55 AM                         | 0                    | 37   | 13    | 0 | 5  | 14                   | 39   | 0     | 0 | 0  | 23                         | 1    | 2     | 0 | 10 | 0                          | 0    | 0     | 0 | 0  | 144   | 1480          |
| Peak 15-Min Flowrates           | Northbound           |      |       |   |    | Southbound           |      |       |   |    | Eastbound                  |      |       |   |    | Westbound                  |      |       |   |    | Total |               |
|                                 | Left                 | Thru | Right | U | R* | Left                 | Thru | Right | U | R* | Left                       | Thru | Right | U | R* | Left                       | Thru | Right | U | R* |       |               |
| All Vehicles                    | 0                    | 372  | 176   | 0 | 64 | 328                  | 396  | 0     | 0 | 0  | 308                        | 0    | 136   | 0 | 92 | 0                          | 0    | 0     | 0 | 0  | 1872  |               |
| Heavy Trucks                    | 0                    | 8    | 0     |   |    | 8                    | 8    | 0     |   |    | 12                         | 0    | 0     |   |    | 0                          | 0    | 0     |   |    | 36    |               |
| Buses                           |                      |      |       |   |    |                      |      |       |   |    |                            |      |       |   |    |                            |      |       |   |    |       |               |
| Pedestrians                     | 0                    |      |       |   |    | 0                    |      |       |   |    | 4                          |      |       |   |    | 0                          |      |       |   |    | 4     |               |
| Bicycles                        | 0                    | 4    | 0     |   |    | 0                    | 0    | 0     |   |    | 0                          | 0    | 0     |   |    | 0                          | 0    | 0     |   |    | 4     |               |
| Scooters                        |                      |      |       |   |    |                      |      |       |   |    |                            |      |       |   |    |                            |      |       |   |    |       |               |

**Comments:**

**LOCATION:** 10th St -- 8th Ave/8th Ct  
**CITY/STATE:** West Linn, OR

**QC JOB #:** 17268009  
**DATE:** Tue, Sep 30 2025



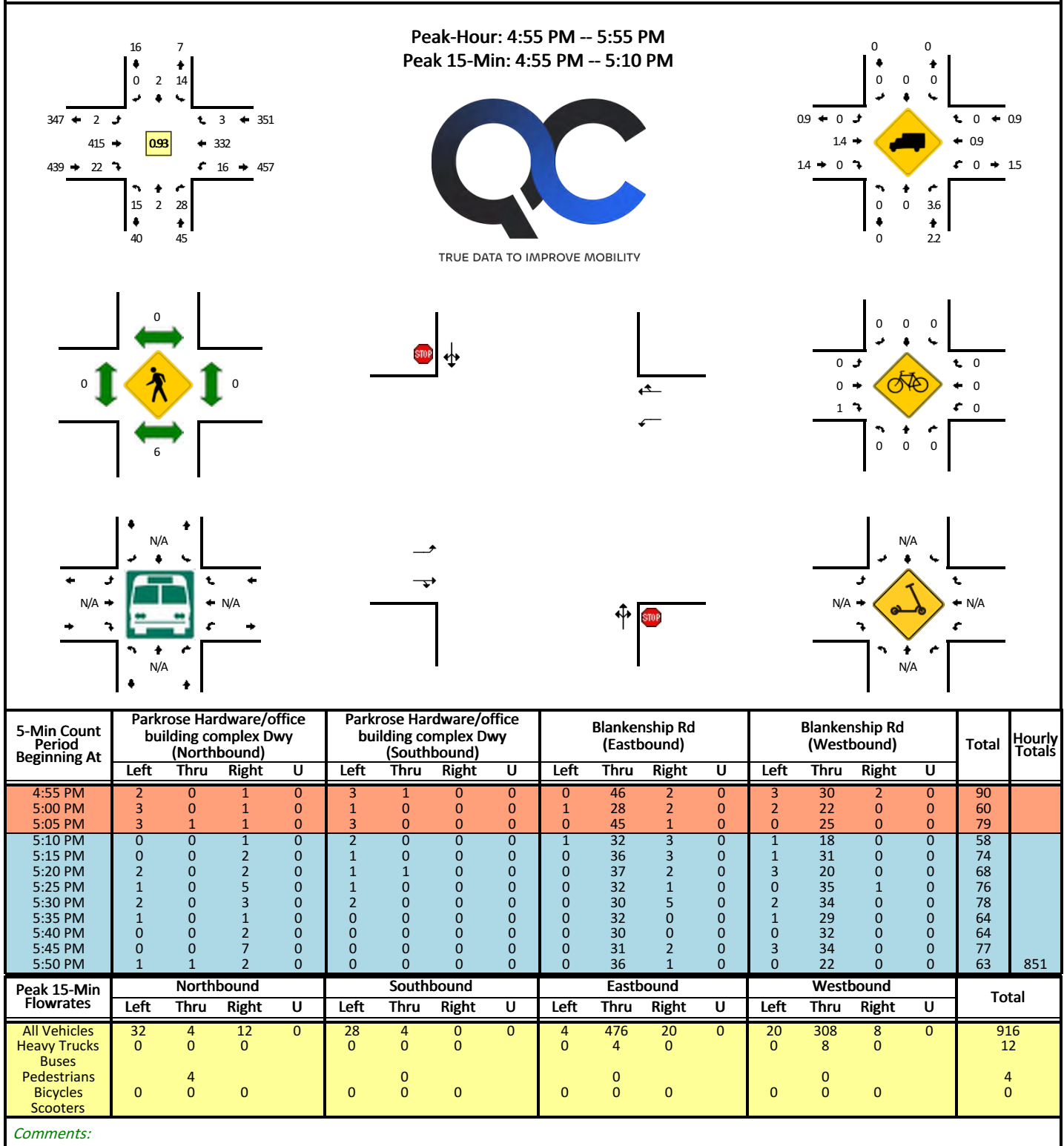
R\* = RTOR

| 5-Min Count Period Beginning At | 10th St (Northbound) |      |       |   | R* | 10th St (Southbound) |      |       |   | R* | 8th Ave/8th Ct (Eastbound) |      |       |   | R* | 8th Ave/8th Ct (Westbound) |      |       |   | R* | Total | Hourly Totals |
|---------------------------------|----------------------|------|-------|---|----|----------------------|------|-------|---|----|----------------------------|------|-------|---|----|----------------------------|------|-------|---|----|-------|---------------|
|                                 | Left                 | Thru | Right | U |    | Left                 | Thru | Right | U |    | Left                       | Thru | Right | U |    | Left                       | Thru | Right | U |    |       |               |
| 7:00 AM                         | 0                    | 22   | 2     | 0 | 0  | 7                    | 10   | 8     | 0 | 0  | 0                          | 0    | 2     | 0 | 0  | 1                          | 0    | 6     | 0 | 0  | 58    |               |
| 7:05 AM                         | 0                    | 15   | 4     | 0 | 0  | 12                   | 10   | 5     | 0 | 0  | 0                          | 0    | 2     | 0 | 0  | 2                          | 0    | 10    | 0 | 0  | 58    |               |
| 7:10 AM                         | 0                    | 34   | 4     | 0 | 0  | 9                    | 14   | 2     | 0 | 0  | 0                          | 0    | 4     | 0 | 0  | 3                          | 0    | 8     | 0 | 0  | 78    |               |
| 7:15 AM                         | 0                    | 36   | 5     | 0 | 0  | 9                    | 11   | 7     | 0 | 0  | 0                          | 0    | 6     | 0 | 0  | 1                          | 0    | 8     | 0 | 0  | 83    |               |
| 7:20 AM                         | 0                    | 20   | 4     | 0 | 0  | 9                    | 18   | 7     | 0 | 0  | 0                          | 0    | 3     | 0 | 0  | 4                          | 0    | 13    | 0 | 0  | 78    |               |
| 7:25 AM                         | 0                    | 29   | 4     | 0 | 0  | 7                    | 15   | 11    | 0 | 0  | 1                          | 0    | 3     | 0 | 0  | 1                          | 0    | 9     | 0 | 0  | 80    |               |
| 7:30 AM                         | 0                    | 33   | 4     | 0 | 0  | 11                   | 16   | 15    | 0 | 0  | 0                          | 0    | 5     | 0 | 0  | 4                          | 0    | 7     | 0 | 0  | 95    |               |
| 7:35 AM                         | 0                    | 30   | 3     | 0 | 0  | 8                    | 27   | 9     | 0 | 0  | 2                          | 0    | 3     | 0 | 0  | 3                          | 0    | 8     | 0 | 0  | 93    |               |
| 7:40 AM                         | 0                    | 20   | 3     | 0 | 0  | 8                    | 27   | 10    | 0 | 0  | 1                          | 0    | 3     | 0 | 0  | 4                          | 0    | 7     | 0 | 0  | 83    |               |
| 7:45 AM                         | 0                    | 41   | 5     | 0 | 0  | 11                   | 31   | 3     | 0 | 0  | 0                          | 0    | 2     | 0 | 0  | 0                          | 0    | 11    | 0 | 0  | 104   |               |
| 7:50 AM                         | 0                    | 53   | 5     | 0 | 0  | 7                    | 25   | 7     | 0 | 0  | 1                          | 0    | 4     | 0 | 0  | 3                          | 0    | 10    | 0 | 0  | 115   |               |
| 7:55 AM                         | 0                    | 40   | 6     | 0 | 0  | 13                   | 26   | 10    | 0 | 0  | 0                          | 0    | 6     | 0 | 0  | 1                          | 0    | 5     | 0 | 0  | 107   | 1032          |
| 8:00 AM                         | 0                    | 35   | 8     | 0 | 0  | 11                   | 19   | 5     | 0 | 0  | 0                          | 1    | 7     | 0 | 0  | 2                          | 0    | 11    | 0 | 0  | 99    | 1073          |
| 8:05 AM                         | 0                    | 25   | 3     | 0 | 0  | 15                   | 17   | 8     | 0 | 0  | 0                          | 0    | 2     | 0 | 0  | 6                          | 0    | 10    | 0 | 0  | 86    | 1101          |
| 8:10 AM                         | 0                    | 35   | 4     | 0 | 0  | 8                    | 33   | 11    | 0 | 0  | 0                          | 0    | 2     | 0 | 0  | 2                          | 0    | 9     | 0 | 0  | 104   | 1127          |
| 8:15 AM                         | 0                    | 31   | 8     | 0 | 0  | 9                    | 33   | 6     | 0 | 0  | 0                          | 0    | 6     | 0 | 0  | 2                          | 0    | 17    | 0 | 0  | 112   | 1156          |
| 8:20 AM                         | 0                    | 39   | 4     | 0 | 0  | 8                    | 19   | 7     | 0 | 0  | 0                          | 0    | 4     | 0 | 0  | 3                          | 0    | 10    | 0 | 0  | 94    | 1172          |
| 8:25 AM                         | 1                    | 20   | 6     | 0 | 0  | 9                    | 24   | 8     | 0 | 0  | 0                          | 0    | 3     | 0 | 0  | 1                          | 0    | 16    | 0 | 0  | 88    | 1180          |
| 8:30 AM                         | 0                    | 33   | 6     | 0 | 0  | 9                    | 23   | 10    | 0 | 0  | 1                          | 0    | 3     | 0 | 0  | 3                          | 0    | 8     | 0 | 0  | 96    | 1181          |
| 8:35 AM                         | 0                    | 30   | 0     | 0 | 0  | 11                   | 14   | 3     | 0 | 0  | 0                          | 0    | 4     | 0 | 0  | 0                          | 0    | 14    | 0 | 0  | 76    | 1164          |
| 8:40 AM                         | 0                    | 26   | 6     | 0 | 0  | 13                   | 18   | 8     | 0 | 0  | 0                          | 0    | 7     | 0 | 0  | 3                          | 0    | 9     | 0 | 0  | 90    | 1171          |
| 8:45 AM                         | 0                    | 29   | 5     | 0 | 0  | 6                    | 19   | 7     | 0 | 0  | 0                          | 0    | 5     | 0 | 0  | 3                          | 0    | 14    | 0 | 0  | 88    | 1155          |
| 8:50 AM                         | 0                    | 35   | 7     | 0 | 0  | 13                   | 21   | 6     | 0 | 0  | 1                          | 0    | 5     | 0 | 0  | 3                          | 2    | 8     | 0 | 0  | 101   | 1141          |
| 8:55 AM                         | 0                    | 33   | 3     | 0 | 0  | 17                   | 16   | 14    | 0 | 0  | 0                          | 0    | 6     | 0 | 0  | 4                          | 0    | 13    | 0 | 0  | 106   | 1140          |
| Peak 15-Min Flowrates           | Northbound           |      |       |   | R* | Southbound           |      |       |   | R* | Eastbound                  |      |       |   | R* | Westbound                  |      |       |   | R* | Total |               |
|                                 | Left                 | Thru | Right | U |    | Left                 | Thru | Right | U |    | Left                       | Thru | Right | U |    | Left                       | Thru | Right | U |    |       |               |
| All Vehicles                    | 0                    | 536  | 64    | 0 | 0  | 124                  | 328  | 80    | 0 | 0  | 4                          | 0    | 48    | 0 | 0  | 16                         | 0    | 104   | 0 | 0  | 1304  |               |
| Heavy Trucks                    | 0                    | 28   | 4     |   |    | 0                    | 24   | 0     |   |    | 0                          | 0    | 4     |   |    | 0                          | 0    | 0     |   |    | 60    |               |
| Buses                           |                      |      |       |   |    |                      |      |       |   |    |                            |      |       |   |    |                            |      |       |   |    |       |               |
| Pedestrians                     | 0                    |      |       |   |    | 4                    |      |       |   |    | 0                          |      |       |   |    | 0                          |      |       |   |    | 4     |               |
| Bicycles                        | 0                    | 0    | 0     |   |    | 0                    | 0    | 0     |   |    | 0                          | 0    | 0     |   |    | 0                          | 0    | 0     |   |    | 0     |               |
| Scooters                        |                      |      |       |   |    |                      |      |       |   |    |                            |      |       |   |    |                            |      |       |   |    |       |               |

**Comments:**

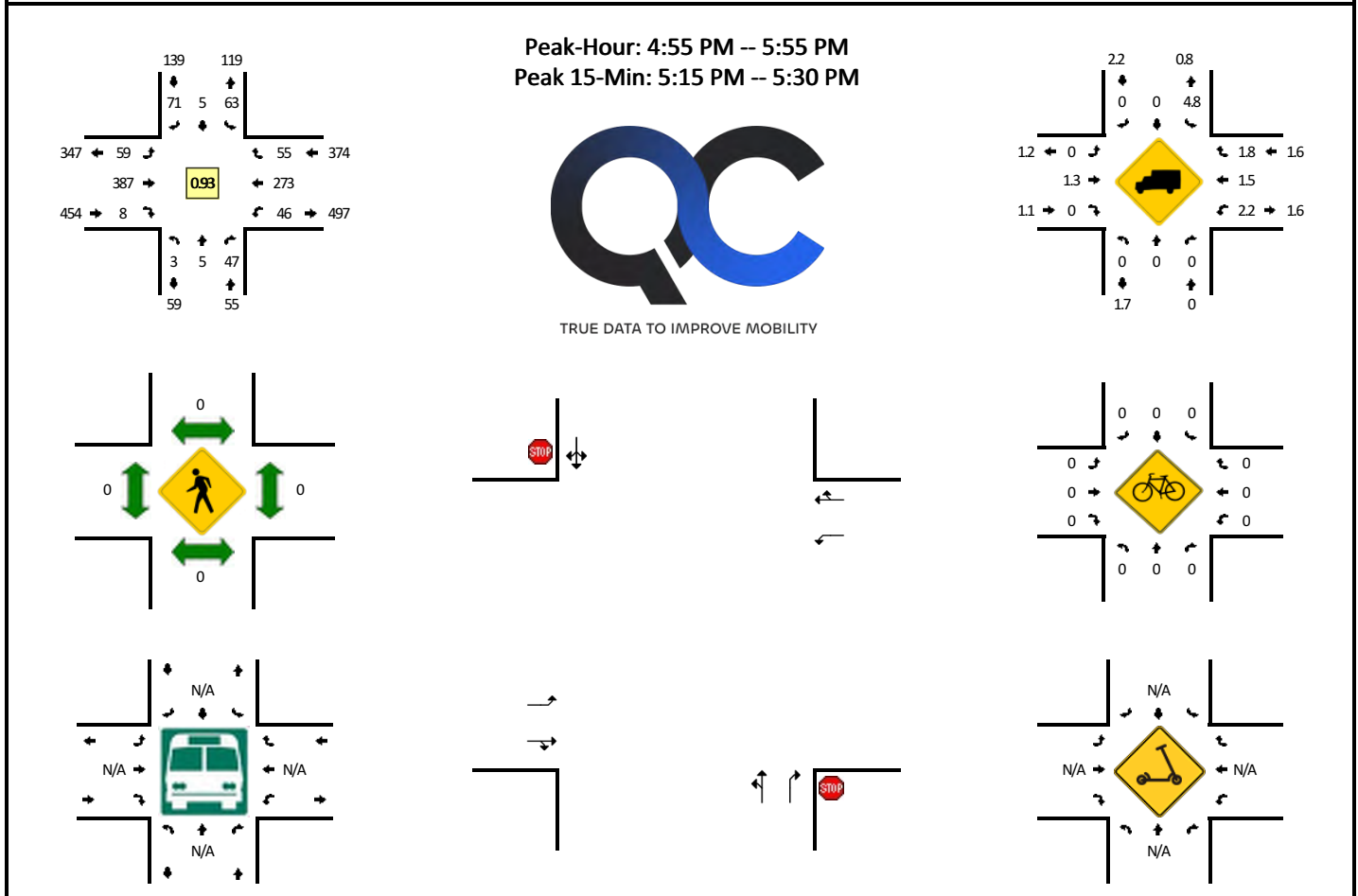
**LOCATION:** Parkrose Hardware/office building complex Dwy -- Blankenship Rd  
**CITY/STATE:** West Linn, OR

**QC JOB #:** 17369408  
**DATE:** Wed, Dec 10 2025



**LOCATION:** Tannler Dr -- Blankenship Rd  
**CITY/STATE:** West Linn, OR

**QC JOB #:** 17369410  
**DATE:** Wed, Dec 10 2025



| 5-Min Count Period Beginning At | Tannler Dr (Northbound) |      |       |   | Tannler Dr (Southbound) |      |       |   | Blankenship Rd (Eastbound) |      |       |   | Blankenship Rd (Westbound) |      |       |   | Total | Hourly Totals |
|---------------------------------|-------------------------|------|-------|---|-------------------------|------|-------|---|----------------------------|------|-------|---|----------------------------|------|-------|---|-------|---------------|
|                                 | Left                    | Thru | Right | U | Left                    | Thru | Right | U | Left                       | Thru | Right | U | Left                       | Thru | Right | U |       |               |
| 4:55 PM                         | 0                       | 0    | 2     | 0 | 4                       | 0    | 13    | 0 | 3                          | 48   | 1     | 0 | 6                          | 21   | 1     | 0 | 99    |               |
| 5:00 PM                         | 0                       | 1    | 6     | 0 | 1                       | 1    | 3     | 0 | 1                          | 26   | 0     | 0 | 7                          | 20   | 4     | 0 | 70    |               |
| 5:05 PM                         | 1                       | 1    | 5     | 0 | 3                       | 0    | 2     | 0 | 6                          | 45   | 1     | 0 | 6                          | 21   | 4     | 0 | 95    |               |
| 5:10 PM                         | 0                       | 1    | 3     | 0 | 8                       | 1    | 5     | 0 | 7                          | 28   | 0     | 0 | 2                          | 16   | 3     | 0 | 74    |               |
| 5:15 PM                         | 0                       | 1    | 8     | 0 | 4                       | 2    | 8     | 0 | 4                          | 33   | 1     | 0 | 2                          | 23   | 8     | 0 | 94    |               |
| 5:20 PM                         | 1                       | 1    | 5     | 0 | 4                       | 0    | 4     | 0 | 5                          | 32   | 0     | 0 | 5                          | 23   | 9     | 0 | 89    |               |
| 5:25 PM                         | 0                       | 0    | 4     | 0 | 7                       | 1    | 8     | 0 | 6                          | 35   | 1     | 0 | 3                          | 25   | 3     | 0 | 93    |               |
| 5:30 PM                         | 0                       | 0    | 5     | 0 | 8                       | 0    | 8     | 0 | 6                          | 27   | 1     | 0 | 4                          | 28   | 3     | 0 | 90    |               |
| 5:35 PM                         | 1                       | 0    | 2     | 0 | 5                       | 0    | 7     | 0 | 3                          | 29   | 0     | 0 | 0                          | 19   | 2     | 0 | 68    |               |
| 5:40 PM                         | 0                       | 0    | 2     | 0 | 7                       | 0    | 6     | 0 | 5                          | 26   | 1     | 0 | 4                          | 27   | 9     | 0 | 87    |               |
| 5:45 PM                         | 0                       | 0    | 1     | 0 | 4                       | 0    | 6     | 0 | 5                          | 30   | 2     | 0 | 3                          | 29   | 5     | 0 | 85    |               |
| 5:50 PM                         | 0                       | 0    | 4     | 0 | 8                       | 0    | 1     | 0 | 8                          | 28   | 0     | 0 | 4                          | 21   | 4     | 0 | 78    | 1022          |
| Peak 15-Min Flowrates           | Northbound              |      |       |   | Southbound              |      |       |   | Eastbound                  |      |       |   | Westbound                  |      |       |   | Total |               |
|                                 | Left                    | Thru | Right | U | Left                    | Thru | Right | U | Left                       | Thru | Right | U | Left                       | Thru | Right | U |       |               |
| All Vehicles                    | 4                       | 8    | 68    | 0 | 60                      | 12   | 80    | 0 | 60                         | 400  | 8     | 0 | 40                         | 284  | 80    | 0 | 1104  |               |
| Heavy Trucks                    | 0                       | 0    | 0     | 0 | 0                       | 0    | 0     | 0 | 0                          | 8    | 0     | 0 | 4                          | 4    | 4     | 0 | 20    |               |
| Buses                           |                         |      |       |   |                         |      |       |   |                            |      |       |   |                            |      |       |   |       |               |
| Pedestrians                     | 0                       | 0    | 0     | 0 | 0                       | 0    | 0     | 0 | 0                          | 0    | 0     | 0 | 0                          | 0    | 0     | 0 | 0     |               |
| Bicycles                        | 0                       | 0    | 0     | 0 | 0                       | 0    | 0     | 0 | 0                          | 0    | 0     | 0 | 0                          | 0    | 0     | 0 | 0     |               |
| Scooters                        |                         |      |       |   |                         |      |       |   |                            |      |       |   |                            |      |       |   |       |               |

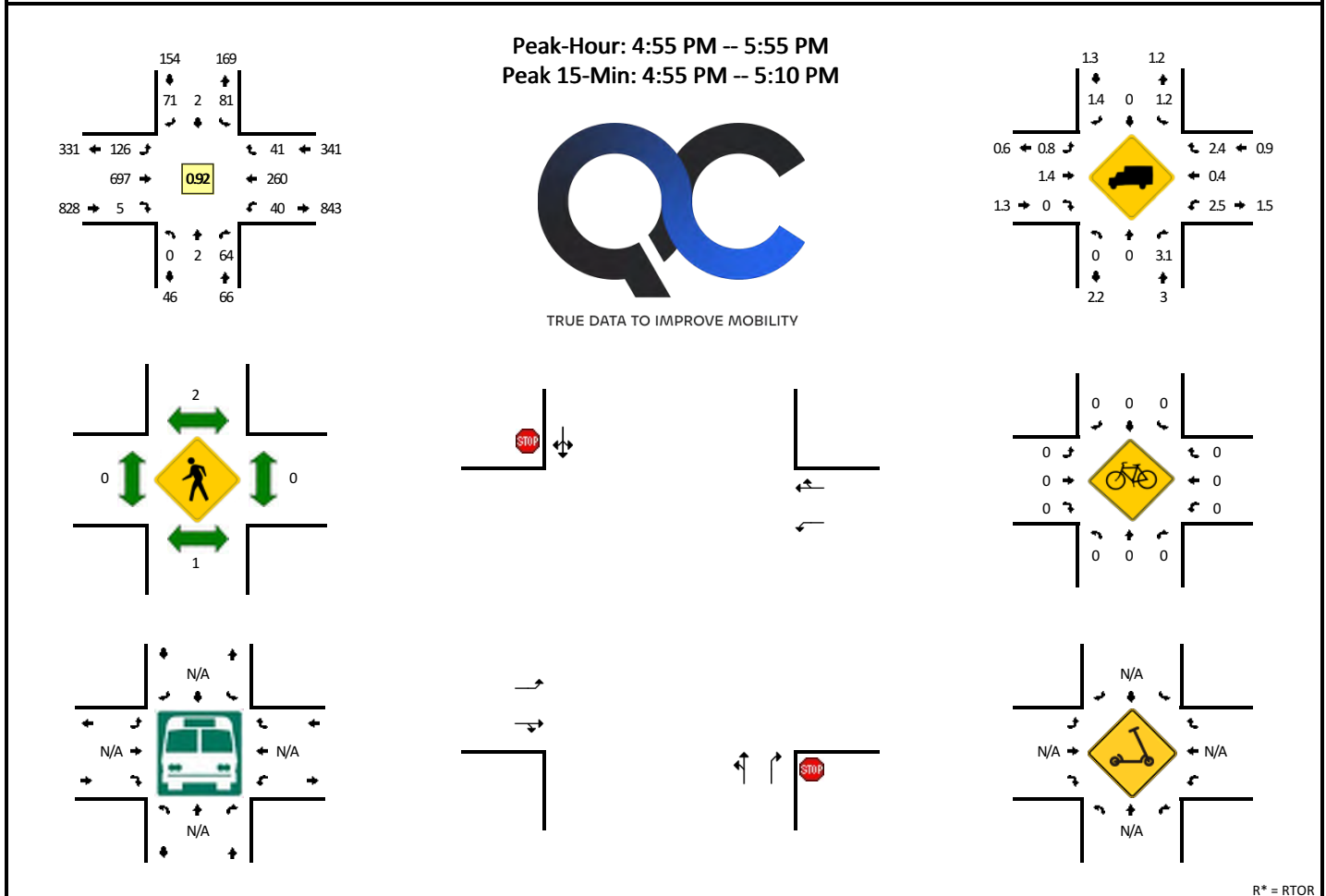
**Comments:**

Report generated on 1/28/2026 4:16 PM

SOURCE: Quality Counts, LLC (<http://www.qualitycounts.net>) 1-877-580-2212

**LOCATION:** Tannler Dr -- Blankenship Rd  
**CITY/STATE:** West Linn, OR

**QC JOB #:** 17268002  
**DATE:** Tue, Sep 30 2025



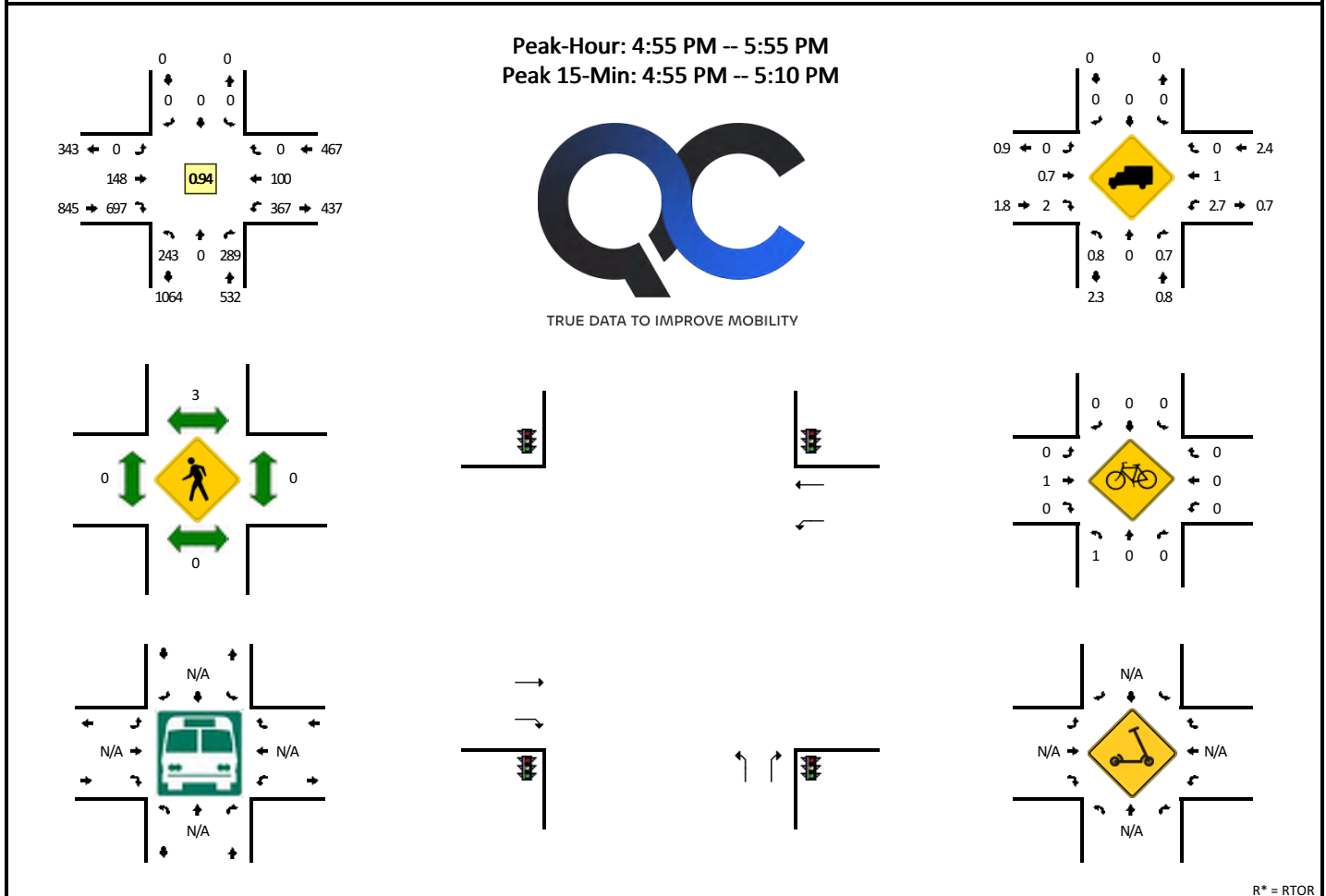
R\* = RTOR

| 5-Min Count Period Beginning At | Tannler Dr (Northbound) |      |       |   |    | Tannler Dr (Southbound) |      |       |   |    | Blankenship Rd (Eastbound) |      |       |   |    | Blankenship Rd (Westbound) |      |       |   |    | Total | Hourly Totals |
|---------------------------------|-------------------------|------|-------|---|----|-------------------------|------|-------|---|----|----------------------------|------|-------|---|----|----------------------------|------|-------|---|----|-------|---------------|
|                                 | Left                    | Thru | Right | U | R* | Left                    | Thru | Right | U | R* | Left                       | Thru | Right | U | R* | Left                       | Thru | Right | U | R* |       |               |
| 4:00 PM                         | 0                       | 0    | 6     | 0 | 0  | 2                       | 0    | 14    | 0 | 0  | 12                         | 53   | 0     | 0 | 0  | 4                          | 16   | 2     | 0 | 0  | 109   |               |
| 4:05 PM                         | 0                       | 0    | 3     | 0 | 0  | 1                       | 0    | 6     | 0 | 0  | 8                          | 72   | 1     | 0 | 0  | 2                          | 19   | 6     | 0 | 0  | 118   |               |
| 4:10 PM                         | 0                       | 0    | 2     | 0 | 0  | 11                      | 0    | 7     | 0 | 0  | 8                          | 55   | 0     | 0 | 0  | 4                          | 19   | 6     | 0 | 0  | 112   |               |
| 4:15 PM                         | 0                       | 0    | 3     | 0 | 0  | 7                       | 0    | 6     | 0 | 0  | 7                          | 60   | 1     | 0 | 0  | 3                          | 15   | 1     | 0 | 0  | 103   |               |
| 4:20 PM                         | 0                       | 1    | 2     | 0 | 0  | 7                       | 0    | 9     | 0 | 0  | 7                          | 56   | 0     | 0 | 0  | 3                          | 23   | 2     | 0 | 0  | 110   |               |
| 4:25 PM                         | 0                       | 0    | 6     | 0 | 0  | 3                       | 0    | 4     | 0 | 0  | 10                         | 63   | 1     | 0 | 0  | 6                          | 23   | 2     | 0 | 0  | 118   |               |
| 4:30 PM                         | 0                       | 0    | 4     | 0 | 0  | 8                       | 0    | 7     | 0 | 0  | 4                          | 69   | 1     | 0 | 0  | 7                          | 13   | 3     | 0 | 0  | 116   |               |
| 4:35 PM                         | 0                       | 0    | 4     | 0 | 0  | 5                       | 0    | 5     | 0 | 0  | 10                         | 63   | 0     | 0 | 0  | 2                          | 18   | 1     | 0 | 0  | 108   |               |
| 4:40 PM                         | 0                       | 0    | 7     | 0 | 0  | 7                       | 0    | 6     | 0 | 0  | 10                         | 41   | 0     | 0 | 0  | 2                          | 21   | 1     | 0 | 0  | 95    |               |
| 4:45 PM                         | 0                       | 0    | 3     | 0 | 0  | 8                       | 0    | 11    | 0 | 0  | 8                          | 52   | 0     | 0 | 0  | 2                          | 16   | 4     | 0 | 0  | 104   |               |
| 4:50 PM                         | 0                       | 1    | 3     | 0 | 0  | 6                       | 0    | 13    | 0 | 0  | 10                         | 72   | 0     | 0 | 0  | 0                          | 16   | 4     | 0 | 0  | 125   |               |
| 4:55 PM                         | 0                       | 1    | 5     | 0 | 0  | 6                       | 0    | 11    | 0 | 0  | 10                         | 66   | 0     | 0 | 0  | 5                          | 25   | 3     | 0 | 0  | 132   | 1350          |
| 5:00 PM                         | 0                       | 0    | 6     | 0 | 0  | 7                       | 1    | 11    | 0 | 0  | 13                         | 67   | 0     | 0 | 0  | 7                          | 24   | 3     | 0 | 0  | 139   | 1380          |
| 5:05 PM                         | 0                       | 0    | 6     | 0 | 0  | 6                       | 0    | 10    | 0 | 0  | 13                         | 56   | 0     | 0 | 0  | 0                          | 12   | 5     | 0 | 0  | 108   | 1370          |
| 5:10 PM                         | 0                       | 0    | 3     | 0 | 0  | 6                       | 0    | 7     | 0 | 0  | 6                          | 52   | 1     | 0 | 0  | 1                          | 21   | 1     | 1 | 0  | 99    | 1357          |
| 5:15 PM                         | 0                       | 0    | 7     | 0 | 0  | 1                       | 0    | 4     | 0 | 0  | 8                          | 54   | 1     | 0 | 0  | 5                          | 27   | 10    | 0 | 0  | 117   | 1371          |
| 5:20 PM                         | 0                       | 0    | 10    | 0 | 0  | 6                       | 0    | 4     | 0 | 0  | 16                         | 52   | 0     | 0 | 0  | 5                          | 16   | 5     | 0 | 0  | 114   | 1375          |
| 5:25 PM                         | 0                       | 0    | 6     | 0 | 0  | 10                      | 0    | 3     | 0 | 0  | 12                         | 62   | 0     | 0 | 0  | 4                          | 24   | 3     | 0 | 0  | 124   | 1381          |
| 5:30 PM                         | 0                       | 0    | 5     | 0 | 0  | 9                       | 1    | 3     | 0 | 0  | 11                         | 48   | 1     | 0 | 0  | 4                          | 20   | 3     | 0 | 0  | 105   | 1370          |
| 5:35 PM                         | 0                       | 0    | 9     | 0 | 0  | 7                       | 0    | 5     | 0 | 0  | 13                         | 57   | 0     | 0 | 0  | 1                          | 26   | 2     | 0 | 0  | 120   | 1382          |
| 5:40 PM                         | 0                       | 0    | 4     | 0 | 0  | 8                       | 0    | 5     | 0 | 0  | 9                          | 63   | 1     | 0 | 0  | 3                          | 22   | 1     | 0 | 0  | 116   | 1403          |
| 5:45 PM                         | 0                       | 1    | 0     | 0 | 0  | 11                      | 0    | 3     | 0 | 0  | 11                         | 50   | 0     | 0 | 0  | 4                          | 19   | 3     | 0 | 0  | 102   | 1401          |
| 5:50 PM                         | 0                       | 0    | 3     | 0 | 0  | 4                       | 0    | 5     | 0 | 0  | 4                          | 70   | 1     | 0 | 0  | 0                          | 24   | 2     | 0 | 0  | 113   | 1389          |
| 5:55 PM                         | 0                       | 0    | 3     | 0 | 0  | 4                       | 0    | 9     | 0 | 0  | 11                         | 49   | 0     | 0 | 0  | 3                          | 16   | 4     | 0 | 0  | 99    | 1356          |
| Peak 15-Min Flow Rates          | Northbound              |      |       |   |    | Southbound              |      |       |   |    | Eastbound                  |      |       |   |    | Westbound                  |      |       |   |    | Total |               |
|                                 | Left                    | Thru | Right | U | R* | Left                    | Thru | Right | U | R* | Left                       | Thru | Right | U | R* | Left                       | Thru | Right | U | R* |       |               |
| All Vehicles                    | 0                       | 4    | 68    | 0 | 0  | 76                      | 4    | 128   | 0 | 0  | 144                        | 756  | 0     | 0 | 0  | 48                         | 244  | 44    | 0 | 0  | 1516  |               |
| Heavy Trucks                    | 0                       | 0    | 4     |   |    | 0                       | 0    | 4     |   |    | 0                          | 12   | 0     |   |    | 0                          | 4    | 4     |   |    | 28    |               |
| Buses                           |                         |      |       |   |    |                         |      |       |   |    |                            |      |       |   |    |                            |      |       |   |    |       |               |
| Pedestrians                     | 0                       |      |       |   |    | 0                       |      |       |   |    | 0                          |      |       |   |    | 0                          |      |       |   |    | 0     |               |
| Bicycles                        | 0                       | 0    | 0     |   |    | 0                       | 0    | 0     |   |    | 0                          | 0    | 0     |   |    | 0                          | 0    | 0     |   |    | 0     |               |
| Scooters                        |                         |      |       |   |    |                         |      |       |   |    |                            |      |       |   |    |                            |      |       |   |    |       |               |

**Comments:**

**LOCATION:** 10th St -- Blankenship Rd/Salamo Rd  
**CITY/STATE:** West Linn, OR

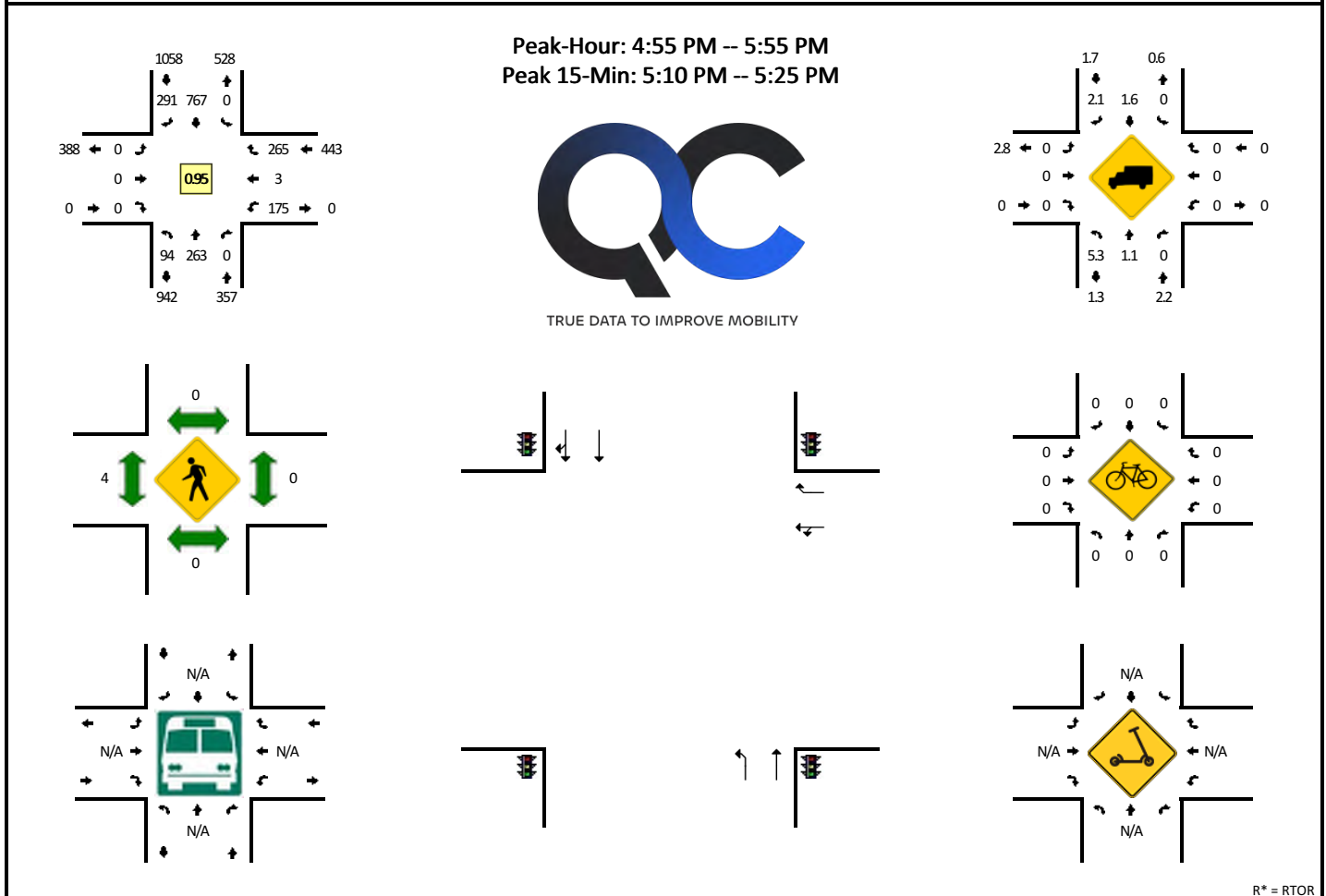
**QC JOB #:** 17268004  
**DATE:** Tue, Sep 30 2025



R\* = RTOR

| 5-Min Count Period Beginning At | 10th St (Northbound) |      |       |   |    | 10th St (Southbound) |      |       |   |    | Blankenship Rd/Salamo Rd (Eastbound) |      |       |   |    | Blankenship Rd/Salamo Rd (Westbound) |      |       |   |    | Total | Hourly Totals |
|---------------------------------|----------------------|------|-------|---|----|----------------------|------|-------|---|----|--------------------------------------|------|-------|---|----|--------------------------------------|------|-------|---|----|-------|---------------|
|                                 | Left                 | Thru | Right | U | R* | Left                 | Thru | Right | U | R* | Left                                 | Thru | Right | U | R* | Left                                 | Thru | Right | U | R* |       |               |
| 4:00 PM                         | 19                   | 0    | 18    | 0 | 0  | 0                    | 0    | 0     | 0 | 0  | 0                                    | 15   | 44    | 0 | 2  | 33                                   | 4    | 0     | 0 | 0  | 135   |               |
| 4:05 PM                         | 20                   | 0    | 24    | 0 | 1  | 0                    | 0    | 0     | 0 | 0  | 0                                    | 12   | 62    | 0 | 0  | 26                                   | 6    | 0     | 0 | 0  | 151   |               |
| 4:10 PM                         | 26                   | 0    | 16    | 0 | 1  | 0                    | 0    | 0     | 0 | 0  | 0                                    | 9    | 58    | 0 | 0  | 35                                   | 3    | 0     | 0 | 0  | 148   |               |
| 4:15 PM                         | 13                   | 0    | 16    | 0 | 1  | 0                    | 0    | 0     | 0 | 0  | 0                                    | 22   | 52    | 0 | 0  | 41                                   | 7    | 0     | 0 | 0  | 152   |               |
| 4:20 PM                         | 23                   | 0    | 14    | 0 | 0  | 0                    | 0    | 0     | 0 | 0  | 0                                    | 9    | 54    | 0 | 1  | 30                                   | 5    | 0     | 0 | 0  | 136   |               |
| 4:25 PM                         | 25                   | 0    | 18    | 0 | 0  | 0                    | 0    | 0     | 0 | 0  | 0                                    | 17   | 52    | 0 | 1  | 30                                   | 6    | 0     | 0 | 0  | 149   |               |
| 4:30 PM                         | 19                   | 0    | 24    | 0 | 0  | 0                    | 0    | 0     | 0 | 0  | 0                                    | 12   | 62    | 0 | 3  | 25                                   | 3    | 0     | 0 | 0  | 148   |               |
| 4:35 PM                         | 15                   | 0    | 11    | 0 | 0  | 0                    | 0    | 0     | 0 | 0  | 0                                    | 11   | 56    | 0 | 3  | 24                                   | 8    | 0     | 0 | 0  | 128   |               |
| 4:40 PM                         | 18                   | 0    | 20    | 0 | 0  | 0                    | 0    | 0     | 0 | 0  | 0                                    | 8    | 51    | 0 | 3  | 15                                   | 4    | 0     | 0 | 0  | 119   |               |
| 4:45 PM                         | 18                   | 0    | 23    | 0 | 0  | 0                    | 0    | 0     | 0 | 0  | 0                                    | 6    | 56    | 0 | 3  | 22                                   | 4    | 0     | 0 | 0  | 132   |               |
| 4:50 PM                         | 17                   | 0    | 21    | 0 | 0  | 0                    | 0    | 0     | 0 | 0  | 0                                    | 8    | 60    | 0 | 3  | 28                                   | 5    | 0     | 0 | 0  | 142   |               |
| 4:55 PM                         | 16                   | 0    | 16    | 0 | 1  | 0                    | 0    | 0     | 0 | 0  | 0                                    | 13   | 57    | 0 | 1  | 44                                   | 18   | 0     | 0 | 0  | 166   | 1706          |
| 5:00 PM                         | 19                   | 0    | 17    | 0 | 1  | 0                    | 0    | 0     | 0 | 0  | 0                                    | 14   | 73    | 0 | 2  | 33                                   | 15   | 0     | 0 | 0  | 174   | 1745          |
| 5:05 PM                         | 13                   | 0    | 26    | 0 | 1  | 0                    | 0    | 0     | 0 | 0  | 0                                    | 17   | 58    | 0 | 0  | 30                                   | 4    | 0     | 0 | 0  | 149   | 1743          |
| 5:10 PM                         | 23                   | 0    | 36    | 0 | 6  | 0                    | 0    | 0     | 0 | 0  | 0                                    | 9    | 51    | 0 | 2  | 29                                   | 4    | 0     | 0 | 0  | 160   | 1755          |
| 5:15 PM                         | 33                   | 0    | 28    | 0 | 2  | 0                    | 0    | 0     | 0 | 0  | 0                                    | 12   | 45    | 0 | 1  | 32                                   | 8    | 0     | 0 | 0  | 161   | 1764          |
| 5:20 PM                         | 15                   | 0    | 23    | 0 | 2  | 0                    | 0    | 0     | 0 | 0  | 0                                    | 6    | 64    | 0 | 1  | 29                                   | 9    | 0     | 0 | 0  | 149   | 1777          |
| 5:25 PM                         | 20                   | 0    | 19    | 0 | 0  | 0                    | 0    | 0     | 0 | 0  | 0                                    | 13   | 60    | 0 | 1  | 33                                   | 12   | 0     | 0 | 0  | 158   | 1786          |
| 5:30 PM                         | 18                   | 0    | 16    | 0 | 0  | 0                    | 0    | 0     | 0 | 0  | 0                                    | 11   | 46    | 0 | 3  | 36                                   | 8    | 0     | 0 | 0  | 138   | 1776          |
| 5:35 PM                         | 26                   | 0    | 20    | 0 | 1  | 0                    | 0    | 0     | 0 | 0  | 0                                    | 17   | 62    | 0 | 1  | 18                                   | 5    | 0     | 0 | 0  | 150   | 1798          |
| 5:40 PM                         | 20                   | 0    | 24    | 0 | 0  | 0                    | 0    | 0     | 0 | 0  | 0                                    | 12   | 59    | 0 | 0  | 31                                   | 4    | 0     | 0 | 0  | 150   | 1829          |
| 5:45 PM                         | 16                   | 0    | 24    | 0 | 1  | 0                    | 0    | 0     | 0 | 0  | 0                                    | 15   | 43    | 0 | 6  | 21                                   | 10   | 0     | 0 | 0  | 136   | 1833          |
| 5:50 PM                         | 24                   | 0    | 23    | 0 | 2  | 0                    | 0    | 0     | 0 | 0  | 0                                    | 9    | 61    | 0 | 0  | 31                                   | 3    | 0     | 0 | 0  | 153   | 1844          |
| 5:55 PM                         | 17                   | 0    | 26    | 0 | 0  | 0                    | 0    | 0     | 0 | 0  | 0                                    | 13   | 42    | 0 | 0  | 41                                   | 7    | 0     | 0 | 0  | 146   | 1824          |
| Peak 15-Min Flowrates           | Northbound           |      |       |   |    | Southbound           |      |       |   |    | Eastbound                            |      |       |   |    | Westbound                            |      |       |   |    | Total |               |
|                                 | Left                 | Thru | Right | U | R* | Left                 | Thru | Right | U | R* | Left                                 | Thru | Right | U | R* | Left                                 | Thru | Right | U | R* |       |               |
| All Vehicles                    | 192                  | 0    | 248   | 0 | 12 | 0                    | 0    | 0     | 0 | 0  | 0                                    | 176  | 764   | 0 | 12 | 428                                  | 148  | 0     | 0 | 0  | 1980  |               |
| Heavy Trucks                    | 4                    | 0    | 4     |   |    | 0                    | 0    | 0     |   |    | 0                                    | 0    | 20    |   |    | 12                                   | 4    | 0     |   |    | 44    |               |
| Buses                           |                      |      |       |   |    |                      |      |       |   |    |                                      |      |       |   |    |                                      |      |       |   |    |       |               |
| Pedestrians                     |                      | 0    |       |   |    |                      | 0    |       |   |    |                                      | 0    |       |   |    |                                      | 0    |       |   |    | 0     |               |
| Bicycles                        | 0                    | 0    | 0     |   |    | 0                    | 0    | 0     |   |    | 0                                    | 0    | 0     |   |    | 0                                    | 0    | 0     |   |    | 0     |               |
| Scooters                        |                      |      |       |   |    |                      |      |       |   |    |                                      |      |       |   |    |                                      |      |       |   |    |       |               |

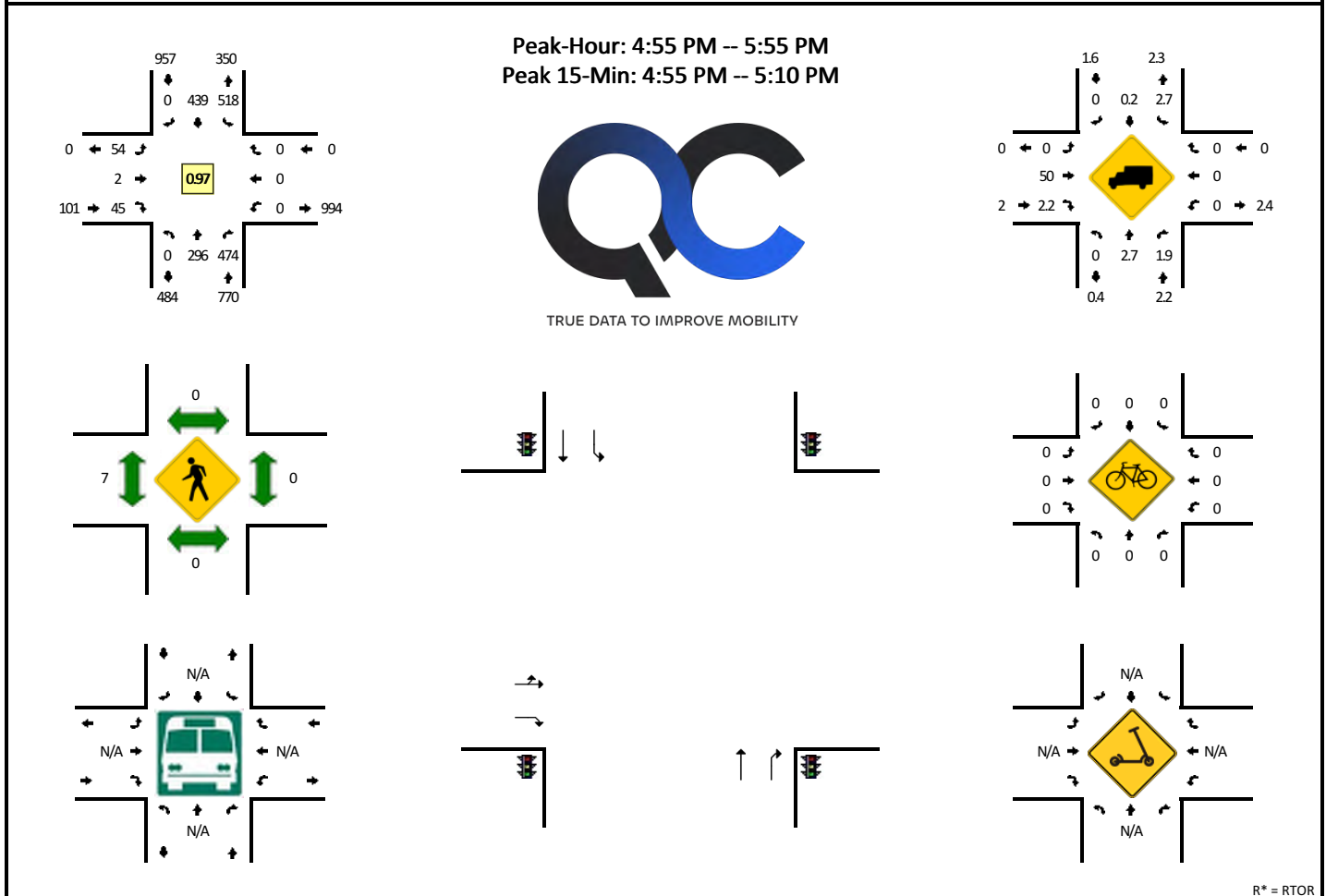
Comments:

**LOCATION:** 10th St -- I-205 SB Ramps**QC JOB #:** 17268006**CITY/STATE:** West Linn, OR**DATE:** Tue, Sep 30 2025

R\* = RTOR

| 5-Min Count Period Beginning At | 10th St (Northbound) |      |       |   |    | 10th St (Southbound) |      |       |   |     | I-205 SB Ramps (Eastbound) |      |       |   |    | I-205 SB Ramps (Westbound) |      |       |   |     | Total | Hourly Totals |
|---------------------------------|----------------------|------|-------|---|----|----------------------|------|-------|---|-----|----------------------------|------|-------|---|----|----------------------------|------|-------|---|-----|-------|---------------|
|                                 | Left                 | Thru | Right | U | R* | Left                 | Thru | Right | U | R*  | Left                       | Thru | Right | U | R* | Left                       | Thru | Right | U | R*  |       |               |
| 4:00 PM                         | 5                    | 20   | 0     | 0 | 0  | 0                    | 46   | 15    | 0 | 11  | 0                          | 0    | 0     | 0 | 0  | 7                          | 0    | 7     | 0 | 12  | 123   |               |
| 4:05 PM                         | 6                    | 26   | 0     | 0 | 0  | 0                    | 73   | 11    | 0 | 9   | 0                          | 0    | 0     | 0 | 0  | 14                         | 0    | 4     | 0 | 12  | 155   |               |
| 4:10 PM                         | 8                    | 21   | 0     | 0 | 0  | 0                    | 65   | 17    | 0 | 10  | 0                          | 0    | 0     | 0 | 0  | 20                         | 0    | 4     | 0 | 19  | 164   |               |
| 4:15 PM                         | 5                    | 14   | 0     | 0 | 0  | 0                    | 65   | 22    | 0 | 7   | 0                          | 0    | 0     | 0 | 0  | 9                          | 0    | 7     | 0 | 12  | 141   |               |
| 4:20 PM                         | 14                   | 23   | 0     | 0 | 0  | 0                    | 55   | 17    | 0 | 7   | 0                          | 0    | 0     | 0 | 0  | 17                         | 0    | 1     | 0 | 10  | 144   |               |
| 4:25 PM                         | 11                   | 15   | 0     | 0 | 0  | 0                    | 65   | 16    | 0 | 5   | 0                          | 0    | 0     | 0 | 0  | 11                         | 0    | 12    | 0 | 16  | 151   |               |
| 4:30 PM                         | 1                    | 29   | 0     | 0 | 0  | 0                    | 67   | 11    | 0 | 6   | 0                          | 0    | 0     | 0 | 0  | 22                         | 0    | 7     | 0 | 7   | 150   |               |
| 4:35 PM                         | 5                    | 12   | 0     | 0 | 0  | 0                    | 63   | 15    | 0 | 10  | 0                          | 0    | 0     | 0 | 0  | 16                         | 0    | 6     | 0 | 7   | 134   |               |
| 4:40 PM                         | 14                   | 22   | 0     | 0 | 0  | 0                    | 49   | 11    | 0 | 11  | 0                          | 0    | 0     | 0 | 0  | 11                         | 0    | 4     | 0 | 12  | 134   |               |
| 4:45 PM                         | 9                    | 24   | 0     | 0 | 0  | 0                    | 60   | 18    | 0 | 2   | 0                          | 0    | 0     | 0 | 0  | 8                          | 0    | 6     | 0 | 11  | 138   |               |
| 4:50 PM                         | 4                    | 17   | 0     | 0 | 0  | 0                    | 63   | 17    | 0 | 9   | 0                          | 0    | 0     | 0 | 0  | 17                         | 0    | 5     | 0 | 17  | 149   |               |
| 4:55 PM                         | 11                   | 21   | 0     | 0 | 0  | 0                    | 82   | 20    | 0 | 5   | 0                          | 0    | 0     | 0 | 0  | 7                          | 0    | 1     | 0 | 12  | 159   | 1742          |
| 5:00 PM                         | 6                    | 13   | 0     | 0 | 0  | 0                    | 81   | 20    | 0 | 6   | 0                          | 0    | 0     | 0 | 0  | 15                         | 0    | 3     | 0 | 20  | 164   | 1783          |
| 5:05 PM                         | 10                   | 22   | 0     | 0 | 0  | 0                    | 53   | 21    | 0 | 13  | 0                          | 0    | 0     | 0 | 0  | 18                         | 1    | 6     | 0 | 12  | 156   | 1784          |
| 5:10 PM                         | 6                    | 38   | 0     | 0 | 0  | 0                    | 49   | 17    | 0 | 13  | 0                          | 0    | 0     | 0 | 0  | 12                         | 0    | 10    | 0 | 19  | 164   | 1784          |
| 5:15 PM                         | 15                   | 26   | 0     | 0 | 0  | 0                    | 55   | 15    | 0 | 10  | 0                          | 0    | 0     | 0 | 0  | 12                         | 1    | 9     | 0 | 24  | 167   | 1810          |
| 5:20 PM                         | 8                    | 17   | 0     | 0 | 0  | 0                    | 82   | 10    | 0 | 3   | 0                          | 0    | 0     | 0 | 0  | 17                         | 0    | 3     | 0 | 18  | 158   | 1824          |
| 5:25 PM                         | 5                    | 15   | 0     | 0 | 0  | 0                    | 65   | 19    | 0 | 3   | 0                          | 0    | 0     | 0 | 0  | 15                         | 1    | 4     | 0 | 20  | 147   | 1820          |
| 5:30 PM                         | 9                    | 16   | 0     | 0 | 0  | 0                    | 64   | 14    | 0 | 14  | 0                          | 0    | 0     | 0 | 0  | 12                         | 0    | 5     | 0 | 16  | 150   | 1820          |
| 5:35 PM                         | 7                    | 28   | 0     | 0 | 0  | 0                    | 63   | 12    | 0 | 4   | 0                          | 0    | 0     | 0 | 0  | 7                          | 0    | 5     | 0 | 12  | 138   | 1824          |
| 5:40 PM                         | 7                    | 22   | 0     | 0 | 0  | 0                    | 64   | 21    | 0 | 7   | 0                          | 0    | 0     | 0 | 0  | 17                         | 0    | 4     | 0 | 18  | 160   | 1850          |
| 5:45 PM                         | 4                    | 25   | 0     | 0 | 0  | 0                    | 45   | 16    | 0 | 7   | 0                          | 0    | 0     | 0 | 0  | 22                         | 0    | 9     | 0 | 8   | 136   | 1848          |
| 5:50 PM                         | 6                    | 20   | 0     | 0 | 0  | 0                    | 64   | 18    | 0 | 3   | 0                          | 0    | 0     | 0 | 0  | 21                         | 0    | 11    | 0 | 16  | 159   | 1858          |
| 5:55 PM                         | 10                   | 23   | 0     | 0 | 0  | 0                    | 75   | 10    | 0 | 4   | 0                          | 0    | 0     | 0 | 0  | 10                         | 1    | 6     | 0 | 16  | 155   | 1854          |
| Peak 15-Min Flowrates           | Northbound           |      |       |   |    | Southbound           |      |       |   |     | Eastbound                  |      |       |   |    | Westbound                  |      |       |   |     | Total |               |
|                                 | Left                 | Thru | Right | U | R* | Left                 | Thru | Right | U | R*  | Left                       | Thru | Right | U | R* | Left                       | Thru | Right | U | R*  |       |               |
| All Vehicles                    | 116                  | 324  | 0     | 0 | 0  | 0                    | 744  | 272   | 0 | 104 | 0                          | 0    | 0     | 0 | 0  | 164                        | 4    | 332   | 0 | 244 | 2304  |               |
| Heavy Trucks                    | 4                    | 4    | 0     | 0 | 0  | 0                    | 16   | 4     | 0 | 0   | 0                          | 0    | 0     | 0 | 0  | 0                          | 0    | 0     | 0 | 0   | 28    |               |
| Buses                           |                      |      |       |   |    |                      |      |       |   |     |                            |      |       |   |    |                            |      |       |   |     |       |               |
| Pedestrians                     | 0                    | 0    | 0     | 0 | 0  | 0                    | 0    | 0     | 0 | 0   | 4                          | 0    | 0     | 0 | 0  | 0                          | 0    | 0     | 0 | 0   | 4     |               |
| Bicycles                        | 0                    | 0    | 0     | 0 | 0  | 0                    | 0    | 0     | 0 | 0   | 0                          | 0    | 0     | 0 | 0  | 0                          | 0    | 0     | 0 | 0   | 0     |               |
| Scooters                        |                      |      |       |   |    |                      |      |       |   |     |                            |      |       |   |    |                            |      |       |   |     |       |               |

**Comments:**

**LOCATION:** 10th St -- I-205 NB Ramps**QC JOB #:** 17268008**CITY/STATE:** West Linn, OR**DATE:** Tue, Sep 30 2025

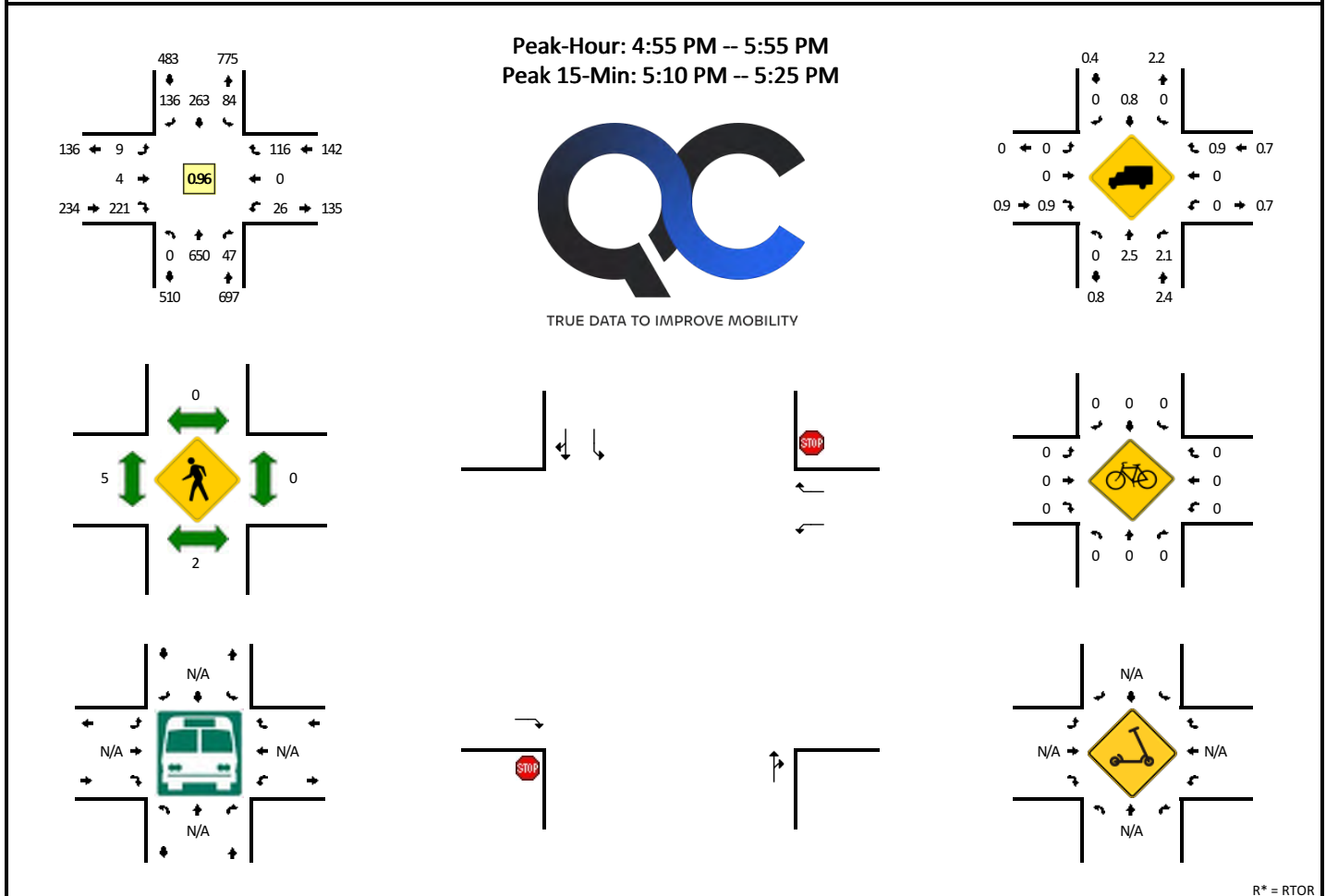
R\* = RTOR

| 5-Min Count Period Beginning At | 10th St (Northbound) |      |       |   |    | 10th St (Southbound) |      |       |   |    | I-205 NB Ramps (Eastbound) |      |       |   |    | I-205 NB Ramps (Westbound) |      |       |   |    | Total | Hourly Totals |
|---------------------------------|----------------------|------|-------|---|----|----------------------|------|-------|---|----|----------------------------|------|-------|---|----|----------------------------|------|-------|---|----|-------|---------------|
|                                 | Left                 | Thru | Right | U | R* | Left                 | Thru | Right | U | R* | Left                       | Thru | Right | U | R* | Left                       | Thru | Right | U | R* |       |               |
| 4:00 PM                         | 0                    | 17   | 27    | 0 | 10 | 40                   | 18   | 0     | 0 | 0  | 6                          | 0    | 0     | 0 | 5  | 0                          | 0    | 0     | 0 | 0  | 123   |               |
| 4:05 PM                         | 0                    | 30   | 35    | 0 | 5  | 48                   | 28   | 0     | 0 | 0  | 4                          | 0    | 2     | 0 | 5  | 0                          | 0    | 0     | 0 | 0  | 157   |               |
| 4:10 PM                         | 0                    | 22   | 36    | 0 | 7  | 54                   | 36   | 0     | 0 | 0  | 8                          | 0    | 0     | 0 | 6  | 0                          | 0    | 0     | 0 | 0  | 169   |               |
| 4:15 PM                         | 0                    | 24   | 40    | 0 | 5  | 41                   | 35   | 0     | 0 | 0  | 5                          | 0    | 0     | 0 | 5  | 0                          | 0    | 0     | 0 | 0  | 155   |               |
| 4:20 PM                         | 0                    | 28   | 38    | 0 | 0  | 33                   | 39   | 0     | 0 | 0  | 0                          | 0    | 0     | 0 | 3  | 0                          | 0    | 0     | 0 | 0  | 141   |               |
| 4:25 PM                         | 0                    | 23   | 49    | 0 | 6  | 39                   | 33   | 0     | 0 | 0  | 3                          | 0    | 0     | 0 | 2  | 0                          | 0    | 0     | 0 | 0  | 155   |               |
| 4:30 PM                         | 0                    | 17   | 31    | 0 | 10 | 46                   | 43   | 0     | 0 | 0  | 9                          | 0    | 0     | 0 | 1  | 0                          | 0    | 0     | 0 | 0  | 157   |               |
| 4:35 PM                         | 0                    | 20   | 48    | 0 | 5  | 32                   | 35   | 0     | 0 | 0  | 5                          | 0    | 2     | 0 | 4  | 0                          | 0    | 0     | 0 | 0  | 151   |               |
| 4:40 PM                         | 0                    | 32   | 38    | 0 | 2  | 40                   | 22   | 0     | 0 | 0  | 2                          | 0    | 0     | 0 | 4  | 0                          | 0    | 0     | 0 | 0  | 140   |               |
| 4:45 PM                         | 0                    | 23   | 39    | 0 | 4  | 47                   | 29   | 0     | 0 | 0  | 4                          | 0    | 0     | 0 | 2  | 0                          | 0    | 0     | 0 | 0  | 148   |               |
| 4:50 PM                         | 0                    | 25   | 33    | 0 | 2  | 44                   | 30   | 0     | 0 | 0  | 2                          | 0    | 2     | 0 | 5  | 0                          | 0    | 0     | 0 | 0  | 143   |               |
| 4:55 PM                         | 0                    | 25   | 30    | 0 | 7  | 53                   | 42   | 0     | 0 | 0  | 6                          | 0    | 2     | 0 | 2  | 0                          | 0    | 0     | 0 | 0  | 167   | 1806          |
| 5:00 PM                         | 0                    | 23   | 28    | 0 | 1  | 50                   | 49   | 0     | 0 | 0  | 2                          | 0    | 0     | 0 | 3  | 0                          | 0    | 0     | 0 | 0  | 156   | 1839          |
| 5:05 PM                         | 0                    | 35   | 28    | 0 | 5  | 33                   | 42   | 0     | 0 | 0  | 1                          | 0    | 2     | 0 | 4  | 0                          | 0    | 0     | 0 | 0  | 150   | 1832          |
| 5:10 PM                         | 0                    | 30   | 30    | 0 | 6  | 36                   | 25   | 0     | 0 | 0  | 6                          | 0    | 2     | 0 | 2  | 0                          | 0    | 0     | 0 | 0  | 137   | 1800          |
| 5:15 PM                         | 0                    | 34   | 39    | 0 | 3  | 33                   | 29   | 0     | 0 | 0  | 3                          | 0    | 0     | 0 | 2  | 0                          | 0    | 0     | 0 | 0  | 143   | 1788          |
| 5:20 PM                         | 0                    | 18   | 37    | 0 | 7  | 53                   | 44   | 0     | 0 | 0  | 3                          | 0    | 0     | 0 | 5  | 0                          | 0    | 0     | 0 | 0  | 167   | 1814          |
| 5:25 PM                         | 0                    | 21   | 43    | 0 | 4  | 37                   | 37   | 0     | 0 | 0  | 4                          | 0    | 0     | 0 | 5  | 0                          | 0    | 0     | 0 | 0  | 151   | 1810          |
| 5:30 PM                         | 0                    | 24   | 32    | 0 | 5  | 51                   | 36   | 0     | 0 | 0  | 3                          | 0    | 0     | 0 | 2  | 0                          | 0    | 0     | 0 | 0  | 153   | 1806          |
| 5:35 PM                         | 0                    | 26   | 43    | 0 | 4  | 38                   | 31   | 0     | 0 | 0  | 4                          | 0    | 0     | 0 | 4  | 0                          | 0    | 0     | 0 | 0  | 150   | 1805          |
| 5:40 PM                         | 0                    | 16   | 35    | 0 | 10 | 42                   | 34   | 0     | 0 | 0  | 9                          | 1    | 2     | 0 | 2  | 0                          | 0    | 0     | 0 | 0  | 151   | 1816          |
| 5:45 PM                         | 0                    | 27   | 41    | 0 | 7  | 40                   | 36   | 0     | 0 | 0  | 7                          | 1    | 0     | 0 | 2  | 0                          | 0    | 0     | 0 | 0  | 161   | 1829          |
| 5:50 PM                         | 0                    | 17   | 25    | 0 | 4  | 52                   | 34   | 0     | 0 | 0  | 6                          | 0    | 2     | 0 | 2  | 0                          | 0    | 0     | 0 | 0  | 142   | 1828          |
| 5:55 PM                         | 0                    | 36   | 27    | 0 | 2  | 37                   | 38   | 0     | 0 | 0  | 9                          | 0    | 1     | 0 | 2  | 0                          | 0    | 0     | 0 | 0  | 152   | 1813          |
| Peak 15-Min Flow Rates          | Northbound           |      |       |   |    | Southbound           |      |       |   |    | Eastbound                  |      |       |   |    | Westbound                  |      |       |   |    | Total |               |
|                                 | Left                 | Thru | Right | U | R* | Left                 | Thru | Right | U | R* | Left                       | Thru | Right | U | R* | Left                       | Thru | Right | U | R* |       |               |
| All Vehicles                    | 0                    | 332  | 396   | 0 | 52 | 544                  | 532  | 0     | 0 | 0  | 36                         | 0    | 52    | 0 | 36 | 0                          | 0    | 0     | 0 | 0  | 1980  |               |
| Heavy Trucks                    | 0                    | 8    | 4     |   |    | 16                   | 0    | 0     |   |    | 0                          | 0    | 4     |   |    | 0                          | 0    | 0     |   |    | 32    |               |
| Buses                           |                      |      |       |   |    |                      |      |       |   |    |                            |      |       |   |    |                            |      |       |   |    |       |               |
| Pedestrians                     | 0                    |      |       |   |    | 0                    |      |       |   |    | 8                          |      |       |   |    | 0                          |      |       |   |    | 8     |               |
| Bicycles                        | 0                    | 0    | 0     |   |    | 0                    | 0    | 0     |   |    | 0                          | 0    | 0     |   |    | 0                          | 0    | 0     |   |    | 0     |               |
| Scooters                        |                      |      |       |   |    |                      |      |       |   |    |                            |      |       |   |    |                            |      |       |   |    |       |               |

**Comments:**

**LOCATION:** 10th St -- 8th Ave/8th Ct  
**CITY/STATE:** West Linn, OR

**QC JOB #:** 17268010  
**DATE:** Tue, Sep 30 2025



R\* = RTOR

| 5-Min Count Period Beginning At | 10th St (Northbound) |      |       |   |    | 10th St (Southbound) |      |       |   |    | 8th Ave/8th Ct (Eastbound) |      |       |   |    | 8th Ave/8th Ct (Westbound) |      |       |   |    | Total | Hourly Totals |
|---------------------------------|----------------------|------|-------|---|----|----------------------|------|-------|---|----|----------------------------|------|-------|---|----|----------------------------|------|-------|---|----|-------|---------------|
|                                 | Left                 | Thru | Right | U | R* | Left                 | Thru | Right | U | R* | Left                       | Thru | Right | U | R* | Left                       | Thru | Right | U | R* |       |               |
| 4:00 PM                         | 0                    | 45   | 3     | 0 | 0  | 4                    | 12   | 8     | 0 | 0  | 1                          | 0    | 13    | 0 | 0  | 1                          | 0    | 9     | 0 | 0  | 96    |               |
| 4:05 PM                         | 1                    | 63   | 3     | 0 | 0  | 2                    | 21   | 9     | 0 | 0  | 0                          | 0    | 23    | 0 | 0  | 4                          | 0    | 8     | 0 | 0  | 134   |               |
| 4:10 PM                         | 0                    | 57   | 5     | 0 | 0  | 12                   | 15   | 14    | 0 | 0  | 0                          | 1    | 10    | 0 | 0  | 1                          | 0    | 7     | 0 | 0  | 122   |               |
| 4:15 PM                         | 0                    | 58   | 7     | 0 | 0  | 6                    | 22   | 13    | 0 | 0  | 0                          | 0    | 19    | 0 | 0  | 1                          | 1    | 8     | 0 | 0  | 135   |               |
| 4:20 PM                         | 0                    | 55   | 4     | 0 | 0  | 6                    | 28   | 9     | 0 | 0  | 0                          | 1    | 9     | 0 | 0  | 3                          | 0    | 12    | 0 | 0  | 127   |               |
| 4:25 PM                         | 1                    | 65   | 5     | 0 | 0  | 4                    | 14   | 16    | 0 | 0  | 1                          | 1    | 8     | 0 | 0  | 0                          | 0    | 13    | 0 | 0  | 128   |               |
| 4:30 PM                         | 0                    | 64   | 4     | 0 | 0  | 12                   | 31   | 1     | 0 | 0  | 0                          | 0    | 11    | 0 | 0  | 3                          | 1    | 6     | 0 | 0  | 133   |               |
| 4:35 PM                         | 0                    | 49   | 2     | 0 | 0  | 11                   | 19   | 7     | 0 | 0  | 0                          | 0    | 23    | 0 | 0  | 4                          | 0    | 11    | 0 | 0  | 126   |               |
| 4:40 PM                         | 2                    | 62   | 4     | 0 | 0  | 7                    | 16   | 7     | 0 | 0  | 0                          | 0    | 15    | 0 | 0  | 1                          | 0    | 17    | 0 | 0  | 131   |               |
| 4:45 PM                         | 0                    | 59   | 4     | 0 | 0  | 4                    | 18   | 7     | 0 | 0  | 0                          | 0    | 13    | 0 | 0  | 4                          | 0    | 6     | 0 | 0  | 115   |               |
| 4:50 PM                         | 0                    | 53   | 2     | 0 | 0  | 8                    | 21   | 8     | 0 | 0  | 0                          | 0    | 18    | 0 | 0  | 4                          | 0    | 3     | 0 | 0  | 117   |               |
| 4:55 PM                         | 0                    | 55   | 5     | 0 | 0  | 3                    | 29   | 15    | 0 | 0  | 0                          | 0    | 17    | 0 | 0  | 2                          | 0    | 13    | 0 | 0  | 139   | 1503          |
| 5:00 PM                         | 0                    | 33   | 6     | 0 | 0  | 10                   | 33   | 11    | 0 | 0  | 2                          | 0    | 13    | 0 | 0  | 1                          | 0    | 11    | 0 | 0  | 120   | 1527          |
| 5:05 PM                         | 0                    | 56   | 3     | 0 | 0  | 8                    | 35   | 6     | 0 | 0  | 2                          | 1    | 22    | 0 | 0  | 1                          | 0    | 10    | 0 | 0  | 144   | 1537          |
| 5:10 PM                         | 0                    | 56   | 2     | 0 | 0  | 8                    | 8    | 12    | 0 | 0  | 1                          | 0    | 30    | 0 | 0  | 5                          | 0    | 12    | 0 | 0  | 134   | 1549          |
| 5:15 PM                         | 0                    | 65   | 3     | 0 | 0  | 7                    | 11   | 14    | 0 | 0  | 1                          | 0    | 18    | 0 | 0  | 2                          | 0    | 6     | 0 | 0  | 127   | 1541          |
| 5:20 PM                         | 0                    | 63   | 6     | 0 | 0  | 9                    | 24   | 16    | 0 | 0  | 0                          | 0    | 17    | 0 | 0  | 1                          | 0    | 9     | 0 | 0  | 145   | 1559          |
| 5:25 PM                         | 0                    | 46   | 2     | 0 | 0  | 7                    | 18   | 14    | 0 | 0  | 1                          | 1    | 11    | 0 | 0  | 4                          | 0    | 12    | 0 | 0  | 116   | 1547          |
| 5:30 PM                         | 0                    | 55   | 4     | 0 | 0  | 5                    | 18   | 16    | 0 | 0  | 1                          | 0    | 21    | 0 | 0  | 2                          | 0    | 10    | 0 | 0  | 132   | 1546          |
| 5:35 PM                         | 0                    | 58   | 1     | 0 | 0  | 5                    | 21   | 5     | 0 | 0  | 0                          | 0    | 19    | 0 | 0  | 2                          | 0    | 7     | 0 | 0  | 118   | 1538          |
| 5:40 PM                         | 0                    | 63   | 4     | 0 | 0  | 8                    | 23   | 10    | 0 | 0  | 0                          | 0    | 21    | 0 | 0  | 1                          | 0    | 7     | 0 | 0  | 137   | 1544          |
| 5:45 PM                         | 0                    | 56   | 4     | 0 | 0  | 6                    | 21   | 8     | 0 | 0  | 0                          | 1    | 19    | 0 | 0  | 2                          | 0    | 9     | 0 | 0  | 126   | 1555          |
| 5:50 PM                         | 0                    | 44   | 7     | 0 | 0  | 8                    | 22   | 9     | 0 | 0  | 1                          | 1    | 13    | 0 | 0  | 3                          | 0    | 10    | 0 | 0  | 118   | 1556          |
| 5:55 PM                         | 0                    | 44   | 1     | 0 | 0  | 5                    | 26   | 11    | 0 | 0  | 3                          | 0    | 15    | 0 | 0  | 4                          | 0    | 10    | 0 | 0  | 119   | 1536          |
| Peak 15-Min Flowrates           | Northbound           |      |       |   |    | Southbound           |      |       |   |    | Eastbound                  |      |       |   |    | Westbound                  |      |       |   |    | Total |               |
|                                 | Left                 | Thru | Right | U | R* | Left                 | Thru | Right | U | R* | Left                       | Thru | Right | U | R* | Left                       | Thru | Right | U | R* |       |               |
| All Vehicles                    | 0                    | 736  | 44    | 0 | 0  | 96                   | 172  | 168   | 0 | 0  | 8                          | 0    | 260   | 0 | 0  | 32                         | 0    | 108   | 0 | 0  | 1624  |               |
| Heavy Trucks                    | 0                    | 28   | 4     |   |    | 0                    | 4    | 0     |   |    | 0                          | 0    | 0     |   |    | 0                          | 0    | 0     |   |    | 36    |               |
| Buses                           |                      |      |       |   |    |                      |      |       |   |    |                            |      |       |   |    |                            |      |       |   |    |       |               |
| Pedestrians                     | 4                    |      |       |   |    | 0                    |      |       |   |    | 12                         |      |       |   |    | 0                          |      |       |   |    | 16    |               |
| Bicycles                        | 0                    | 0    | 0     |   |    | 0                    | 0    | 0     |   |    | 0                          | 0    | 0     |   |    | 0                          | 0    | 0     |   |    | 0     |               |
| Scooters                        |                      |      |       |   |    |                      |      |       |   |    |                            |      |       |   |    |                            |      |       |   |    |       |               |

Comments:

Appendix C  
Existing Traffic Conditions Analysis  
Worksheets

**Intersection Level Of Service Report****Intersection 1: Blankenship Road/Parkrose Hardware Driveway/Office Park Driveway**

|                  |                 |                           |       |
|------------------|-----------------|---------------------------|-------|
| Control Type:    | Two-way stop    | Delay (sec / veh):        | 26.0  |
| Analysis Method: | HCM 7th Edition | Level Of Service:         | D     |
| Analysis Period: | 15 minutes      | Volume to Capacity (v/c): | 0.079 |

**Intersection Setup**

| Name                         | Pa Ha                                                                             |        |        | Office Park Driveway                                                              |        |        | Blankenship Road                                                                    |        |        | Blankenship Road                                                                    |        |        |
|------------------------------|-----------------------------------------------------------------------------------|--------|--------|-----------------------------------------------------------------------------------|--------|--------|-------------------------------------------------------------------------------------|--------|--------|-------------------------------------------------------------------------------------|--------|--------|
| Approach                     | Northbound                                                                        |        |        | Southbound                                                                        |        |        | Eastbound                                                                           |        |        | Westbound                                                                           |        |        |
| Lane Configuration           |  |        |        |  |        |        |  |        |        |  |        |        |
| Turning Movement             | Left                                                                              | Thru   | Right  | Left                                                                              | Thru   | Right  | Left                                                                                | Thru   | Right  | Left                                                                                | Thru   | Right  |
| Lane Width [ft]              | 12.00                                                                             | 12.00  | 12.00  | 12.00                                                                             | 12.00  | 12.00  | 12.00                                                                               | 12.00  | 12.00  | 12.00                                                                               | 12.00  | 12.00  |
| No. of Lanes in Entry Pocket | 0                                                                                 | 0      | 0      | 0                                                                                 | 0      | 0      | 1                                                                                   | 0      | 0      | 1                                                                                   | 0      | 0      |
| Entry Pocket Length [ft]     | 100.00                                                                            | 100.00 | 100.00 | 100.00                                                                            | 100.00 | 100.00 | 100.00                                                                              | 100.00 | 100.00 | 150.00                                                                              | 100.00 | 100.00 |
| No. of Lanes in Exit Pocket  | 0                                                                                 | 0      | 0      | 0                                                                                 | 0      | 0      | 0                                                                                   | 0      | 0      | 0                                                                                   | 0      | 0      |
| Exit Pocket Length [ft]      | 0.00                                                                              | 0.00   | 0.00   | 0.00                                                                              | 0.00   | 0.00   | 0.00                                                                                | 0.00   | 0.00   | 0.00                                                                                | 0.00   | 0.00   |
| Speed [mph]                  | 25.00                                                                             |        |        | 25.00                                                                             |        |        | 25.00                                                                               |        |        | 25.00                                                                               |        |        |
| Grade [%]                    | 12.00                                                                             |        |        | -5.00                                                                             |        |        | 0.00                                                                                |        |        | 0.00                                                                                |        |        |
| Crosswalk                    | Yes                                                                               |        |        | Yes                                                                               |        |        | No                                                                                  |        |        | No                                                                                  |        |        |

**Volumes**

| Name                                    | Pa Ha  |        |        | Office Park Driveway |        |        | Blankenship Road |        |        | Blankenship Road |        |        |
|-----------------------------------------|--------|--------|--------|----------------------|--------|--------|------------------|--------|--------|------------------|--------|--------|
| Base Volume Input [veh/h]               | 13     | 0      | 39     | 4                    | 1      | 1      | 0                | 361    | 7      | 17               | 237    | 25     |
| Base Volume Adjustment Factor           | 1.0000 | 1.0000 | 1.0000 | 1.0000               | 1.0000 | 1.0000 | 1.0000           | 1.0000 | 1.0000 | 1.0000           | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%]           | 0.00   | 0.00   | 9.00   | 0.00                 | 0.00   | 0.00   | 0.00             | 2.00   | 0.00   | 0.00             | 5.00   | 5.00   |
| Growth Factor                           | 1.0000 | 1.0000 | 1.0000 | 1.0000               | 1.0000 | 1.0000 | 1.0000           | 1.0000 | 1.0000 | 1.0000           | 1.0000 | 1.0000 |
| In-Process Volume [veh/h]               | 0      | 0      | 0      | 0                    | 0      | 0      | 0                | 0      | 0      | 0                | 0      | 0      |
| Site-Generated Trips [veh/h]            | 0      | 0      | 0      | 0                    | 0      | 0      | 0                | 0      | 0      | 0                | 0      | 0      |
| Diverted Trips [veh/h]                  | 0      | 0      | 0      | 0                    | 0      | 0      | 0                | 0      | 0      | 0                | 0      | 0      |
| Pass-by Trips [veh/h]                   | 0      | 0      | 0      | 0                    | 0      | 0      | 0                | 0      | 0      | 0                | 0      | 0      |
| Existing Site Adjustment Volume [veh/h] | 0      | 0      | 0      | 0                    | 0      | 0      | 0                | 0      | 0      | 0                | 0      | 0      |
| Other Volume [veh/h]                    | 0      | 0      | 0      | 0                    | 0      | 0      | 0                | 0      | 0      | 0                | 0      | 0      |
| Total Hourly Volume [veh/h]             | 13     | 0      | 39     | 4                    | 1      | 1      | 0                | 361    | 7      | 17               | 237    | 25     |
| Peak Hour Factor                        | 0.8500 | 0.8500 | 0.8500 | 0.8500               | 0.8500 | 0.8500 | 0.8500           | 0.8500 | 0.8500 | 0.8500           | 0.8500 | 0.8500 |
| Other Adjustment Factor                 | 1.0000 | 1.0000 | 1.0000 | 1.0000               | 1.0000 | 1.0000 | 1.0000           | 1.0000 | 1.0000 | 1.0000           | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h]          | 4      | 0      | 11     | 1                    | 0      | 0      | 0                | 106    | 2      | 5                | 70     | 7      |
| Total Analysis Volume [veh/h]           | 15     | 0      | 46     | 5                    | 1      | 1      | 0                | 425    | 8      | 20               | 279    | 29     |
| Pedestrian Volume [ped/h]               | 2      |        |        | 0                    |        |        | 0                |        |        | 0                |        |        |

**Intersection Settings**

|                                    |      |      |      |      |
|------------------------------------|------|------|------|------|
| Priority Scheme                    | Stop | Stop | Free | Free |
| Flared Lane                        | No   | No   |      |      |
| Storage Area [veh]                 | 0    | 0    | 0    | 0    |
| Two-Stage Gap Acceptance           | No   | No   |      |      |
| Number of Storage Spaces in Median | 0    | 0    | 0    | 0    |

**Movement, Approach, & Intersection Results**

|                                       |       |       |       |       |       |      |      |      |      |      |      |      |
|---------------------------------------|-------|-------|-------|-------|-------|------|------|------|------|------|------|------|
| V/C, Movement V/C Ratio               | 0.08  | 0.00  | 0.09  | 0.01  | 0.00  | 0.00 | 0.00 | 0.00 | 0.00 | 0.02 | 0.00 | 0.00 |
| d_M, Delay for Movement [s/veh]       | 26.01 | 25.69 | 13.79 | 15.50 | 14.05 | 9.78 | 7.85 | 0.00 | 0.00 | 8.23 | 0.00 | 0.00 |
| Movement LOS                          | D     | D     | B     | C     | B     | A    | A    | A    | A    | A    | A    | A    |
| 95th-Percentile Queue Length [veh/ln] | 0.59  | 0.59  | 0.59  | 0.06  | 0.06  | 0.06 | 0.00 | 0.00 | 0.00 | 0.05 | 0.00 | 0.00 |
| 95th-Percentile Queue Length [ft/ln]  | 14.77 | 14.77 | 14.77 | 1.38  | 1.38  | 1.38 | 0.00 | 0.00 | 0.00 | 1.35 | 0.00 | 0.00 |
| d_A, Approach Delay [s/veh]           | 16.79 |       |       | 14.48 |       |      | 0.00 |      |      | 0.50 |      |      |
| Approach LOS                          | C     |       |       | B     |       |      | A    |      |      | A    |      |      |
| d_I, Intersection Delay [s/veh]       | 1.56  |       |       |       |       |      |      |      |      |      |      |      |
| Intersection LOS                      | D     |       |       |       |       |      |      |      |      |      |      |      |

### Intersection Level Of Service Report

#### Intersection 2: Blankenship Road/Tannler Drive

|                  |                 |                           |       |
|------------------|-----------------|---------------------------|-------|
| Control Type:    | Two-way stop    | Delay (sec / veh):        | 37.8  |
| Analysis Method: | HCM 7th Edition | Level Of Service:         | E     |
| Analysis Period: | 15 minutes      | Volume to Capacity (v/c): | 0.026 |

#### Intersection Setup

| Name                         | Dutch Bros Driveway                                                               |        |       | Tannler Drive                                                                     |        |        | Blankenship Road                                                                    |        |        | Blankenship Road                                                                    |        |        |
|------------------------------|-----------------------------------------------------------------------------------|--------|-------|-----------------------------------------------------------------------------------|--------|--------|-------------------------------------------------------------------------------------|--------|--------|-------------------------------------------------------------------------------------|--------|--------|
| Approach                     | Northbound                                                                        |        |       | Southbound                                                                        |        |        | Eastbound                                                                           |        |        | Westbound                                                                           |        |        |
| Lane Configuration           |  |        |       |  |        |        |  |        |        |  |        |        |
| Turning Movement             | Left                                                                              | Thru   | Right | Left                                                                              | Thru   | Right  | Left                                                                                | Thru   | Right  | Left                                                                                | Thru   | Right  |
| Lane Width [ft]              | 12.00                                                                             | 12.00  | 12.00 | 12.00                                                                             | 12.00  | 12.00  | 12.00                                                                               | 12.00  | 12.00  | 12.00                                                                               | 12.00  | 12.00  |
| No. of Lanes in Entry Pocket | 0                                                                                 | 0      | 1     | 0                                                                                 | 0      | 1      | 1                                                                                   | 0      | 0      | 1                                                                                   | 0      | 0      |
| Entry Pocket Length [ft]     | 100.00                                                                            | 100.00 | 90.00 | 100.00                                                                            | 100.00 | 100.00 | 150.00                                                                              | 100.00 | 100.00 | 100.00                                                                              | 100.00 | 100.00 |
| No. of Lanes in Exit Pocket  | 0                                                                                 | 0      | 0     | 0                                                                                 | 0      | 0      | 0                                                                                   | 0      | 0      | 0                                                                                   | 0      | 0      |
| Exit Pocket Length [ft]      | 0.00                                                                              | 0.00   | 0.00  | 0.00                                                                              | 0.00   | 0.00   | 0.00                                                                                | 0.00   | 0.00   | 0.00                                                                                | 0.00   | 0.00   |
| Speed [mph]                  | 25.00                                                                             |        |       | 25.00                                                                             |        |        | 25.00                                                                               |        |        | 25.00                                                                               |        |        |
| Grade [%]                    | 7.00                                                                              |        |       | -7.00                                                                             |        |        | 0.00                                                                                |        |        | 0.00                                                                                |        |        |
| Crosswalk                    | Yes                                                                               |        |       | No                                                                                |        |        | No                                                                                  |        |        | No                                                                                  |        |        |

#### Volumes

| Name                                    | Dutch Bros Driveway |        |        | Tannler Drive |        |        | Blankenship Road |        |        | Blankenship Road |        |        |
|-----------------------------------------|---------------------|--------|--------|---------------|--------|--------|------------------|--------|--------|------------------|--------|--------|
| Base Volume Input [veh/h]               | 3                   | 1      | 51     | 108           | 5      | 47     | 41               | 352    | 11     | 100              | 229    | 43     |
| Base Volume Adjustment Factor           | 1.0000              | 1.0000 | 1.0000 | 1.0000        | 1.0000 | 1.0000 | 1.0000           | 1.0000 | 1.0000 | 1.0000           | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%]           | 0.00                | 0.00   | 4.00   | 1.00          | 0.00   | 0.00   | 5.00             | 2.00   | 0.00   | 2.00             | 4.00   | 9.00   |
| Growth Factor                           | 1.0000              | 1.0000 | 1.0000 | 1.0000        | 1.0000 | 1.0000 | 1.0000           | 1.0000 | 1.0000 | 1.0000           | 1.0000 | 1.0000 |
| In-Process Volume [veh/h]               | 0                   | 0      | 0      | 0             | 0      | 0      | 0                | 0      | 0      | 0                | 0      | 0      |
| Site-Generated Trips [veh/h]            | 0                   | 0      | 0      | 0             | 0      | 0      | 0                | 0      | 0      | 0                | 0      | 0      |
| Diverted Trips [veh/h]                  | 0                   | 0      | 0      | 0             | 0      | 0      | 0                | 0      | 0      | 0                | 0      | 0      |
| Pass-by Trips [veh/h]                   | 0                   | 0      | 0      | 0             | 0      | 0      | 0                | 0      | 0      | 0                | 0      | 0      |
| Existing Site Adjustment Volume [veh/h] | 0                   | 0      | 0      | 0             | 0      | 0      | 0                | 0      | 0      | 0                | 0      | 0      |
| Other Volume [veh/h]                    | 0                   | 0      | 0      | 0             | 0      | 0      | 0                | 0      | 0      | 0                | 0      | 0      |
| Total Hourly Volume [veh/h]             | 3                   | 1      | 51     | 108           | 5      | 47     | 41               | 352    | 11     | 100              | 229    | 43     |
| Peak Hour Factor                        | 0.8900              | 0.8900 | 0.8900 | 0.8900        | 0.8900 | 0.8900 | 0.8900           | 0.8900 | 0.8900 | 0.8900           | 0.8900 | 0.8900 |
| Other Adjustment Factor                 | 1.0000              | 1.0000 | 1.0000 | 1.0000        | 1.0000 | 1.0000 | 1.0000           | 1.0000 | 1.0000 | 1.0000           | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h]          | 1                   | 0      | 14     | 30            | 1      | 13     | 12               | 99     | 3      | 28               | 64     | 12     |
| Total Analysis Volume [veh/h]           | 3                   | 1      | 57     | 121           | 6      | 53     | 46               | 396    | 12     | 112              | 257    | 48     |
| Pedestrian Volume [ped/h]               | 3                   |        |        | 0             |        |        | 0                |        |        | 0                |        |        |

**Intersection Settings**

|                                    |      |      |      |      |
|------------------------------------|------|------|------|------|
| Priority Scheme                    | Stop | Stop | Free | Free |
| Flared Lane                        |      |      |      |      |
| Storage Area [veh]                 | 0    | 2    | 0    | 0    |
| Two-Stage Gap Acceptance           | No   | No   |      |      |
| Number of Storage Spaces in Median | 0    | 0    | 0    | 0    |

**Movement, Approach, & Intersection Results**

|                                       |       |       |       |       |       |      |      |      |      |      |      |      |
|---------------------------------------|-------|-------|-------|-------|-------|------|------|------|------|------|------|------|
| V/C, Movement V/C Ratio               | 0.03  | 0.01  | 0.10  | 0.49  | 0.02  | 0.07 | 0.04 | 0.00 | 0.00 | 0.10 | 0.00 | 0.00 |
| d_M, Delay for Movement [s/veh]       | 37.78 | 32.24 | 11.74 | 33.42 | 30.49 | 9.78 | 8.02 | 0.00 | 0.00 | 8.49 | 0.00 | 0.00 |
| Movement LOS                          | E     | D     | B     | D     | D     | A    | A    | A    | A    | A    | A    | A    |
| 95th-Percentile Queue Length [veh/ln] | 0.10  | 0.10  | 0.32  | 2.64  | 2.64  | 0.21 | 0.12 | 0.00 | 0.00 | 0.32 | 0.00 | 0.00 |
| 95th-Percentile Queue Length [ft/ln]  | 2.60  | 2.60  | 7.97  | 65.89 | 65.89 | 5.27 | 2.89 | 0.00 | 0.00 | 8.11 | 0.00 | 0.00 |
| d_A, Approach Delay [s/veh]           | 13.36 |       |       | 26.36 |       |      | 0.81 |      |      | 2.28 |      |      |
| Approach LOS                          | B     |       |       | D     |       |      | A    |      |      | A    |      |      |
| d_I, Intersection Delay [s/veh]       | 6.19  |       |       |       |       |      |      |      |      |      |      |      |
| Intersection LOS                      | E     |       |       |       |       |      |      |      |      |      |      |      |

**Intersection Level Of Service Report****Intersection 3: Blankenship Road/Salamo Road/10th Street**

|                  |                 |                           |       |
|------------------|-----------------|---------------------------|-------|
| Control Type:    | Signalized      | Delay (sec / veh):        | 23.5  |
| Analysis Method: | HCM 7th Edition | Level Of Service:         | C     |
| Analysis Period: | 15 minutes      | Volume to Capacity (v/c): | 0.591 |

**Intersection Setup**

| Name                         | 10th Street                                                                       |        | Blankenship Road                                                                    |        | Salamo Road                                                                         |        |
|------------------------------|-----------------------------------------------------------------------------------|--------|-------------------------------------------------------------------------------------|--------|-------------------------------------------------------------------------------------|--------|
| Approach                     | Northbound                                                                        |        | Eastbound                                                                           |        | Westbound                                                                           |        |
| Lane Configuration           |  |        |  |        |  |        |
| Turning Movement             | Left                                                                              | Right  | Thru                                                                                | Right  | Left                                                                                | Thru   |
| Lane Width [ft]              | 12.00                                                                             | 12.00  | 12.00                                                                               | 12.00  | 12.00                                                                               | 12.00  |
| No. of Lanes in Entry Pocket | 0                                                                                 | 1      | 0                                                                                   | 1      | 1                                                                                   | 0      |
| Entry Pocket Length [ft]     | 100.00                                                                            | 100.00 | 100.00                                                                              | 100.00 | 250.00                                                                              | 100.00 |
| No. of Lanes in Exit Pocket  | 0                                                                                 | 0      | 0                                                                                   | 0      | 0                                                                                   | 0      |
| Exit Pocket Length [ft]      | 0.00                                                                              | 0.00   | 0.00                                                                                | 0.00   | 0.00                                                                                | 0.00   |
| Speed [mph]                  | 25.00                                                                             |        | 25.00                                                                               |        | 35.00                                                                               |        |
| Grade [%]                    | 7.00                                                                              |        | 0.00                                                                                |        | -3.00                                                                               |        |
| Curb Present                 | No                                                                                |        | No                                                                                  |        | No                                                                                  |        |
| Crosswalk                    | Yes                                                                               |        | No                                                                                  |        | No                                                                                  |        |

**Volumes**

| Name                                        | 10th Street |        | Blankenship Road |        | Salamo Road |        |
|---------------------------------------------|-------------|--------|------------------|--------|-------------|--------|
| Base Volume Input [veh/h]                   | 271         | 338    | 63               | 449    | 455         | 101    |
| Base Volume Adjustment Factor               | 1.0000      | 1.0000 | 1.0000           | 1.0000 | 1.0000      | 1.0000 |
| Heavy Vehicles Percentage [%]               | 5.00        | 8.00   | 5.00             | 2.00   | 3.00        | 1.00   |
| Proportion of CAVs [%]                      | 0.00        |        |                  |        |             |        |
| Growth Factor                               | 1.0000      | 1.0000 | 1.0000           | 1.0000 | 1.0000      | 1.0000 |
| In-Process Volume [veh/h]                   | 0           | 0      | 0                | 0      | 0           | 0      |
| Site-Generated Trips [veh/h]                | 0           | 0      | 0                | 0      | 0           | 0      |
| Diverted Trips [veh/h]                      | 0           | 0      | 0                | 0      | 0           | 0      |
| Pass-by Trips [veh/h]                       | 0           | 0      | 0                | 0      | 0           | 0      |
| Existing Site Adjustment Volume [veh/h]     | 0           | 0      | 0                | 0      | 0           | 0      |
| Other Volume [veh/h]                        | 0           | 0      | 0                | 0      | 0           | 0      |
| Right Turn on Red Volume [veh/h]            | 0           | 4      | 0                | 33     | 0           | 0      |
| Total Hourly Volume [veh/h]                 | 271         | 334    | 63               | 416    | 455         | 101    |
| Peak Hour Factor                            | 0.9100      | 0.9100 | 0.9100           | 0.9100 | 0.9100      | 0.9100 |
| Other Adjustment Factor                     | 1.0000      | 1.0000 | 1.0000           | 1.0000 | 1.0000      | 1.0000 |
| Total 15-Minute Volume [veh/h]              | 74          | 92     | 17               | 114    | 125         | 28     |
| Total Analysis Volume [veh/h]               | 298         | 367    | 69               | 457    | 500         | 111    |
| Presence of On-Street Parking               | No          | No     | No               | No     | No          | No     |
| On-Street Parking Maneuver Rate [/h]        | 0           | 0      | 0                | 0      | 0           | 0      |
| Local Bus Stopping Rate [/h]                | 0           | 0      | 0                | 0      | 0           | 0      |
| v_do, Outbound Pedestrian Volume crossing   | 0           |        | 0                |        | 0           |        |
| v_di, Inbound Pedestrian Volume crossing m  | 0           |        | 0                |        | 0           |        |
| v_co, Outbound Pedestrian Volume crossing   | 0           |        | 0                |        | 0           |        |
| v_ci, Inbound Pedestrian Volume crossing mi | 0           |        | 0                |        | 0           |        |
| v_ab, Corner Pedestrian Volume [ped/h]      | 0           |        | 0                |        | 0           |        |
| Bicycle Volume [bicycles/h]                 | 1           |        | 0                |        | 0           |        |

**Intersection Settings**

|                           |                                       |
|---------------------------|---------------------------------------|
| Located in CBD            | No                                    |
| Signal Coordination Group | -                                     |
| Cycle Length [s]          | 90                                    |
| Active Pattern            | Free Running (No Pattern)             |
| Coordination Type         | <i>Free Running</i>                   |
| Actuation Type            | <i>Fully actuated</i>                 |
| Offset [s]                | 0.0                                   |
| Offset Reference          | Lead Green - Beginning of First Green |
| Permissive Mode           | SingleBand                            |
| Lost time [s]             | 12.00                                 |

**Phasing & Timing (Basic)**

| Control Type                    | Overlap | Overlap | Permissive | Overlap | Protected | Permissive |
|---------------------------------|---------|---------|------------|---------|-----------|------------|
| Flashing Yellow Arrow           |         |         |            |         |           |            |
| Signal Group                    | 6       | 6       | 4          | 5       | 3         | 8          |
| Auxiliary Signal Groups         | 5,6,7   | 3,5,6,7 |            | 4,5,7   |           |            |
| Maximum Green [s]               | 6       | 6       | 16         | 40      | 35        | 32         |
| Amber [s]                       | 4.0     | 4.0     | 4.0        | 4.0     | 4.0       | 5.0        |
| All red [s]                     | 1.5     | 1.5     | 1.5        | 1.5     | 1.5       | 1.0        |
| Walk [s]                        | 0.0     | 0.0     | 8.0        | 7.0     | 7.0       | 0.0        |
| Pedestrian Clearance [s]        | 0.0     | 0.0     | 27.0       | 15.0    | 10.0      | 0.0        |
| Delayed Vehicle Green [s]       | 0.0     | 0.0     | 0.0        | 0.0     | 0.0       | 0.0        |
| Rest In Walk                    | No      |         | No         |         |           | No         |
| I1, Start-Up Lost Time [s]      | 2.0     | 2.0     | 2.0        | 2.0     | 2.0       | 2.0        |
| I2, Clearance Lost Time [s]     | 2.0     | 2.0     | 2.0        | 2.0     | 2.0       | 2.0        |
| Detector Location [ft]          | 0.0     | 0.0     | 0.0        | 0.0     | 0.0       | 0.0        |
| Detector Length [ft]            | 0.0     | 0.0     | 0.0        | 0.0     | 0.0       | 0.0        |
| Advanced Detector Location [ft] | 0.0     | 0.0     | 0.0        | 0.0     | 0.0       | 0.0        |
| Advanced Detector Length [ft]   | 0.0     | 0.0     | 0.0        | 0.0     | 0.0       | 0.0        |
| I, Upstream Filtering Factor    | 1.00    | 1.00    | 1.00       | 1.00    | 1.00      | 1.00       |

**Phasing & Timing: Free Running (No Pattern)**

|                       |     |     |      |      |      |      |
|-----------------------|-----|-----|------|------|------|------|
| Split [s]             | 9.0 | 9.0 | 14.0 | 14.0 | 9.0  | 14.0 |
| Lead / Lag            | Lag | -   | -    | -    | Lead | -    |
| Minimum Green [s]     | 2   | 2   | 6    | 10   | 4    | 6    |
| Vehicle Extension [s] | 0.5 | 0.5 | 2.3  | 5.2  | 2.3  | 2.3  |
| Minimum Recall        | No  | No  | No   | Yes  | No   | No   |
| Maximum Recall        | No  | No  | No   | No   | No   | No   |
| Pedestrian Recall     | No  | No  | No   | No   | No   | No   |

**Exclusive Pedestrian Phase**

|                          |   |
|--------------------------|---|
| Pedestrian Signal Group  | 0 |
| Pedestrian Walk [s]      | 0 |
| Pedestrian Clearance [s] | 0 |

**Lane Group Calculations**

| Lane Group                              | L     | R    | C     | R     | L     | C     |
|-----------------------------------------|-------|------|-------|-------|-------|-------|
| C, Calculated Cycle Length [s]          | 105   | 105  | 105   | 105   | 105   | 105   |
| L, Total Lost Time per Cycle [s]        | 4.00  | 4.00 | 4.00  | 4.00  | 4.00  | 4.00  |
| l1_p, Permitted Start-Up Lost Time [s]  | 0.00  | 0.00 | 0.00  | 0.00  | 0.00  | 0.00  |
| l2, Clearance Lost Time [s]             | 0.00  | 2.00 | 2.00  | 0.00  | 2.00  | 2.00  |
| g_i, Effective Green Time [s]           | 46.2  | 79.1 | 9.7   | 51.3  | 32.8  | 46.5  |
| g / C, Green / Cycle                    | 0.44  | 0.76 | 0.09  | 0.49  | 0.31  | 0.44  |
| (v / s)_i Volume / Saturation Flow Rate | 0.20  | 0.29 | 0.04  | 0.29  | 0.28  | 0.06  |
| s, saturation flow rate [veh/h]         | 1476  | 1264 | 1825  | 1589  | 1767  | 1885  |
| c, Capacity [veh/h]                     | 610   | 900  | 168   | 733   | 554   | 837   |
| d1, Uniform Delay [s]                   | 13.41 | 0.00 | 44.91 | 13.36 | 34.46 | 17.23 |
| k, delay calibration                    | 0.26  | 0.35 | 0.07  | 0.50  | 0.33  | 0.07  |
| l, Upstream Filtering Factor            | 1.00  | 1.00 | 1.00  | 1.00  | 1.00  | 1.00  |
| d2, Incremental Delay [s]               | 1.44  | 0.95 | 0.98  | 3.97  | 14.77 | 0.04  |
| d3, Initial Queue Delay [s]             | 0.00  | 0.00 | 0.00  | 0.00  | 0.00  | 0.00  |
| Rp, platoon ratio                       | 1.33  | 1.33 | 1.00  | 1.00  | 1.00  | 1.00  |
| PF, progression factor                  | 1.00  | 1.00 | 1.00  | 1.00  | 1.00  | 1.00  |

**Lane Group Results**

|                                       |        |       |       |        |        |       |
|---------------------------------------|--------|-------|-------|--------|--------|-------|
| X, volume / capacity                  | 0.49   | 0.41  | 0.41  | 0.62   | 0.90   | 0.13  |
| d, Delay for Lane Group [s/veh]       | 14.85  | 0.95  | 45.89 | 17.32  | 49.23  | 17.27 |
| Lane Group LOS                        | B      | A     | D     | B      | D      | B     |
| Critical Lane Group                   | Yes    | Yes   | No    | Yes    | Yes    | No    |
| 50th-Percentile Queue Length [veh/ln] | 3.57   | 0.24  | 1.75  | 6.64   | 14.03  | 1.55  |
| 50th-Percentile Queue Length [ft/ln]  | 89.20  | 5.94  | 43.72 | 166.11 | 350.80 | 38.79 |
| 95th-Percentile Queue Length [veh/ln] | 6.42   | 0.43  | 3.15  | 10.87  | 20.18  | 2.79  |
| 95th-Percentile Queue Length [ft/ln]  | 160.56 | 10.69 | 78.70 | 271.80 | 504.38 | 69.82 |

**Movement, Approach, & Intersection Results**

|                                 |       |      |       |       |       |       |
|---------------------------------|-------|------|-------|-------|-------|-------|
| d_M, Delay for Movement [s/veh] | 14.85 | 0.95 | 45.89 | 17.32 | 49.23 | 17.27 |
| Movement LOS                    | B     | A    | D     | B     | D     | B     |
| d_A, Approach Delay [s/veh]     | 7.18  |      | 21.07 |       | 43.42 |       |
| Approach LOS                    | A     |      | C     |       | D     |       |
| d_I, Intersection Delay [s/veh] | 23.52 |      |       |       |       |       |
| Intersection LOS                | C     |      |       |       |       |       |
| Intersection V/C                | 0.591 |      |       |       |       |       |

**Emissions**

|                              |        |       |       |        |        |       |
|------------------------------|--------|-------|-------|--------|--------|-------|
| Vehicle Miles Traveled [mph] | 14.85  | 18.29 | 3.64  | 24.11  | 69.28  | 15.38 |
| Stops [stops/h]              | 122.65 | 8.16  | 60.12 | 228.41 | 482.34 | 53.33 |
| Fuel consumption [US gal/h]  | 2.04   | 0.92  | 1.04  | 3.57   | 11.28  | 1.38  |
| CO [g/h]                     | 142.51 | 64.63 | 72.60 | 249.65 | 788.24 | 96.28 |
| NOx [g/h]                    | 27.73  | 12.57 | 14.12 | 48.57  | 153.36 | 18.73 |
| VOC [g/h]                    | 33.03  | 14.98 | 16.83 | 57.86  | 182.68 | 22.31 |

**Other Modes**

|                                                          |       |       |       |
|----------------------------------------------------------|-------|-------|-------|
| g_Walk,mi, Effective Walk Time [s]                       | 12.0  | 0.0   | 0.0   |
| M_corner, Corner Circulation Area [ft <sup>2</sup> /ped] | 0.00  | 0.00  | 0.00  |
| M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]  | 0.00  | 0.00  | 0.00  |
| d_p, Pedestrian Delay [s]                                | 41.05 | 0.00  | 0.00  |
| I_p,int, Pedestrian LOS Score for Intersectio            | 2.480 | 0.000 | 0.000 |
| Crosswalk LOS                                            | B     | F     | F     |
| s_b, Saturation Flow Rate of the bicycle lane            | 2000  | 2000  | 2000  |
| c_b, Capacity of the bicycle lane [bicycles/h]           | 458   | 306   | 611   |
| d_b, Bicycle Delay [s]                                   | 31.13 | 37.59 | 25.25 |
| I_b,int, Bicycle LOS Score for Intersection              | 1.560 | 2.482 | 2.568 |
| Bicycle LOS                                              | A     | B     | B     |

**Sequence**

|        |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|--------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | 1 | 2 | - | 3 | 4 | - | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | 5 | 6 | 7 | 8 | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |



**Intersection Level Of Service Report**  
**Intersection 4: 10th Street/I-205 SB Ramp**

|                  |                 |                           |       |
|------------------|-----------------|---------------------------|-------|
| Control Type:    | Signalized      | Delay (sec / veh):        | 31.1  |
| Analysis Method: | HCM 7th Edition | Level Of Service:         | C     |
| Analysis Period: | 15 minutes      | Volume to Capacity (v/c): | 0.628 |

**Intersection Setup**

| Name                         | 10th Street                                                                       |        |        | 10th Street                                                                       |        |        | I-205 SB Entry Ramp                                                                 |        |        | I-205 SB Exit Ramp                                                                  |        |        |
|------------------------------|-----------------------------------------------------------------------------------|--------|--------|-----------------------------------------------------------------------------------|--------|--------|-------------------------------------------------------------------------------------|--------|--------|-------------------------------------------------------------------------------------|--------|--------|
| Approach                     | Northbound                                                                        |        |        | Southbound                                                                        |        |        | Eastbound                                                                           |        |        | Westbound                                                                           |        |        |
| Lane Configuration           |  |        |        |  |        |        |  |        |        |  |        |        |
| Turning Movement             | Left                                                                              | Thru   | Right  | Left                                                                              | Thru   | Right  | Left                                                                                | Thru   | Right  | Left                                                                                | Thru   | Right  |
| Lane Width [ft]              | 12.00                                                                             | 12.00  | 12.00  | 12.00                                                                             | 12.00  | 12.00  | 12.00                                                                               | 12.00  | 12.00  | 12.00                                                                               | 12.00  | 12.00  |
| No. of Lanes in Entry Pocket | 1                                                                                 | 0      | 0      | 0                                                                                 | 0      | 0      | 0                                                                                   | 0      | 0      | 0                                                                                   | 0      | 1      |
| Entry Pocket Length [ft]     | 200.00                                                                            | 100.00 | 100.00 | 100.00                                                                            | 100.00 | 100.00 | 100.00                                                                              | 100.00 | 100.00 | 100.00                                                                              | 100.00 | 200.00 |
| No. of Lanes in Exit Pocket  | 0                                                                                 | 0      | 1      | 0                                                                                 | 0      | 0      | 0                                                                                   | 0      | 0      | 0                                                                                   | 0      | 0      |
| Exit Pocket Length [ft]      | 0.00                                                                              | 0.00   | 100.00 | 0.00                                                                              | 0.00   | 0.00   | 0.00                                                                                | 0.00   | 0.00   | 0.00                                                                                | 0.00   | 0.00   |
| Speed [mph]                  | 25.00                                                                             |        |        | 25.00                                                                             |        |        | 30.00                                                                               |        |        | 45.00                                                                               |        |        |
| Grade [%]                    | 9.00                                                                              |        |        | -4.00                                                                             |        |        | 0.00                                                                                |        |        | 0.00                                                                                |        |        |
| Curb Present                 | No                                                                                |        |        | No                                                                                |        |        |                                                                                     |        |        | No                                                                                  |        |        |
| Crosswalk                    | Yes                                                                               |        |        | No                                                                                |        |        | Yes                                                                                 |        |        | Yes                                                                                 |        |        |

**Volumes**

| Name                                        | 10th Street |        |        | 10th Street |        |        | I-205 SB Entry Ramp |        |        | I-205 SB Exit Ramp |        |        |
|---------------------------------------------|-------------|--------|--------|-------------|--------|--------|---------------------|--------|--------|--------------------|--------|--------|
| Base Volume Input [veh/h]                   | 152         | 461    | 0      | 0           | 468    | 436    | 0                   | 0      | 0      | 123                | 4      | 148    |
| Base Volume Adjustment Factor               | 1.0000      | 1.0000 | 1.0000 | 1.0000      | 1.0000 | 1.0000 | 1.0000              | 1.0000 | 1.0000 | 1.0000             | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%]               | 9.00        | 7.00   | 2.00   | 2.00        | 2.00   | 2.00   | 2.00                | 2.00   | 2.00   | 6.00               | 25.00  | 4.00   |
| Proportion of CAVs [%]                      | 0.00        |        |        |             |        |        |                     |        |        |                    |        |        |
| Growth Factor                               | 1.0000      | 1.0000 | 1.0000 | 1.0000      | 1.0000 | 1.0000 | 1.0000              | 1.0000 | 1.0000 | 1.0000             | 1.0000 | 1.0000 |
| In-Process Volume [veh/h]                   | 0           | 0      | 0      | 0           | 0      | 0      | 0                   | 0      | 0      | 0                  | 0      | 0      |
| Site-Generated Trips [veh/h]                | 0           | 0      | 0      | 0           | 0      | 0      | 0                   | 0      | 0      | 0                  | 0      | 0      |
| Diverted Trips [veh/h]                      | 0           | 0      | 0      | 0           | 0      | 0      | 0                   | 0      | 0      | 0                  | 0      | 0      |
| Pass-by Trips [veh/h]                       | 0           | 0      | 0      | 0           | 0      | 0      | 0                   | 0      | 0      | 0                  | 0      | 0      |
| Existing Site Adjustment Volume [veh/h]     | 0           | 0      | 0      | 0           | 0      | 0      | 0                   | 0      | 0      | 0                  | 0      | 0      |
| Other Volume [veh/h]                        | 0           | 0      | 0      | 0           | 0      | 0      | 0                   | 0      | 0      | 0                  | 0      | 0      |
| Right Turn on Red Volume [veh/h]            | 0           | 0      | 0      | 0           | 0      | 122    | 0                   | 0      | 0      | 0                  | 0      | 73     |
| Total Hourly Volume [veh/h]                 | 152         | 461    | 0      | 0           | 468    | 314    | 0                   | 0      | 0      | 123                | 4      | 75     |
| Peak Hour Factor                            | 0.9000      | 0.9000 | 1.0000 | 1.0000      | 0.9000 | 0.9000 | 1.0000              | 1.0000 | 1.0000 | 0.9000             | 0.9000 | 0.9000 |
| Other Adjustment Factor                     | 1.0000      | 1.0000 | 1.0000 | 1.0000      | 1.0000 | 1.0000 | 1.0000              | 1.0000 | 1.0000 | 1.0000             | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h]              | 42          | 128    | 0      | 0           | 130    | 87     | 0                   | 0      | 0      | 34                 | 1      | 21     |
| Total Analysis Volume [veh/h]               | 169         | 512    | 0      | 0           | 520    | 349    | 0                   | 0      | 0      | 137                | 4      | 83     |
| Presence of On-Street Parking               | No          |        | No     | No          |        | No     |                     |        |        | No                 |        | No     |
| On-Street Parking Maneuver Rate [/h]        | 0           | 0      | 0      | 0           | 0      | 0      | 0                   | 0      | 0      | 0                  | 0      | 0      |
| Local Bus Stopping Rate [/h]                | 0           | 0      | 0      | 0           | 0      | 0      | 0                   | 0      | 0      | 0                  | 0      | 0      |
| v_do, Outbound Pedestrian Volume crossing   | 0           |        |        | 0           |        |        | 0                   |        |        | 0                  |        |        |
| v_di, Inbound Pedestrian Volume crossing m  | 0           |        |        | 0           |        |        | 0                   |        |        | 0                  |        |        |
| v_co, Outbound Pedestrian Volume crossing   | 0           |        |        | 1           |        |        | 2                   |        |        | 0                  |        |        |
| v_ci, Inbound Pedestrian Volume crossing mi | 0           |        |        | 2           |        |        | 1                   |        |        | 0                  |        |        |
| v_ab, Corner Pedestrian Volume [ped/h]      | 0           |        |        | 0           |        |        | 0                   |        |        | 0                  |        |        |
| Bicycle Volume [bicycles/h]                 | 1           |        |        | 1           |        |        | 0                   |        |        | 0                  |        |        |

**Intersection Settings**

|                           |                                       |
|---------------------------|---------------------------------------|
| Located in CBD            | No                                    |
| Signal Coordination Group | -                                     |
| Cycle Length [s]          | 90                                    |
| Active Pattern            | Free Running (No Pattern)             |
| Coordination Type         | <i>Free Running</i>                   |
| Actuation Type            | <i>Fully actuated</i>                 |
| Offset [s]                | 0.0                                   |
| Offset Reference          | Lead Green - Beginning of First Green |
| Permissive Mode           | SingleBand                            |
| Lost time [s]             | 12.00                                 |

**Phasing & Timing (Basic)**

| Control Type                    | ProtPer | Permiss | Permiss | Permiss | Overlap | Overlap | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss |
|---------------------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| Flashing Yellow Arrow           | Yes     |         |         |         |         |         |         |         |         |         |         |         |
| Signal Group                    | 1       | 5       | 0       | 0       | 2       | 2       | 0       | 0       | 0       | 0       | 7       | 0       |
| Auxiliary Signal Groups         |         |         |         |         | 2,3,4   | 2,3,4   |         |         |         |         |         |         |
| Maximum Green [s]               | 21      | 40      | 0       | 0       | 37      | 37      | 0       | 0       | 0       | 0       | 45      | 0       |
| Amber [s]                       | 4.0     | 4.0     | 0.0     | 0.0     | 4.0     | 4.0     | 0.0     | 0.0     | 0.0     | 0.0     | 4.0     | 0.0     |
| All red [s]                     | 1.5     | 1.5     | 0.0     | 0.0     | 1.5     | 1.5     | 0.0     | 0.0     | 0.0     | 0.0     | 1.5     | 0.0     |
| Walk [s]                        | 0.0     | 7.0     | 0.0     | 0.0     | 7.0     | 7.0     | 0.0     | 0.0     | 0.0     | 0.0     | 7.0     | 0.0     |
| Pedestrian Clearance [s]        | 0.0     | 15.0    | 0.0     | 0.0     | 12.0    | 12.0    | 0.0     | 0.0     | 0.0     | 0.0     | 16.0    | 0.0     |
| Delayed Vehicle Green [s]       | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     |
| Rest In Walk                    |         | No      |         |         | No      |         |         |         |         |         | No      |         |
| I1, Start-Up Lost Time [s]      | 2.0     | 2.0     | 0.0     | 0.0     | 2.0     | 2.0     | 0.0     | 0.0     | 0.0     | 0.0     | 2.0     | 0.0     |
| I2, Clearance Lost Time [s]     | 2.0     | 2.0     | 0.0     | 0.0     | 2.0     | 2.0     | 0.0     | 0.0     | 0.0     | 0.0     | 2.0     | 0.0     |
| Detector Location [ft]          | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     |
| Detector Length [ft]            | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     |
| Advanced Detector Location [ft] | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     |
| Advanced Detector Length [ft]   | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     |
| I, Upstream Filtering Factor    | 1.00    | 1.00    | 1.00    | 1.00    | 1.00    | 1.00    | 1.00    | 1.00    | 1.00    | 1.00    | 1.00    | 1.00    |

**Phasing & Timing: Free Running (No Pattern)**

|                       |      |      |     |     |      |      |     |     |     |     |      |     |
|-----------------------|------|------|-----|-----|------|------|-----|-----|-----|-----|------|-----|
| Split [s]             | 9.0  | 14.0 | 0.0 | 0.0 | 14.0 | 14.0 | 0.0 | 0.0 | 0.0 | 0.0 | 14.0 | 0.0 |
| Lead / Lag            | Lead | -    | -   | -   | -    | -    | -   | -   | -   | -   | -    | -   |
| Minimum Green [s]     | 4    | 10   | 0   | 0   | 6    | 6    | 0   | 0   | 0   | 0   | 6    | 0   |
| Vehicle Extension [s] | 2.3  | 5.2  | 0.0 | 0.0 | 3.0  | 3.0  | 0.0 | 0.0 | 0.0 | 0.0 | 3.0  | 0.0 |
| Minimum Recall        | No   | Yes  |     |     | Yes  | Yes  |     |     |     |     | No   |     |
| Maximum Recall        | No   | No   |     |     | No   | No   |     |     |     |     | No   |     |
| Pedestrian Recall     | No   | No   |     |     | No   | No   |     |     |     |     | No   |     |

**Exclusive Pedestrian Phase**

|                          |   |
|--------------------------|---|
| Pedestrian Signal Group  | 0 |
| Pedestrian Walk [s]      | 0 |
| Pedestrian Clearance [s] | 0 |

**Lane Group Calculations**

| Lane Group                              | L     | C     | C    | C    |  | C     | R     |
|-----------------------------------------|-------|-------|------|------|--|-------|-------|
| C, Calculated Cycle Length [s]          | 106   | 106   | 106  | 106  |  | 106   | 106   |
| L, Total Lost Time per Cycle [s]        | 4.00  | 4.00  | 4.00 | 4.00 |  | 4.00  | 4.00  |
| l1_p, Permitted Start-Up Lost Time [s]  | 0.00  | 0.00  | 0.00 | 0.00 |  | 0.00  | 0.00  |
| l2, Clearance Lost Time [s]             | 2.00  | 2.00  | 2.00 | 2.00 |  | 2.00  | 2.00  |
| g_i, Effective Green Time [s]           | 16.5  | 40.6  | 59.9 | 59.9 |  | 14.0  | 14.0  |
| g / C, Green / Cycle                    | 0.16  | 0.38  | 0.56 | 0.56 |  | 0.13  | 0.13  |
| (v / s)_i Volume / Saturation Flow Rate | 0.13  | 0.36  | 0.23 | 0.27 |  | 0.10  | 0.05  |
| s, saturation flow rate [veh/h]         | 1344  | 1441  | 1869 | 1606 |  | 1454  | 1564  |
| c, Capacity [veh/h]                     | 209   | 549   | 1000 | 859  |  | 192   | 206   |
| d1, Uniform Delay [s]                   | 43.50 | 31.66 | 7.54 | 7.93 |  | 44.51 | 42.44 |
| k, delay calibration                    | 0.14  | 0.45  | 0.21 | 0.30 |  | 0.11  | 0.11  |
| l, Upstream Filtering Factor            | 1.00  | 1.00  | 1.00 | 1.00 |  | 1.00  | 1.00  |
| d2, Incremental Delay [s]               | 9.13  | 23.13 | 0.59 | 1.26 |  | 5.42  | 1.27  |
| d3, Initial Queue Delay [s]             | 0.00  | 0.00  | 0.00 | 0.00 |  | 0.00  | 0.00  |
| Rp, platoon ratio                       | 1.00  | 1.00  | 1.00 | 1.00 |  | 1.00  | 1.00  |
| PF, progression factor                  | 1.00  | 1.00  | 1.00 | 1.00 |  | 1.00  | 1.00  |

**Lane Group Results**

|                                       |        |        |        |        |  |        |       |
|---------------------------------------|--------|--------|--------|--------|--|--------|-------|
| X, volume / capacity                  | 0.81   | 0.93   | 0.43   | 0.51   |  | 0.74   | 0.40  |
| d, Delay for Lane Group [s/veh]       | 52.63  | 54.80  | 8.13   | 9.20   |  | 49.93  | 43.71 |
| Lane Group LOS                        | D      | D      | A      | A      |  | D      | D     |
| Critical Lane Group                   | No     | Yes    | No     | Yes    |  | Yes    | No    |
| 50th-Percentile Queue Length [veh/ln] | 4.84   | 15.95  | 2.75   | 3.02   |  | 3.74   | 2.01  |
| 50th-Percentile Queue Length [ft/ln]  | 121.06 | 398.67 | 68.76  | 75.58  |  | 93.49  | 50.25 |
| 95th-Percentile Queue Length [veh/ln] | 8.45   | 22.50  | 4.95   | 5.44   |  | 6.73   | 3.62  |
| 95th-Percentile Queue Length [ft/ln]  | 211.28 | 562.40 | 123.78 | 136.05 |  | 168.28 | 90.45 |

**Movement, Approach, & Intersection Results**

|                                 |       |       |      |      |      |      |      |      |      |       |       |       |
|---------------------------------|-------|-------|------|------|------|------|------|------|------|-------|-------|-------|
| d_M, Delay for Movement [s/veh] | 52.63 | 54.80 | 0.00 | 0.00 | 8.31 | 9.20 | 0.00 | 0.00 | 0.00 | 49.93 | 49.93 | 43.71 |
| Movement LOS                    | D     | D     |      |      | A    | A    |      |      |      | D     | D     | D     |
| d_A, Approach Delay [s/veh]     | 54.26 |       |      | 8.66 |      |      | 0.00 |      |      | 47.62 |       |       |
| Approach LOS                    | D     |       |      | A    |      |      | A    |      |      | D     |       |       |
| d_I, Intersection Delay [s/veh] | 31.09 |       |      |      |      |      |      |      |      |       |       |       |
| Intersection LOS                | C     |       |      |      |      |      |      |      |      |       |       |       |
| Intersection V/C                | 0.628 |       |      |      |      |      |      |      |      |       |       |       |

**Emissions**

|                              |        |        |        |        |  |        |        |
|------------------------------|--------|--------|--------|--------|--|--------|--------|
| Vehicle Miles Traveled [mph] | 17.92  | 54.30  | 21.65  | 21.65  |  | 14.15  | 8.33   |
| Stops [stops/h]              | 163.83 | 539.53 | 93.06  | 102.28 |  | 126.52 | 68.00  |
| Fuel consumption [US gal/h]  | 3.24   | 10.22  | 2.05   | 2.18   |  | 3.49   | 1.87   |
| CO [g/h]                     | 226.77 | 714.40 | 143.25 | 152.32 |  | 243.98 | 130.66 |
| NOx [g/h]                    | 44.12  | 139.00 | 27.87  | 29.64  |  | 47.47  | 25.42  |
| VOC [g/h]                    | 52.56  | 165.57 | 33.20  | 35.30  |  | 56.55  | 30.28  |

**Other Modes**

|                                                          |       |  |         |  |         |  |       |
|----------------------------------------------------------|-------|--|---------|--|---------|--|-------|
| g_Walk,mi, Effective Walk Time [s]                       | 11.0  |  | 0.0     |  | 11.0    |  | 11.0  |
| M_corner, Corner Circulation Area [ft <sup>2</sup> /ped] | 0.00  |  | 1032.18 |  | 1014.36 |  | 0.00  |
| M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]  | 0.00  |  | 0.00    |  | 0.00    |  | 0.00  |
| d_p, Pedestrian Delay [s]                                | 42.77 |  | 0.00    |  | 42.77   |  | 42.77 |
| I_p,int, Pedestrian LOS Score for Intersectio            | 2.411 |  | 0.000   |  | 2.059   |  | 2.044 |
| Crosswalk LOS                                            | B     |  | F       |  | B       |  | B     |
| s_b, Saturation Flow Rate of the bicycle lane            | 2000  |  | 2000    |  | 2000    |  | 2000  |
| c_b, Capacity of the bicycle lane [bicycles/h]           | 752   |  | 639     |  | 0       |  | 846   |
| d_b, Bicycle Delay [s]                                   | 20.73 |  | 24.65   |  | 53.20   |  | 17.72 |
| I_b,int, Bicycle LOS Score for Intersection              | 2.683 |  | 2.377   |  | 4.132   |  | 2.050 |
| Bicycle LOS                                              | B     |  | B       |  | D       |  | B     |

**Sequence**

|        |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|--------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | 1 | 2 | - | 3 | 4 | - | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | 5 | 6 | 7 | 8 | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |



**Intersection Level Of Service Report**  
**Intersection 5: 10th Street/I-205 NB Ramp**

|                  |                 |                           |       |
|------------------|-----------------|---------------------------|-------|
| Control Type:    | Signalized      | Delay (sec / veh):        | 22.4  |
| Analysis Method: | HCM 7th Edition | Level Of Service:         | C     |
| Analysis Period: | 15 minutes      | Volume to Capacity (v/c): | 0.542 |

**Intersection Setup**

| Name                         | 10th Street                                                                       |        |       | 10th Street                                                                       |        |        | I-205 NB Exit Ramp                                                                  |        |        | I-205 NB Entry Ramp |        |        |
|------------------------------|-----------------------------------------------------------------------------------|--------|-------|-----------------------------------------------------------------------------------|--------|--------|-------------------------------------------------------------------------------------|--------|--------|---------------------|--------|--------|
| Approach                     | Northbound                                                                        |        |       | Southbound                                                                        |        |        | Eastbound                                                                           |        |        | Westbound           |        |        |
| Lane Configuration           |  |        |       |  |        |        |  |        |        |                     |        |        |
| Turning Movement             | Left                                                                              | Thru   | Right | Left                                                                              | Thru   | Right  | Left                                                                                | Thru   | Right  | Left                | Thru   | Right  |
| Lane Width [ft]              | 12.00                                                                             | 12.00  | 12.00 | 12.00                                                                             | 12.00  | 12.00  | 12.00                                                                               | 12.00  | 12.00  | 12.00               | 12.00  | 12.00  |
| No. of Lanes in Entry Pocket | 0                                                                                 | 0      | 1     | 1                                                                                 | 0      | 0      | 0                                                                                   | 0      | 1      | 0                   | 0      | 0      |
| Entry Pocket Length [ft]     | 100.00                                                                            | 100.00 | 60.00 | 100.00                                                                            | 100.00 | 100.00 | 100.00                                                                              | 100.00 | 100.00 | 100.00              | 100.00 | 100.00 |
| No. of Lanes in Exit Pocket  | 0                                                                                 | 0      | 0     | 0                                                                                 | 0      | 0      | 0                                                                                   | 0      | 0      | 0                   | 0      | 0      |
| Exit Pocket Length [ft]      | 0.00                                                                              | 0.00   | 0.00  | 0.00                                                                              | 0.00   | 0.00   | 0.00                                                                                | 0.00   | 0.00   | 0.00                | 0.00   | 0.00   |
| Speed [mph]                  | 25.00                                                                             |        |       | 25.00                                                                             |        |        | 45.00                                                                               |        |        | 30.00               |        |        |
| Grade [%]                    | 0.00                                                                              |        |       | 0.00                                                                              |        |        | -4.00                                                                               |        |        | 0.00                |        |        |
| Curb Present                 | No                                                                                |        |       | No                                                                                |        |        | No                                                                                  |        |        |                     |        |        |
| Crosswalk                    | Yes                                                                               |        |       | No                                                                                |        |        | Yes                                                                                 |        |        | Yes                 |        |        |

**Volumes**

| Name                                        | 10th Street |        |        | 10th Street |        |        | I-205 NB Exit Ramp |        |        | I-205 NB Entry Ramp |        |        |
|---------------------------------------------|-------------|--------|--------|-------------|--------|--------|--------------------|--------|--------|---------------------|--------|--------|
| Base Volume Input [veh/h]                   | 0           | 366    | 173    | 230         | 361    | 0      | 247                | 0      | 138    | 0                   | 0      | 0      |
| Base Volume Adjustment Factor               | 1.0000      | 1.0000 | 1.0000 | 1.0000      | 1.0000 | 1.0000 | 1.0000             | 1.0000 | 1.0000 | 1.0000              | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%]               | 2.00        | 6.00   | 2.00   | 3.00        | 4.00   | 2.00   | 9.00               | 0.00   | 1.00   | 2.00                | 2.00   | 2.00   |
| Proportion of CAVs [%]                      | 0.00        |        |        |             |        |        |                    |        |        |                     |        |        |
| Growth Factor                               | 1.0000      | 1.0000 | 1.0000 | 1.0000      | 1.0000 | 1.0000 | 1.0000             | 1.0000 | 1.0000 | 1.0000              | 1.0000 | 1.0000 |
| In-Process Volume [veh/h]                   | 0           | 0      | 0      | 0           | 0      | 0      | 0                  | 0      | 0      | 0                   | 0      | 0      |
| Site-Generated Trips [veh/h]                | 0           | 0      | 0      | 0           | 0      | 0      | 0                  | 0      | 0      | 0                   | 0      | 0      |
| Diverted Trips [veh/h]                      | 0           | 0      | 0      | 0           | 0      | 0      | 0                  | 0      | 0      | 0                   | 0      | 0      |
| Pass-by Trips [veh/h]                       | 0           | 0      | 0      | 0           | 0      | 0      | 0                  | 0      | 0      | 0                   | 0      | 0      |
| Existing Site Adjustment Volume [veh/h]     | 0           | 0      | 0      | 0           | 0      | 0      | 0                  | 0      | 0      | 0                   | 0      | 0      |
| Other Volume [veh/h]                        | 0           | 0      | 0      | 0           | 0      | 0      | 0                  | 0      | 0      | 0                   | 0      | 0      |
| Right Turn on Red Volume [veh/h]            | 0           | 0      | 60     | 0           | 0      | 0      | 0                  | 0      | 91     | 0                   | 0      | 0      |
| Total Hourly Volume [veh/h]                 | 0           | 366    | 113    | 230         | 361    | 0      | 247                | 0      | 47     | 0                   | 0      | 0      |
| Peak Hour Factor                            | 1.0000      | 0.8800 | 0.8800 | 0.8800      | 0.8800 | 1.0000 | 0.8800             | 0.8800 | 0.8800 | 1.0000              | 1.0000 | 1.0000 |
| Other Adjustment Factor                     | 1.0000      | 1.0000 | 1.0000 | 1.0000      | 1.0000 | 1.0000 | 1.0000             | 1.0000 | 1.0000 | 1.0000              | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h]              | 0           | 104    | 32     | 65          | 103    | 0      | 70                 | 0      | 13     | 0                   | 0      | 0      |
| Total Analysis Volume [veh/h]               | 0           | 416    | 128    | 261         | 410    | 0      | 281                | 0      | 53     | 0                   | 0      | 0      |
| Presence of On-Street Parking               | No          |        | No     | No          |        | No     | No                 |        | No     |                     |        |        |
| On-Street Parking Maneuver Rate [/h]        | 0           | 0      | 0      | 0           | 0      | 0      | 0                  | 0      | 0      | 0                   | 0      | 0      |
| Local Bus Stopping Rate [/h]                | 0           | 0      | 0      | 0           | 0      | 0      | 0                  | 0      | 0      | 0                   | 0      | 0      |
| v_do, Outbound Pedestrian Volume crossing   | 0           |        |        | 0           |        |        | 0                  |        |        | 0                   |        |        |
| v_di, Inbound Pedestrian Volume crossing m  | 0           |        |        | 0           |        |        | 0                  |        |        | 0                   |        |        |
| v_co, Outbound Pedestrian Volume crossing   | 0           |        |        | 0           |        |        | 1                  |        |        | 0                   |        |        |
| v_ci, Inbound Pedestrian Volume crossing mi | 0           |        |        | 1           |        |        | 0                  |        |        | 0                   |        |        |
| v_ab, Corner Pedestrian Volume [ped/h]      | 0           |        |        | 0           |        |        | 0                  |        |        | 0                   |        |        |
| Bicycle Volume [bicycles/h]                 | 1           |        |        | 0           |        |        | 0                  |        |        | 0                   |        |        |

**Intersection Settings**

|                           |                                       |
|---------------------------|---------------------------------------|
| Located in CBD            | No                                    |
| Signal Coordination Group | -                                     |
| Cycle Length [s]          | 90                                    |
| Active Pattern            | Free Running (No Pattern)             |
| Coordination Type         | <i>Free Running</i>                   |
| Actuation Type            | <i>Fully actuated</i>                 |
| Offset [s]                | 0.0                                   |
| Offset Reference          | Lead Green - Beginning of First Green |
| Permissive Mode           | SingleBand                            |
| Lost time [s]             | 12.00                                 |

**Phasing & Timing (Basic)**

| Control Type                    | Permiss | Permiss | Permiss | ProtPer | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss |
|---------------------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| Flashing Yellow Arrow           |         |         |         | No      |         |         |         |         |         |         |         |         |
| Signal Group                    | 0       | 6       | 0       | 5       | 2       | 0       | 5       | 8       | 0       | 0       | 0       | 0       |
| Auxiliary Signal Groups         |         |         |         |         |         |         |         |         |         |         |         |         |
| Maximum Green [s]               | 0       | 50      | 0       | 45      | 30      | 0       | 45      | 20      | 0       | 0       | 0       | 0       |
| Amber [s]                       | 0.0     | 4.0     | 0.0     | 4.0     | 4.0     | 0.0     | 4.0     | 4.0     | 0.0     | 0.0     | 0.0     | 0.0     |
| All red [s]                     | 0.0     | 1.0     | 0.0     | 1.0     | 1.0     | 0.0     | 1.0     | 1.0     | 0.0     | 0.0     | 0.0     | 0.0     |
| Walk [s]                        | 0.0     | 7.0     | 0.0     | 0.0     | 7.0     | 0.0     | 0.0     | 7.0     | 0.0     | 0.0     | 0.0     | 0.0     |
| Pedestrian Clearance [s]        | 0.0     | 10.0    | 0.0     | 0.0     | 15.0    | 0.0     | 0.0     | 17.0    | 0.0     | 0.0     | 0.0     | 0.0     |
| Delayed Vehicle Green [s]       | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     |
| Rest In Walk                    |         | No      |         |         | No      |         |         | No      |         |         |         |         |
| I1, Start-Up Lost Time [s]      | 0.0     | 2.0     | 0.0     | 2.0     | 2.0     | 0.0     | 2.0     | 2.0     | 0.0     | 0.0     | 0.0     | 0.0     |
| I2, Clearance Lost Time [s]     | 0.0     | 3.0     | 0.0     | 3.0     | 3.0     | 0.0     | 3.0     | 3.0     | 0.0     | 0.0     | 0.0     | 0.0     |
| Detector Location [ft]          | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     |
| Detector Length [ft]            | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     |
| Advanced Detector Location [ft] | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     |
| Advanced Detector Length [ft]   | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     |
| I, Upstream Filtering Factor    | 1.00    | 1.00    | 1.00    | 1.00    | 1.00    | 1.00    | 1.00    | 1.00    | 1.00    | 1.00    | 1.00    | 1.00    |

**Phasing & Timing: Free Running (No Pattern)**

|                       |     |      |     |      |      |     |      |      |     |     |     |     |
|-----------------------|-----|------|-----|------|------|-----|------|------|-----|-----|-----|-----|
| Split [s]             | 0.0 | 14.0 | 0.0 | 9.0  | 14.0 | 0.0 | 9.0  | 14.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Lead / Lag            | -   | -    | -   | Lead | -    | -   | Lead | -    | -   | -   | -   | -   |
| Minimum Green [s]     | 0   | 10   | 0   | 4    | 10   | 0   | 4    | 6    | 0   | 0   | 0   | 0   |
| Vehicle Extension [s] | 0.0 | 6.9  | 0.0 | 2.3  | 6.9  | 0.0 | 2.3  | 2.3  | 0.0 | 0.0 | 0.0 | 0.0 |
| Minimum Recall        |     | Yes  |     | No   | Yes  |     |      | No   |     |     |     |     |
| Maximum Recall        |     | Yes  |     | No   | No   |     |      | Yes  |     |     |     |     |
| Pedestrian Recall     |     | No   |     | No   | No   |     |      | No   |     |     |     |     |

**Exclusive Pedestrian Phase**

|                          |   |
|--------------------------|---|
| Pedestrian Signal Group  | 0 |
| Pedestrian Walk [s]      | 0 |
| Pedestrian Clearance [s] | 0 |

**Lane Group Calculations**

| Lane Group                              | C     | R     | L     | C     | C     | R     |  |
|-----------------------------------------|-------|-------|-------|-------|-------|-------|--|
| C, Calculated Cycle Length [s]          | 99    | 99    | 99    | 99    | 99    | 99    |  |
| L, Total Lost Time per Cycle [s]        | 5.00  | 5.00  | 5.00  | 5.00  | 5.00  | 5.00  |  |
| l1_p, Permitted Start-Up Lost Time [s]  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  |  |
| l2, Clearance Lost Time [s]             | 3.00  | 3.00  | 0.00  | 3.00  | 3.00  | 3.00  |  |
| g_i, Effective Green Time [s]           | 50.0  | 50.0  | 69.0  | 69.0  | 20.0  | 20.0  |  |
| g / C, Green / Cycle                    | 0.50  | 0.50  | 0.70  | 0.70  | 0.20  | 0.20  |  |
| (v / s)_i Volume / Saturation Flow Rate | 0.23  | 0.08  | 0.24  | 0.22  | 0.16  | 0.03  |  |
| s, saturation flow rate [veh/h]         | 1810  | 1557  | 1072  | 1840  | 1809  | 1602  |  |
| c, Capacity [veh/h]                     | 913   | 785   | 729   | 1283  | 365   | 323   |  |
| d1, Uniform Delay [s]                   | 15.79 | 13.23 | 10.35 | 11.74 | 40.66 | 35.48 |  |
| k, delay calibration                    | 0.50  | 0.50  | 0.66  | 0.66  | 0.50  | 0.50  |  |
| l, Upstream Filtering Factor            | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  |  |
| d2, Incremental Delay [s]               | 1.64  | 0.45  | 1.80  | 0.86  | 14.47 | 1.09  |  |
| d3, Initial Queue Delay [s]             | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  |  |
| Rp, platoon ratio                       | 1.00  | 1.00  | 0.67  | 0.67  | 0.67  | 0.67  |  |
| PF, progression factor                  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  |  |

**Lane Group Results**

|                                       |        |       |        |        |        |       |  |
|---------------------------------------|--------|-------|--------|--------|--------|-------|--|
| X, volume / capacity                  | 0.46   | 0.16  | 0.36   | 0.32   | 0.77   | 0.16  |  |
| d, Delay for Lane Group [s/veh]       | 17.43  | 13.67 | 12.15  | 12.60  | 55.13  | 36.57 |  |
| Lane Group LOS                        | B      | B     | B      | B      | E      | D     |  |
| Critical Lane Group                   | Yes    | No    | Yes    | No     | Yes    | No    |  |
| 50th-Percentile Queue Length [veh/ln] | 6.34   | 1.62  | 3.91   | 6.54   | 8.18   | 1.19  |  |
| 50th-Percentile Queue Length [ft/ln]  | 158.44 | 40.59 | 97.65  | 163.62 | 204.62 | 29.85 |  |
| 95th-Percentile Queue Length [veh/ln] | 10.47  | 2.92  | 7.03   | 10.74  | 12.88  | 2.15  |  |
| 95th-Percentile Queue Length [ft/ln]  | 261.66 | 73.06 | 175.76 | 268.51 | 321.92 | 53.73 |  |

**Movement, Approach, & Intersection Results**

|                                 |       |       |       |       |       |      |       |       |       |      |      |      |
|---------------------------------|-------|-------|-------|-------|-------|------|-------|-------|-------|------|------|------|
| d_M, Delay for Movement [s/veh] | 0.00  | 17.43 | 13.67 | 12.15 | 12.60 | 0.00 | 55.13 | 55.13 | 36.57 | 0.00 | 0.00 | 0.00 |
| Movement LOS                    |       | B     | B     | B     | B     |      | E     | E     | D     |      |      |      |
| d_A, Approach Delay [s/veh]     | 16.54 |       |       | 12.43 |       |      | 52.18 |       |       | 0.00 |      |      |
| Approach LOS                    | B     |       |       | B     |       |      | D     |       |       | A    |      |      |
| d_I, Intersection Delay [s/veh] | 22.44 |       |       |       |       |      |       |       |       |      |      |      |
| Intersection LOS                | C     |       |       |       |       |      |       |       |       |      |      |      |
| Intersection V/C                | 0.542 |       |       |       |       |      |       |       |       |      |      |      |

**Emissions**

|                              |        |       |        |        |        |       |  |
|------------------------------|--------|-------|--------|--------|--------|-------|--|
| Vehicle Miles Traveled [mph] | 24.59  | 7.57  | 27.68  | 43.48  | 21.56  | 4.07  |  |
| Stops [stops/h]              | 230.37 | 59.01 | 141.97 | 237.89 | 297.51 | 43.40 |  |
| Fuel consumption [US gal/h]  | 3.46   | 0.92  | 2.43   | 3.92   | 7.59   | 1.07  |  |
| CO [g/h]                     | 242.20 | 64.50 | 170.19 | 273.98 | 530.57 | 75.03 |  |
| NOx [g/h]                    | 47.12  | 12.55 | 33.11  | 53.31  | 103.23 | 14.60 |  |
| VOC [g/h]                    | 56.13  | 14.95 | 39.44  | 63.50  | 122.96 | 17.39 |  |

**Other Modes**

|                                                          |       |         |         |       |
|----------------------------------------------------------|-------|---------|---------|-------|
| g_Walk,mi, Effective Walk Time [s]                       | 11.0  | 0.0     | 11.0    | 11.0  |
| M_corner, Corner Circulation Area [ft <sup>2</sup> /ped] | 0.00  | 3150.00 | 3101.09 | 0.00  |
| M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]  | 0.00  | 0.00    | 7628.31 | 0.00  |
| d_p, Pedestrian Delay [s]                                | 39.13 | 0.00    | 39.13   | 39.13 |
| I_p,int, Pedestrian LOS Score for Intersectio            | 2.344 | 0.000   | 2.159   | 1.995 |
| Crosswalk LOS                                            | B     | F       | B       | A     |
| s_b, Saturation Flow Rate of the bicycle lane            | 2000  | 2000    | 2000    | 2000  |
| c_b, Capacity of the bicycle lane [bicycles/h]           | 1010  | 606     | 404     | 0     |
| d_b, Bicycle Delay [s]                                   | 12.15 | 24.06   | 31.54   | 49.52 |
| I_b,int, Bicycle LOS Score for Intersection              | 2.556 | 2.667   | 2.261   | 4.132 |
| Bicycle LOS                                              | B     | B       | B       | D     |

**Sequence**

|        |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|--------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | 2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | 5 | 6 | 8 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |



**Intersection Level Of Service Report**  
**Intersection 6: 10th Street/8th Avenue/8th Court**

|                  |                 |                           |       |
|------------------|-----------------|---------------------------|-------|
| Control Type:    | Two-way stop    | Delay (sec / veh):        | 40.5  |
| Analysis Method: | HCM 7th Edition | Level Of Service:         | E     |
| Analysis Period: | 15 minutes      | Volume to Capacity (v/c): | 0.029 |

**Intersection Setup**

| Name                         | 10th Street                                                                       |        |        | 10th Street                                                                       |        |        | 8th Avenue                                                                          |        |        | 8th Court                                                                           |        |       |
|------------------------------|-----------------------------------------------------------------------------------|--------|--------|-----------------------------------------------------------------------------------|--------|--------|-------------------------------------------------------------------------------------|--------|--------|-------------------------------------------------------------------------------------|--------|-------|
| Approach                     | Northbound                                                                        |        |        | Southbound                                                                        |        |        | Eastbound                                                                           |        |        | Westbound                                                                           |        |       |
| Lane Configuration           |  |        |        |  |        |        |  |        |        |  |        |       |
| Turning Movement             | Left                                                                              | Thru   | Right  | Left                                                                              | Thru   | Right  | Left                                                                                | Thru   | Right  | Left                                                                                | Thru   | Right |
| Lane Width [ft]              | 12.00                                                                             | 12.00  | 12.00  | 12.00                                                                             | 12.00  | 12.00  | 12.00                                                                               | 12.00  | 12.00  | 12.00                                                                               | 12.00  | 12.00 |
| No. of Lanes in Entry Pocket | 0                                                                                 | 0      | 0      | 1                                                                                 | 0      | 0      | 0                                                                                   | 0      | 0      | 0                                                                                   | 0      | 1     |
| Entry Pocket Length [ft]     | 100.00                                                                            | 100.00 | 100.00 | 90.00                                                                             | 100.00 | 100.00 | 100.00                                                                              | 100.00 | 100.00 | 100.00                                                                              | 100.00 | 60.00 |
| No. of Lanes in Exit Pocket  | 0                                                                                 | 0      | 0      | 0                                                                                 | 0      | 0      | 0                                                                                   | 0      | 0      | 0                                                                                   | 0      | 0     |
| Exit Pocket Length [ft]      | 0.00                                                                              | 0.00   | 0.00   | 0.00                                                                              | 0.00   | 0.00   | 0.00                                                                                | 0.00   | 0.00   | 0.00                                                                                | 0.00   | 0.00  |
| Speed [mph]                  | 25.00                                                                             |        |        | 25.00                                                                             |        |        | 25.00                                                                               |        |        | 25.00                                                                               |        |       |
| Grade [%]                    | 0.00                                                                              |        |        | 0.00                                                                              |        |        | 0.00                                                                                |        |        | 0.00                                                                                |        |       |
| Crosswalk                    | Yes                                                                               |        |        | Yes                                                                               |        |        | Yes                                                                                 |        |        | Yes                                                                                 |        |       |

**Volumes**

| Name                                    | 10th Street |        |        | 10th Street |        |        | 8th Avenue |        |        | 8th Court |        |        |
|-----------------------------------------|-------------|--------|--------|-------------|--------|--------|------------|--------|--------|-----------|--------|--------|
| Base Volume Input [veh/h]               | 1           | 407    | 58     | 119         | 292    | 88     | 3          | 1      | 46     | 27        | 0      | 129    |
| Base Volume Adjustment Factor           | 1.0000      | 1.0000 | 1.0000 | 1.0000      | 1.0000 | 1.0000 | 1.0000     | 1.0000 | 1.0000 | 1.0000    | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%]           | 0.00        | 6.00   | 3.00   | 3.00        | 7.00   | 2.00   | 0.00       | 0.00   | 4.00   | 4.00      | 2.00   | 3.00   |
| Growth Factor                           | 1.0000      | 1.0000 | 1.0000 | 1.0000      | 1.0000 | 1.0000 | 1.0000     | 1.0000 | 1.0000 | 1.0000    | 1.0000 | 1.0000 |
| In-Process Volume [veh/h]               | 0           | 0      | 0      | 0           | 0      | 0      | 0          | 0      | 0      | 0         | 0      | 0      |
| Site-Generated Trips [veh/h]            | 0           | 0      | 0      | 0           | 0      | 0      | 0          | 0      | 0      | 0         | 0      | 0      |
| Diverted Trips [veh/h]                  | 0           | 0      | 0      | 0           | 0      | 0      | 0          | 0      | 0      | 0         | 0      | 0      |
| Pass-by Trips [veh/h]                   | 0           | 0      | 0      | 0           | 0      | 0      | 0          | 0      | 0      | 0         | 0      | 0      |
| Existing Site Adjustment Volume [veh/h] | 0           | 0      | 0      | 0           | 0      | 0      | 0          | 0      | 0      | 0         | 0      | 0      |
| Other Volume [veh/h]                    | 0           | 0      | 0      | 0           | 0      | 0      | 0          | 0      | 0      | 0         | 0      | 0      |
| Total Hourly Volume [veh/h]             | 1           | 407    | 58     | 119         | 292    | 88     | 3          | 1      | 46     | 27        | 0      | 129    |
| Peak Hour Factor                        | 0.8900      | 0.8900 | 0.8900 | 0.8900      | 0.8900 | 0.8900 | 0.8900     | 0.8900 | 0.8900 | 0.8900    | 1.0000 | 0.8900 |
| Other Adjustment Factor                 | 1.0000      | 1.0000 | 1.0000 | 1.0000      | 1.0000 | 1.0000 | 1.0000     | 1.0000 | 1.0000 | 1.0000    | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h]          | 0           | 114    | 16     | 33          | 82     | 25     | 1          | 0      | 13     | 8         | 0      | 36     |
| Total Analysis Volume [veh/h]           | 1           | 457    | 65     | 134         | 328    | 99     | 3          | 1      | 52     | 30        | 0      | 145    |
| Pedestrian Volume [ped/h]               | 1           |        |        | 1           |        |        | 1          |        |        | 0         |        |        |

**Intersection Settings**

|                                    |      |      |      |      |
|------------------------------------|------|------|------|------|
| Priority Scheme                    | Free | Free | Stop | Stop |
| Flared Lane                        |      |      | No   |      |
| Storage Area [veh]                 | 0    | 0    | 0    | 0    |
| Two-Stage Gap Acceptance           |      |      | No   | No   |
| Number of Storage Spaces in Median | 0    | 0    | 0    | 0    |

**Movement, Approach, & Intersection Results**

|                                       |      |      |      |       |      |      |       |       |       |       |      |       |
|---------------------------------------|------|------|------|-------|------|------|-------|-------|-------|-------|------|-------|
| V/C, Movement V/C Ratio               | 0.00 | 0.00 | 0.00 | 0.13  | 0.00 | 0.00 | 0.03  | 0.01  | 0.08  | 0.22  | 0.00 | 0.25  |
| d_M, Delay for Movement [s/veh]       | 8.16 | 0.00 | 0.00 | 8.98  | 0.00 | 0.00 | 40.46 | 27.24 | 11.37 | 39.06 | 0.00 | 13.35 |
| Movement LOS                          | A    | A    | A    | A     | A    | A    | E     | D     | B     | E     |      | B     |
| 95th-Percentile Queue Length [veh/ln] | 0.00 | 0.00 | 0.00 | 0.44  | 0.00 | 0.00 | 0.38  | 0.38  | 0.38  | 0.81  | 0.00 | 0.99  |
| 95th-Percentile Queue Length [ft/ln]  | 0.04 | 0.04 | 0.04 | 11.06 | 0.00 | 0.00 | 9.51  | 9.51  | 9.51  | 20.15 | 0.00 | 24.81 |
| d_A, Approach Delay [s/veh]           | 0.02 |      |      | 2.14  |      |      | 13.21 |       |       | 17.76 |      |       |
| Approach LOS                          | A    |      |      | A     |      |      | B     |       |       | C     |      |       |
| d_I, Intersection Delay [s/veh]       | 3.85 |      |      |       |      |      |       |       |       |       |      |       |
| Intersection LOS                      | E    |      |      |       |      |      |       |       |       |       |      |       |

**Intersection Level Of Service Report****Intersection 1: Blankenship Road/Parkrose Hardware Driveway/Office Park Driveway**

|                  |                 |                           |       |
|------------------|-----------------|---------------------------|-------|
| Control Type:    | Two-way stop    | Delay (sec / veh):        | 80.0  |
| Analysis Method: | HCM 7th Edition | Level Of Service:         | F     |
| Analysis Period: | 15 minutes      | Volume to Capacity (v/c): | 0.252 |

**Intersection Setup**

| Name                         | Pa Ha                                                                             |        |        | Office Park Driveway                                                              |        |        | Blankenship Road                                                                    |        |        | Blankenship Road                                                                    |        |        |
|------------------------------|-----------------------------------------------------------------------------------|--------|--------|-----------------------------------------------------------------------------------|--------|--------|-------------------------------------------------------------------------------------|--------|--------|-------------------------------------------------------------------------------------|--------|--------|
| Approach                     | Northbound                                                                        |        |        | Southbound                                                                        |        |        | Eastbound                                                                           |        |        | Westbound                                                                           |        |        |
| Lane Configuration           |  |        |        |  |        |        |  |        |        |  |        |        |
| Turning Movement             | Left                                                                              | Thru   | Right  | Left                                                                              | Thru   | Right  | Left                                                                                | Thru   | Right  | Left                                                                                | Thru   | Right  |
| Lane Width [ft]              | 12.00                                                                             | 12.00  | 12.00  | 12.00                                                                             | 12.00  | 12.00  | 12.00                                                                               | 12.00  | 12.00  | 12.00                                                                               | 12.00  | 12.00  |
| No. of Lanes in Entry Pocket | 0                                                                                 | 0      | 0      | 0                                                                                 | 0      | 0      | 1                                                                                   | 0      | 0      | 1                                                                                   | 0      | 0      |
| Entry Pocket Length [ft]     | 100.00                                                                            | 100.00 | 100.00 | 100.00                                                                            | 100.00 | 100.00 | 100.00                                                                              | 100.00 | 100.00 | 150.00                                                                              | 100.00 | 100.00 |
| No. of Lanes in Exit Pocket  | 0                                                                                 | 0      | 0      | 0                                                                                 | 0      | 0      | 0                                                                                   | 0      | 0      | 0                                                                                   | 0      | 0      |
| Exit Pocket Length [ft]      | 0.00                                                                              | 0.00   | 0.00   | 0.00                                                                              | 0.00   | 0.00   | 0.00                                                                                | 0.00   | 0.00   | 0.00                                                                                | 0.00   | 0.00   |
| Speed [mph]                  | 25.00                                                                             |        |        | 25.00                                                                             |        |        | 25.00                                                                               |        |        | 25.00                                                                               |        |        |
| Grade [%]                    | 12.00                                                                             |        |        | -5.00                                                                             |        |        | 0.00                                                                                |        |        | 0.00                                                                                |        |        |
| Crosswalk                    | Yes                                                                               |        |        | Yes                                                                               |        |        | No                                                                                  |        |        | No                                                                                  |        |        |

**Volumes**

| Name                                    | Pa Ha  |        |        | Office Park Driveway |        |        | Blankenship Road |        |        | Blankenship Road |        |        |
|-----------------------------------------|--------|--------|--------|----------------------|--------|--------|------------------|--------|--------|------------------|--------|--------|
| Base Volume Input [veh/h]               | 15     | 2      | 28     | 14                   | 2      | 0      | 2                | 792    | 22     | 16               | 314    | 3      |
| Base Volume Adjustment Factor           | 1.0000 | 1.0000 | 1.0000 | 1.0000               | 1.0000 | 1.0000 | 1.0000           | 1.0000 | 1.0000 | 1.0000           | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%]           | 0.00   | 0.00   | 4.00   | 0.00                 | 0.00   | 0.00   | 0.00             | 1.00   | 0.00   | 0.00             | 1.00   | 0.00   |
| Growth Factor                           | 1.0000 | 1.0000 | 1.0000 | 1.0000               | 1.0000 | 1.0000 | 1.0000           | 1.0000 | 1.0000 | 1.0000           | 1.0000 | 1.0000 |
| In-Process Volume [veh/h]               | 0      | 0      | 0      | 0                    | 0      | 0      | 0                | 0      | 0      | 0                | 0      | 0      |
| Site-Generated Trips [veh/h]            | 0      | 0      | 0      | 0                    | 0      | 0      | 0                | 0      | 0      | 0                | 0      | 0      |
| Diverted Trips [veh/h]                  | 0      | 0      | 0      | 0                    | 0      | 0      | 0                | 0      | 0      | 0                | 0      | 0      |
| Pass-by Trips [veh/h]                   | 0      | 0      | 0      | 0                    | 0      | 0      | 0                | 0      | 0      | 0                | 0      | 0      |
| Existing Site Adjustment Volume [veh/h] | 0      | 0      | 0      | 0                    | 0      | 0      | 0                | 0      | 0      | 0                | 0      | 0      |
| Other Volume [veh/h]                    | 0      | 0      | 0      | 0                    | 0      | 0      | 0                | 0      | 0      | 0                | 0      | 0      |
| Total Hourly Volume [veh/h]             | 15     | 2      | 28     | 14                   | 2      | 0      | 2                | 792    | 22     | 16               | 314    | 3      |
| Peak Hour Factor                        | 0.9300 | 0.9300 | 0.9300 | 0.9300               | 0.9300 | 0.9300 | 0.9300           | 0.9300 | 0.9300 | 0.9300           | 0.9300 | 0.9300 |
| Other Adjustment Factor                 | 1.0000 | 1.0000 | 1.0000 | 1.0000               | 1.0000 | 1.0000 | 1.0000           | 1.0000 | 1.0000 | 1.0000           | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h]          | 4      | 1      | 8      | 4                    | 1      | 0      | 1                | 213    | 6      | 4                | 84     | 1      |
| Total Analysis Volume [veh/h]           | 16     | 2      | 30     | 15                   | 2      | 0      | 2                | 852    | 24     | 17               | 338    | 3      |
| Pedestrian Volume [ped/h]               | 6      |        |        | 0                    |        |        | 0                |        |        | 0                |        |        |

**Intersection Settings**

|                                    |      |      |      |      |
|------------------------------------|------|------|------|------|
| Priority Scheme                    | Stop | Stop | Free | Free |
| Flared Lane                        | No   | No   |      |      |
| Storage Area [veh]                 | 0    | 0    | 0    | 0    |
| Two-Stage Gap Acceptance           | No   | No   |      |      |
| Number of Storage Spaces in Median | 0    | 0    | 0    | 0    |

**Movement, Approach, & Intersection Results**

|                                       |       |       |       |       |       |       |      |      |      |      |      |      |
|---------------------------------------|-------|-------|-------|-------|-------|-------|------|------|------|------|------|------|
| V/C, Movement V/C Ratio               | 0.25  | 0.03  | 0.12  | 0.08  | 0.01  | 0.00  | 0.00 | 0.01 | 0.00 | 0.02 | 0.00 | 0.00 |
| d_M, Delay for Movement [s/veh]       | 79.95 | 72.03 | 37.08 | 27.24 | 22.19 | 11.85 | 7.93 | 0.00 | 0.00 | 9.78 | 0.00 | 0.00 |
| Movement LOS                          | F     | F     | E     | D     | C     | B     | A    | A    | A    | A    | A    | A    |
| 95th-Percentile Queue Length [veh/ln] | 1.66  | 1.66  | 1.66  | 0.30  | 0.30  | 0.30  | 0.00 | 0.00 | 0.00 | 0.07 | 0.00 | 0.00 |
| 95th-Percentile Queue Length [ft/ln]  | 41.52 | 41.52 | 41.52 | 7.56  | 7.56  | 7.56  | 0.12 | 0.00 | 0.00 | 1.69 | 0.00 | 0.00 |
| d_A, Approach Delay [s/veh]           | 52.83 |       |       | 26.65 |       |       | 0.02 |      |      | 0.46 |      |      |
| Approach LOS                          | F     |       |       | D     |       |       | A    |      |      | A    |      |      |
| d_I, Intersection Delay [s/veh]       | 2.44  |       |       |       |       |       |      |      |      |      |      |      |
| Intersection LOS                      | F     |       |       |       |       |       |      |      |      |      |      |      |

### Intersection Level Of Service Report

#### Intersection 2: Blankenship Road/Tannler Drive

|                  |                 |                           |       |
|------------------|-----------------|---------------------------|-------|
| Control Type:    | Two-way stop    | Delay (sec / veh):        | 88.3  |
| Analysis Method: | HCM 7th Edition | Level Of Service:         | F     |
| Analysis Period: | 15 minutes      | Volume to Capacity (v/c): | 0.717 |

#### Intersection Setup

| Name                         | Dutch Bros Driveway                                                               |        |       | Tannler Drive                                                                     |        |        | Blankenship Road                                                                    |        |        | Blankenship Road                                                                    |        |        |
|------------------------------|-----------------------------------------------------------------------------------|--------|-------|-----------------------------------------------------------------------------------|--------|--------|-------------------------------------------------------------------------------------|--------|--------|-------------------------------------------------------------------------------------|--------|--------|
| Approach                     | Northbound                                                                        |        |       | Southbound                                                                        |        |        | Eastbound                                                                           |        |        | Westbound                                                                           |        |        |
| Lane Configuration           |  |        |       |  |        |        |  |        |        |  |        |        |
| Turning Movement             | Left                                                                              | Thru   | Right | Left                                                                              | Thru   | Right  | Left                                                                                | Thru   | Right  | Left                                                                                | Thru   | Right  |
| Lane Width [ft]              | 12.00                                                                             | 12.00  | 12.00 | 12.00                                                                             | 12.00  | 12.00  | 12.00                                                                               | 12.00  | 12.00  | 12.00                                                                               | 12.00  | 12.00  |
| No. of Lanes in Entry Pocket | 0                                                                                 | 0      | 1     | 0                                                                                 | 0      | 1      | 1                                                                                   | 0      | 0      | 1                                                                                   | 0      | 0      |
| Entry Pocket Length [ft]     | 100.00                                                                            | 100.00 | 90.00 | 100.00                                                                            | 100.00 | 100.00 | 150.00                                                                              | 100.00 | 100.00 | 100.00                                                                              | 100.00 | 100.00 |
| No. of Lanes in Exit Pocket  | 0                                                                                 | 0      | 0     | 0                                                                                 | 0      | 0      | 0                                                                                   | 0      | 0      | 0                                                                                   | 0      | 0      |
| Exit Pocket Length [ft]      | 0.00                                                                              | 0.00   | 0.00  | 0.00                                                                              | 0.00   | 0.00   | 0.00                                                                                | 0.00   | 0.00   | 0.00                                                                                | 0.00   | 0.00   |
| Speed [mph]                  | 25.00                                                                             |        |       | 25.00                                                                             |        |        | 25.00                                                                               |        |        | 25.00                                                                               |        |        |
| Grade [%]                    | 7.00                                                                              |        |       | -7.00                                                                             |        |        | 0.00                                                                                |        |        | 0.00                                                                                |        |        |
| Crosswalk                    | Yes                                                                               |        |       | No                                                                                |        |        | No                                                                                  |        |        | No                                                                                  |        |        |

#### Volumes

| Name                                    | Dutch Bros Driveway |        |        | Tannler Drive |        |        | Blankenship Road |        |        | Blankenship Road |        |        |
|-----------------------------------------|---------------------|--------|--------|---------------|--------|--------|------------------|--------|--------|------------------|--------|--------|
| Base Volume Input [veh/h]               | 0                   | 2      | 64     | 81            | 2      | 71     | 126              | 703    | 5      | 40               | 262    | 41     |
| Base Volume Adjustment Factor           | 1.0000              | 1.0000 | 1.0000 | 1.0000        | 1.0000 | 1.0000 | 1.0000           | 1.0000 | 1.0000 | 1.0000           | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%]           | 0.00                | 0.00   | 3.00   | 1.00          | 0.00   | 1.00   | 1.00             | 1.00   | 0.00   | 2.00             | 0.00   | 2.00   |
| Growth Factor                           | 1.0000              | 1.0000 | 1.0000 | 1.0000        | 1.0000 | 1.0000 | 1.0000           | 1.0000 | 1.0000 | 1.0000           | 1.0000 | 1.0000 |
| In-Process Volume [veh/h]               | 0                   | 0      | 0      | 0             | 0      | 0      | 0                | 0      | 0      | 0                | 0      | 0      |
| Site-Generated Trips [veh/h]            | 0                   | 0      | 0      | 0             | 0      | 0      | 0                | 0      | 0      | 0                | 0      | 0      |
| Diverted Trips [veh/h]                  | 0                   | 0      | 0      | 0             | 0      | 0      | 0                | 0      | 0      | 0                | 0      | 0      |
| Pass-by Trips [veh/h]                   | 0                   | 0      | 0      | 0             | 0      | 0      | 0                | 0      | 0      | 0                | 0      | 0      |
| Existing Site Adjustment Volume [veh/h] | 0                   | 0      | 0      | 0             | 0      | 0      | 0                | 0      | 0      | 0                | 0      | 0      |
| Other Volume [veh/h]                    | 0                   | 0      | 0      | 0             | 0      | 0      | 0                | 0      | 0      | 0                | 0      | 0      |
| Total Hourly Volume [veh/h]             | 0                   | 2      | 64     | 81            | 2      | 71     | 126              | 703    | 5      | 40               | 262    | 41     |
| Peak Hour Factor                        | 0.9200              | 0.9200 | 0.9200 | 0.9200        | 0.9200 | 0.9200 | 0.9200           | 0.9200 | 0.9200 | 0.9200           | 0.9200 | 0.9200 |
| Other Adjustment Factor                 | 1.0000              | 1.0000 | 1.0000 | 1.0000        | 1.0000 | 1.0000 | 1.0000           | 1.0000 | 1.0000 | 1.0000           | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h]          | 0                   | 1      | 17     | 22            | 1      | 19     | 34               | 191    | 1      | 11               | 71     | 11     |
| Total Analysis Volume [veh/h]           | 0                   | 2      | 70     | 88            | 2      | 77     | 137              | 764    | 5      | 43               | 285    | 45     |
| Pedestrian Volume [ped/h]               | 1                   |        |        | 0             |        |        | 0                |        |        | 0                |        |        |

**Intersection Settings**

|                                    |      |      |      |      |
|------------------------------------|------|------|------|------|
| Priority Scheme                    | Stop | Stop | Free | Free |
| Flared Lane                        |      |      |      |      |
| Storage Area [veh]                 | 0    | 2    | 0    | 0    |
| Two-Stage Gap Acceptance           | No   | No   |      |      |
| Number of Storage Spaces in Median | 0    | 0    | 0    | 0    |

**Movement, Approach, & Intersection Results**

|                                       |       |       |       |        |        |       |      |      |      |      |      |      |
|---------------------------------------|-------|-------|-------|--------|--------|-------|------|------|------|------|------|------|
| V/C, Movement V/C Ratio               | 0.00  | 0.03  | 0.20  | 0.72   | 0.01   | 0.10  | 0.11 | 0.01 | 0.00 | 0.05 | 0.00 | 0.00 |
| d_M, Delay for Movement [s/veh]       | 87.13 | 64.45 | 18.10 | 88.29  | 77.10  | 10.12 | 8.28 | 0.00 | 0.00 | 9.50 | 0.00 | 0.00 |
| Movement LOS                          | F     | F     | C     | F      | F      | B     | A    | A    | A    | A    | A    | A    |
| 95th-Percentile Queue Length [veh/ln] | 0.10  | 0.10  | 0.75  | 4.07   | 4.07   | 0.33  | 0.37 | 0.00 | 0.00 | 0.16 | 0.00 | 0.00 |
| 95th-Percentile Queue Length [ft/ln]  | 2.45  | 2.45  | 18.72 | 101.81 | 101.81 | 8.18  | 9.33 | 0.00 | 0.00 | 4.02 | 0.00 | 0.00 |
| d_A, Approach Delay [s/veh]           | 19.38 |       |       | 52.11  |        |       | 1.25 |      |      | 1.09 |      |      |
| Approach LOS                          | C     |       |       | F      |        |       | A    |      |      | A    |      |      |
| d_I, Intersection Delay [s/veh]       | 7.67  |       |       |        |        |       |      |      |      |      |      |      |
| Intersection LOS                      | F     |       |       |        |        |       |      |      |      |      |      |      |

**Intersection Level Of Service Report****Intersection 3: Blankenship Road/Salamo Road/10th Street**

|                  |                 |                           |       |
|------------------|-----------------|---------------------------|-------|
| Control Type:    | Signalized      | Delay (sec / veh):        | 28.3  |
| Analysis Method: | HCM 7th Edition | Level Of Service:         | C     |
| Analysis Period: | 15 minutes      | Volume to Capacity (v/c): | 0.429 |

**Intersection Setup**

| Name                         | 10th Street                                                                       |        | Blankenship Road                                                                    |        | Salamo Road                                                                         |        |
|------------------------------|-----------------------------------------------------------------------------------|--------|-------------------------------------------------------------------------------------|--------|-------------------------------------------------------------------------------------|--------|
| Approach                     | Northbound                                                                        |        | Eastbound                                                                           |        | Westbound                                                                           |        |
| Lane Configuration           |  |        |  |        |  |        |
| Turning Movement             | Left                                                                              | Right  | Thru                                                                                | Right  | Left                                                                                | Thru   |
| Lane Width [ft]              | 12.00                                                                             | 12.00  | 12.00                                                                               | 12.00  | 12.00                                                                               | 12.00  |
| No. of Lanes in Entry Pocket | 0                                                                                 | 1      | 0                                                                                   | 1      | 1                                                                                   | 0      |
| Entry Pocket Length [ft]     | 100.00                                                                            | 100.00 | 100.00                                                                              | 100.00 | 250.00                                                                              | 100.00 |
| No. of Lanes in Exit Pocket  | 0                                                                                 | 0      | 0                                                                                   | 0      | 0                                                                                   | 0      |
| Exit Pocket Length [ft]      | 0.00                                                                              | 0.00   | 0.00                                                                                | 0.00   | 0.00                                                                                | 0.00   |
| Speed [mph]                  | 25.00                                                                             |        | 25.00                                                                               |        | 35.00                                                                               |        |
| Grade [%]                    | 7.00                                                                              |        | 0.00                                                                                |        | -3.00                                                                               |        |
| Curb Present                 | No                                                                                |        | No                                                                                  |        | No                                                                                  |        |
| Crosswalk                    | Yes                                                                               |        | No                                                                                  |        | No                                                                                  |        |

**Volumes**

| Name                                        | 10th Street |        | Blankenship Road |        | Salamo Road |        |
|---------------------------------------------|-------------|--------|------------------|--------|-------------|--------|
| Base Volume Input [veh/h]                   | 243         | 289    | 148              | 701    | 369         | 100    |
| Base Volume Adjustment Factor               | 1.0000      | 1.0000 | 1.0000           | 1.0000 | 1.0000      | 1.0000 |
| Heavy Vehicles Percentage [%]               | 1.00        | 1.00   | 1.00             | 2.00   | 3.00        | 1.00   |
| Proportion of CAVs [%]                      | 0.00        |        |                  |        |             |        |
| Growth Factor                               | 1.0000      | 1.0000 | 1.0000           | 1.0000 | 1.0000      | 1.0000 |
| In-Process Volume [veh/h]                   | 0           | 0      | 0                | 0      | 0           | 0      |
| Site-Generated Trips [veh/h]                | 0           | 0      | 0                | 0      | 0           | 0      |
| Diverted Trips [veh/h]                      | 0           | 0      | 0                | 0      | 0           | 0      |
| Pass-by Trips [veh/h]                       | 0           | 0      | 0                | 0      | 0           | 0      |
| Existing Site Adjustment Volume [veh/h]     | 0           | 0      | 0                | 0      | 0           | 0      |
| Other Volume [veh/h]                        | 0           | 0      | 0                | 0      | 0           | 0      |
| Right Turn on Red Volume [veh/h]            | 0           | 17     | 0                | 18     | 0           | 0      |
| Total Hourly Volume [veh/h]                 | 243         | 272    | 148              | 683    | 369         | 100    |
| Peak Hour Factor                            | 0.9400      | 0.9400 | 0.9400           | 0.9400 | 0.9400      | 0.9400 |
| Other Adjustment Factor                     | 1.0000      | 1.0000 | 1.0000           | 1.0000 | 1.0000      | 1.0000 |
| Total 15-Minute Volume [veh/h]              | 65          | 72     | 39               | 182    | 98          | 27     |
| Total Analysis Volume [veh/h]               | 259         | 289    | 157              | 727    | 393         | 106    |
| Presence of On-Street Parking               | No          | No     | No               | No     | No          | No     |
| On-Street Parking Maneuver Rate [/h]        | 0           | 0      | 0                | 0      | 0           | 0      |
| Local Bus Stopping Rate [/h]                | 0           | 0      | 0                | 0      | 0           | 0      |
| v_do, Outbound Pedestrian Volume crossing   | 0           |        | 0                |        | 0           |        |
| v_di, Inbound Pedestrian Volume crossing m  | 0           |        | 0                |        | 0           |        |
| v_co, Outbound Pedestrian Volume crossing   | 0           |        | 0                |        | 0           |        |
| v_ci, Inbound Pedestrian Volume crossing mi | 0           |        | 0                |        | 0           |        |
| v_ab, Corner Pedestrian Volume [ped/h]      | 0           |        | 0                |        | 0           |        |
| Bicycle Volume [bicycles/h]                 | 1           |        | 1                |        | 0           |        |

**Intersection Settings**

|                           |                                       |
|---------------------------|---------------------------------------|
| Located in CBD            | No                                    |
| Signal Coordination Group | -                                     |
| Cycle Length [s]          | 90                                    |
| Active Pattern            | Free Running (No Pattern)             |
| Coordination Type         | <i>Free Running</i>                   |
| Actuation Type            | <i>Fully actuated</i>                 |
| Offset [s]                | 0.0                                   |
| Offset Reference          | Lead Green - Beginning of First Green |
| Permissive Mode           | SingleBand                            |
| Lost time [s]             | 12.00                                 |

**Phasing & Timing (Basic)**

| Control Type                    | Overlap | Overlap | Permissive | Overlap | Protected | Permissive |
|---------------------------------|---------|---------|------------|---------|-----------|------------|
| Flashing Yellow Arrow           |         |         |            |         |           |            |
| Signal Group                    | 6       | 6       | 4          | 5       | 3         | 8          |
| Auxiliary Signal Groups         | 5,6,7   | 3,5,6,7 |            | 4,5,7   |           |            |
| Maximum Green [s]               | 6       | 6       | 16         | 40      | 35        | 32         |
| Amber [s]                       | 4.0     | 4.0     | 4.0        | 4.0     | 4.0       | 5.0        |
| All red [s]                     | 1.5     | 1.5     | 1.5        | 1.5     | 1.5       | 1.0        |
| Walk [s]                        | 0.0     | 0.0     | 8.0        | 7.0     | 7.0       | 0.0        |
| Pedestrian Clearance [s]        | 0.0     | 0.0     | 27.0       | 15.0    | 10.0      | 0.0        |
| Delayed Vehicle Green [s]       | 0.0     | 0.0     | 0.0        | 0.0     | 0.0       | 0.0        |
| Rest In Walk                    | No      |         | No         |         |           | No         |
| I1, Start-Up Lost Time [s]      | 2.0     | 2.0     | 2.0        | 2.0     | 2.0       | 2.0        |
| I2, Clearance Lost Time [s]     | 2.0     | 2.0     | 2.0        | 2.0     | 2.0       | 2.0        |
| Detector Location [ft]          | 0.0     | 0.0     | 0.0        | 0.0     | 0.0       | 0.0        |
| Detector Length [ft]            | 0.0     | 0.0     | 0.0        | 0.0     | 0.0       | 0.0        |
| Advanced Detector Location [ft] | 0.0     | 0.0     | 0.0        | 0.0     | 0.0       | 0.0        |
| Advanced Detector Length [ft]   | 0.0     | 0.0     | 0.0        | 0.0     | 0.0       | 0.0        |
| I, Upstream Filtering Factor    | 1.00    | 1.00    | 1.00       | 1.00    | 1.00      | 1.00       |

**Phasing & Timing: Free Running (No Pattern)**

|                       |     |     |      |      |      |      |
|-----------------------|-----|-----|------|------|------|------|
| Split [s]             | 9.0 | 9.0 | 14.0 | 14.0 | 9.0  | 14.0 |
| Lead / Lag            | Lag | -   | -    | -    | Lead | -    |
| Minimum Green [s]     | 2   | 2   | 6    | 10   | 4    | 6    |
| Vehicle Extension [s] | 0.5 | 0.5 | 2.3  | 5.2  | 2.3  | 2.3  |
| Minimum Recall        | No  | No  | No   | Yes  | No   | No   |
| Maximum Recall        | No  | No  | No   | No   | No   | No   |
| Pedestrian Recall     | No  | No  | No   | No   | No   | No   |

**Exclusive Pedestrian Phase**

|                          |   |
|--------------------------|---|
| Pedestrian Signal Group  | 0 |
| Pedestrian Walk [s]      | 0 |
| Pedestrian Clearance [s] | 0 |

**Lane Group Calculations**

| Lane Group                              | L     | R    | C     | R     | L     | C     |
|-----------------------------------------|-------|------|-------|-------|-------|-------|
| C, Calculated Cycle Length [s]          | 127   | 127  | 127   | 127   | 127   | 127   |
| L, Total Lost Time per Cycle [s]        | 4.00  | 4.00 | 4.00  | 4.00  | 4.00  | 4.00  |
| l1_p, Permitted Start-Up Lost Time [s]  | 0.00  | 0.00 | 0.00  | 0.00  | 0.00  | 0.00  |
| l2, Clearance Lost Time [s]             | 0.00  | 2.00 | 2.00  | 0.00  | 2.00  | 2.00  |
| g_i, Effective Green Time [s]           | 62.1  | 93.7 | 17.5  | 75.1  | 31.7  | 53.2  |
| g / C, Green / Cycle                    | 0.49  | 0.74 | 0.14  | 0.59  | 0.25  | 0.42  |
| (v / s)_i Volume / Saturation Flow Rate | 0.17  | 0.21 | 0.08  | 0.46  | 0.22  | 0.06  |
| s, saturation flow rate [veh/h]         | 1533  | 1350 | 1885  | 1577  | 1767  | 1885  |
| c, Capacity [veh/h]                     | 712   | 947  | 259   | 893   | 440   | 788   |
| d1, Uniform Delay [s]                   | 12.22 | 0.21 | 51.69 | 13.73 | 46.16 | 22.85 |
| k, delay calibration                    | 0.26  | 0.27 | 0.14  | 0.50  | 0.30  | 0.07  |
| l, Upstream Filtering Factor            | 1.00  | 1.00 | 1.00  | 1.00  | 1.00  | 1.00  |
| d2, Incremental Delay [s]               | 0.75  | 0.45 | 3.02  | 8.07  | 15.27 | 0.05  |
| d3, Initial Queue Delay [s]             | 0.00  | 0.00 | 0.00  | 0.00  | 0.00  | 0.00  |
| Rp, platoon ratio                       | 1.33  | 1.33 | 1.00  | 1.00  | 1.00  | 1.00  |
| PF, progression factor                  | 1.00  | 1.00 | 1.00  | 1.00  | 1.00  | 1.00  |

**Lane Group Results**

|                                       |        |      |        |        |        |       |
|---------------------------------------|--------|------|--------|--------|--------|-------|
| X, volume / capacity                  | 0.36   | 0.31 | 0.61   | 0.81   | 0.89   | 0.13  |
| d, Delay for Lane Group [s/veh]       | 12.97  | 0.66 | 54.71  | 21.80  | 61.43  | 22.89 |
| Lane Group LOS                        | B      | A    | D      | C      | E      | C     |
| Critical Lane Group                   | Yes    | No   | No     | Yes    | Yes    | No    |
| 50th-Percentile Queue Length [veh/ln] | 3.10   | 0.21 | 4.98   | 13.76  | 13.71  | 1.97  |
| 50th-Percentile Queue Length [ft/ln]  | 77.38  | 5.37 | 124.55 | 343.92 | 342.85 | 49.29 |
| 95th-Percentile Queue Length [veh/ln] | 5.57   | 0.39 | 8.64   | 19.84  | 19.79  | 3.55  |
| 95th-Percentile Queue Length [ft/ln]  | 139.29 | 9.66 | 216.06 | 495.99 | 494.68 | 88.73 |

**Movement, Approach, & Intersection Results**

|                                 |       |      |       |       |       |       |
|---------------------------------|-------|------|-------|-------|-------|-------|
| d_M, Delay for Movement [s/veh] | 12.97 | 0.66 | 54.71 | 21.80 | 61.43 | 22.89 |
| Movement LOS                    | B     | A    | D     | C     | E     | C     |
| d_A, Approach Delay [s/veh]     | 6.48  |      | 27.65 |       | 53.24 |       |
| Approach LOS                    | A     |      | C     |       | D     |       |
| d_I, Intersection Delay [s/veh] | 28.25 |      |       |       |       |       |
| Intersection LOS                | C     |      |       |       |       |       |
| Intersection V/C                | 0.429 |      |       |       |       |       |

**Emissions**

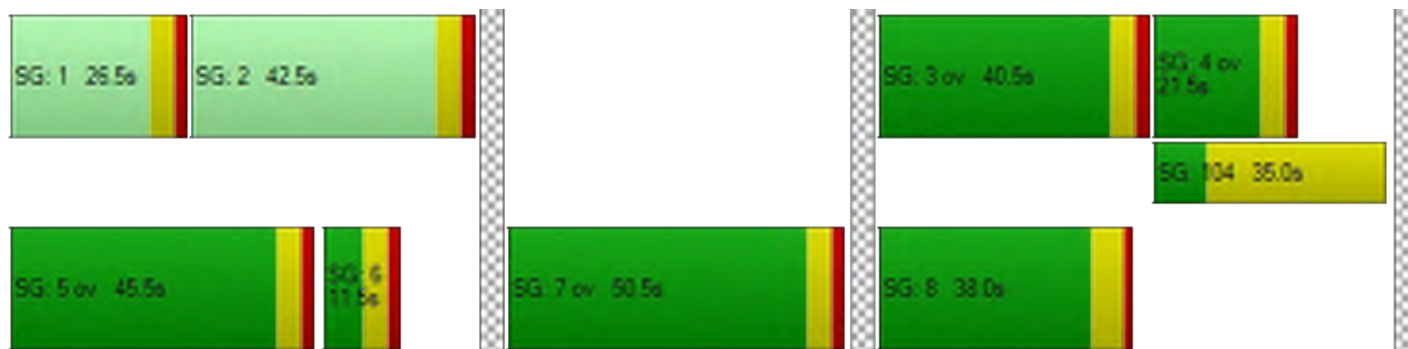
|                              |        |       |        |        |        |        |
|------------------------------|--------|-------|--------|--------|--------|--------|
| Vehicle Miles Traveled [mph] | 12.90  | 14.40 | 8.28   | 38.36  | 54.45  | 14.69  |
| Stops [stops/h]              | 87.59  | 6.08  | 140.97 | 389.26 | 388.05 | 55.79  |
| Fuel consumption [US gal/h]  | 1.60   | 0.71  | 2.66   | 6.44   | 9.91   | 1.47   |
| CO [g/h]                     | 111.85 | 49.61 | 186.01 | 450.40 | 692.43 | 102.98 |
| NOx [g/h]                    | 21.76  | 9.65  | 36.19  | 87.63  | 134.72 | 20.04  |
| VOC [g/h]                    | 25.92  | 11.50 | 43.11  | 104.39 | 160.48 | 23.87  |

**Other Modes**

|                                                          |       |       |       |
|----------------------------------------------------------|-------|-------|-------|
| g_Walk,mi, Effective Walk Time [s]                       | 12.0  | 0.0   | 0.0   |
| M_corner, Corner Circulation Area [ft <sup>2</sup> /ped] | 0.00  | 0.00  | 0.00  |
| M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]  | 0.00  | 0.00  | 0.00  |
| d_p, Pedestrian Delay [s]                                | 52.18 | 0.00  | 0.00  |
| I_p,int, Pedestrian LOS Score for Intersectio            | 2.517 | 0.000 | 0.000 |
| Crosswalk LOS                                            | B     | F     | F     |
| s_b, Saturation Flow Rate of the bicycle lane            | 2000  | 2000  | 2000  |
| c_b, Capacity of the bicycle lane [bicycles/h]           | 377   | 252   | 503   |
| d_b, Bicycle Delay [s]                                   | 41.90 | 48.64 | 35.64 |
| I_b,int, Bicycle LOS Score for Intersection              | 1.560 | 3.048 | 2.383 |
| Bicycle LOS                                              | A     | C     | B     |

**Sequence**

|        |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|--------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | 1 | 2 | - | 3 | 4 | - | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | 5 | 6 | 7 | 8 | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |



**Intersection Level Of Service Report**  
**Intersection 4: 10th Street/I-205 SB Ramp**

|                  |                 |                           |       |
|------------------|-----------------|---------------------------|-------|
| Control Type:    | Signalized      | Delay (sec / veh):        | 21.2  |
| Analysis Method: | HCM 7th Edition | Level Of Service:         | C     |
| Analysis Period: | 15 minutes      | Volume to Capacity (v/c): | 0.505 |

**Intersection Setup**

| Name                         | 10th Street                                                                       |        |        | 10th Street                                                                       |        |        | I-205 SB Entry Ramp |        |        | I-205 SB Exit Ramp                                                                  |        |        |
|------------------------------|-----------------------------------------------------------------------------------|--------|--------|-----------------------------------------------------------------------------------|--------|--------|---------------------|--------|--------|-------------------------------------------------------------------------------------|--------|--------|
| Approach                     | Northbound                                                                        |        |        | Southbound                                                                        |        |        | Eastbound           |        |        | Westbound                                                                           |        |        |
| Lane Configuration           |  |        |        |  |        |        |                     |        |        |  |        |        |
| Turning Movement             | Left                                                                              | Thru   | Right  | Left                                                                              | Thru   | Right  | Left                | Thru   | Right  | Left                                                                                | Thru   | Right  |
| Lane Width [ft]              | 12.00                                                                             | 12.00  | 12.00  | 12.00                                                                             | 12.00  | 12.00  | 12.00               | 12.00  | 12.00  | 12.00                                                                               | 12.00  | 12.00  |
| No. of Lanes in Entry Pocket | 1                                                                                 | 0      | 0      | 0                                                                                 | 0      | 0      | 0                   | 0      | 0      | 0                                                                                   | 0      | 1      |
| Entry Pocket Length [ft]     | 200.00                                                                            | 100.00 | 100.00 | 100.00                                                                            | 100.00 | 100.00 | 100.00              | 100.00 | 100.00 | 100.00                                                                              | 100.00 | 200.00 |
| No. of Lanes in Exit Pocket  | 0                                                                                 | 0      | 1      | 0                                                                                 | 0      | 0      | 0                   | 0      | 0      | 0                                                                                   | 0      | 0      |
| Exit Pocket Length [ft]      | 0.00                                                                              | 0.00   | 100.00 | 0.00                                                                              | 0.00   | 0.00   | 0.00                | 0.00   | 0.00   | 0.00                                                                                | 0.00   | 0.00   |
| Speed [mph]                  | 25.00                                                                             |        |        | 25.00                                                                             |        |        | 30.00               |        |        | 45.00                                                                               |        |        |
| Grade [%]                    | 9.00                                                                              |        |        | -4.00                                                                             |        |        | 0.00                |        |        | 0.00                                                                                |        |        |
| Curb Present                 | No                                                                                |        |        | No                                                                                |        |        |                     |        |        | No                                                                                  |        |        |
| Crosswalk                    | Yes                                                                               |        |        | No                                                                                |        |        | Yes                 |        |        | Yes                                                                                 |        |        |

**Volumes**

| Name                                        | 10th Street |        |        | 10th Street |        |        | I-205 SB Entry Ramp |        |        | I-205 SB Exit Ramp |        |        |
|---------------------------------------------|-------------|--------|--------|-------------|--------|--------|---------------------|--------|--------|--------------------|--------|--------|
| Base Volume Input [veh/h]                   | 94          | 265    | 0      | 0           | 779    | 291    | 0                   | 0      | 0      | 178                | 3      | 267    |
| Base Volume Adjustment Factor               | 1.0000      | 1.0000 | 1.0000 | 1.0000      | 1.0000 | 1.0000 | 1.0000              | 1.0000 | 1.0000 | 1.0000             | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%]               | 5.00        | 1.00   | 2.00   | 2.00        | 2.00   | 2.00   | 2.00                | 2.00   | 2.00   | 0.00               | 0.00   | 0.00   |
| Proportion of CAVs [%]                      | 0.00        |        |        |             |        |        |                     |        |        |                    |        |        |
| Growth Factor                               | 1.0000      | 1.0000 | 1.0000 | 1.0000      | 1.0000 | 1.0000 | 1.0000              | 1.0000 | 1.0000 | 1.0000             | 1.0000 | 1.0000 |
| In-Process Volume [veh/h]                   | 0           | 0      | 0      | 0           | 0      | 0      | 0                   | 0      | 0      | 0                  | 0      | 0      |
| Site-Generated Trips [veh/h]                | 0           | 0      | 0      | 0           | 0      | 0      | 0                   | 0      | 0      | 0                  | 0      | 0      |
| Diverted Trips [veh/h]                      | 0           | 0      | 0      | 0           | 0      | 0      | 0                   | 0      | 0      | 0                  | 0      | 0      |
| Pass-by Trips [veh/h]                       | 0           | 0      | 0      | 0           | 0      | 0      | 0                   | 0      | 0      | 0                  | 0      | 0      |
| Existing Site Adjustment Volume [veh/h]     | 0           | 0      | 0      | 0           | 0      | 0      | 0                   | 0      | 0      | 0                  | 0      | 0      |
| Other Volume [veh/h]                        | 0           | 0      | 0      | 0           | 0      | 0      | 0                   | 0      | 0      | 0                  | 0      | 0      |
| Right Turn on Red Volume [veh/h]            | 0           | 0      | 0      | 0           | 0      | 88     | 0                   | 0      | 0      | 0                  | 0      | 195    |
| Total Hourly Volume [veh/h]                 | 94          | 265    | 0      | 0           | 779    | 203    | 0                   | 0      | 0      | 178                | 3      | 72     |
| Peak Hour Factor                            | 0.9500      | 0.9500 | 1.0000 | 1.0000      | 0.9500 | 0.9500 | 1.0000              | 1.0000 | 1.0000 | 0.9500             | 0.9500 | 0.9500 |
| Other Adjustment Factor                     | 1.0000      | 1.0000 | 1.0000 | 1.0000      | 1.0000 | 1.0000 | 1.0000              | 1.0000 | 1.0000 | 1.0000             | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h]              | 25          | 70     | 0      | 0           | 205    | 53     | 0                   | 0      | 0      | 47                 | 1      | 19     |
| Total Analysis Volume [veh/h]               | 99          | 279    | 0      | 0           | 820    | 214    | 0                   | 0      | 0      | 187                | 3      | 76     |
| Presence of On-Street Parking               | No          |        | No     | No          |        | No     |                     |        |        | No                 |        | No     |
| On-Street Parking Maneuver Rate [/h]        | 0           | 0      | 0      | 0           | 0      | 0      | 0                   | 0      | 0      | 0                  | 0      | 0      |
| Local Bus Stopping Rate [/h]                | 0           | 0      | 0      | 0           | 0      | 0      | 0                   | 0      | 0      | 0                  | 0      | 0      |
| v_do, Outbound Pedestrian Volume crossing   | 0           |        |        | 0           |        |        | 0                   |        |        | 0                  |        |        |
| v_di, Inbound Pedestrian Volume crossing m  | 0           |        |        | 0           |        |        | 0                   |        |        | 0                  |        |        |
| v_co, Outbound Pedestrian Volume crossing   | 0           |        |        | 2           |        |        | 2                   |        |        | 0                  |        |        |
| v_ci, Inbound Pedestrian Volume crossing mi | 0           |        |        | 2           |        |        | 2                   |        |        | 0                  |        |        |
| v_ab, Corner Pedestrian Volume [ped/h]      | 0           |        |        | 0           |        |        | 0                   |        |        | 0                  |        |        |
| Bicycle Volume [bicycles/h]                 | 0           |        |        | 0           |        |        | 0                   |        |        | 0                  |        |        |

**Intersection Settings**

|                           |                                       |
|---------------------------|---------------------------------------|
| Located in CBD            | No                                    |
| Signal Coordination Group | -                                     |
| Cycle Length [s]          | 127                                   |
| Active Pattern            | Pattern 1                             |
| Coordination Type         | Time of Day Pattern Isolated          |
| Actuation Type            | Fixed time                            |
| Offset [s]                | 0.0                                   |
| Offset Reference          | Lead Green - Beginning of First Green |
| Permissive Mode           | SingleBand                            |
| Lost time [s]             | 12.00                                 |

**Phasing & Timing (Basic)**

| Control Type                    | ProtPer | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss |
|---------------------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| Flashing Yellow Arrow           | Yes     |         |         |         |         |         |         |         |         |         |         |         |
| Signal Group                    | 1       | 5       | 0       | 0       | 2       | 2       | 0       | 0       | 0       | 0       | 7       | 0       |
| Auxiliary Signal Groups         |         |         |         |         |         |         |         |         |         |         |         |         |
| Maximum Green [s]               | 11      | 56      | 0       | 0       | 86      | 86      | 0       | 0       | 0       | 0       | 18      | 0       |
| Amber [s]                       | 4.0     | 4.0     | 0.0     | 0.0     | 4.0     | 4.0     | 0.0     | 0.0     | 0.0     | 0.0     | 4.0     | 0.0     |
| All red [s]                     | 1.5     | 1.5     | 0.0     | 0.0     | 1.5     | 1.5     | 0.0     | 0.0     | 0.0     | 0.0     | 1.5     | 0.0     |
| Walk [s]                        | 0.0     | 7.0     | 0.0     | 0.0     | 7.0     | 7.0     | 0.0     | 0.0     | 0.0     | 0.0     | 7.0     | 0.0     |
| Pedestrian Clearance [s]        | 0.0     | 15.0    | 0.0     | 0.0     | 12.0    | 12.0    | 0.0     | 0.0     | 0.0     | 0.0     | 16.0    | 0.0     |
| Delayed Vehicle Green [s]       | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     |
| Rest In Walk                    |         | No      |         |         | No      |         |         |         |         |         | No      |         |
| I1, Start-Up Lost Time [s]      | 2.0     | 2.0     | 0.0     | 0.0     | 2.0     | 2.0     | 0.0     | 0.0     | 0.0     | 0.0     | 2.0     | 0.0     |
| I2, Clearance Lost Time [s]     | 2.0     | 2.0     | 0.0     | 0.0     | 2.0     | 2.0     | 0.0     | 0.0     | 0.0     | 0.0     | 2.0     | 0.0     |
| Detector Location [ft]          | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     |
| Detector Length [ft]            | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     |
| Advanced Detector Location [ft] | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     |
| Advanced Detector Length [ft]   | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     |
| I, Upstream Filtering Factor    | 1.00    | 1.00    | 1.00    | 1.00    | 1.00    | 1.00    | 1.00    | 1.00    | 1.00    | 1.00    | 1.00    | 1.00    |

**Phasing & Timing: Pattern 1**

|                       |      |      |     |     |      |      |     |     |     |     |      |     |
|-----------------------|------|------|-----|-----|------|------|-----|-----|-----|-----|------|-----|
| Split [s]             | 20.0 | 60.0 | 0.0 | 0.0 | 85.0 | 85.0 | 0.0 | 0.0 | 0.0 | 0.0 | 22.0 | 0.0 |
| Lead / Lag            | Lead | -    | -   | -   | -    | -    | -   | -   | -   | -   | -    | -   |
| Minimum Green [s]     | 5    | 5    | 0   | 0   | 10   | 10   | 0   | 0   | 0   | 0   | 10   | 0   |
| Vehicle Extension [s] | 3.0  | 3.0  | 0.0 | 0.0 | 3.0  | 3.0  | 0.0 | 0.0 | 0.0 | 0.0 | 3.0  | 0.0 |
| Minimum Recall        | No   | No   |     |     | No   |      |     |     |     |     | No   |     |
| Maximum Recall        | No   | No   |     |     | No   |      |     |     |     |     | No   |     |
| Pedestrian Recall     | No   | No   |     |     | No   |      |     |     |     |     | No   |     |

**Exclusive Pedestrian Phase**

|                          |   |
|--------------------------|---|
| Pedestrian Signal Group  | 0 |
| Pedestrian Walk [s]      | 0 |
| Pedestrian Clearance [s] | 0 |

**Lane Group Calculations**

| Lane Group                              | L     | C     | C    | C    |  | C     | R     |
|-----------------------------------------|-------|-------|------|------|--|-------|-------|
| C, Calculated Cycle Length [s]          | 127   | 127   | 127  | 127  |  | 127   | 127   |
| L, Total Lost Time per Cycle [s]        | 4.00  | 4.00  | 4.00 | 4.00 |  | 4.00  | 4.00  |
| l1_p, Permitted Start-Up Lost Time [s]  | 0.00  | 0.00  | 0.00 | 0.00 |  | 0.00  | 0.00  |
| l2, Clearance Lost Time [s]             | 0.00  | 2.00  | 2.00 | 2.00 |  | 2.00  | 2.00  |
| g_i, Effective Green Time [s]           | 99.5  | 56.0  | 81.0 | 81.0 |  | 18.0  | 18.0  |
| g / C, Green / Cycle                    | 0.78  | 0.44  | 0.64 | 0.64 |  | 0.14  | 0.14  |
| (v / s)_i Volume / Saturation Flow Rate | 0.16  | 0.18  | 0.28 | 0.30 |  | 0.10  | 0.05  |
| s, saturation flow rate [veh/h]         | 605   | 1531  | 1869 | 1740 |  | 1811  | 1615  |
| c, Capacity [veh/h]                     | 521   | 675   | 1192 | 1110 |  | 257   | 229   |
| d1, Uniform Delay [s]                   | 12.79 | 39.25 | 4.06 | 4.14 |  | 52.26 | 49.09 |
| k, delay calibration                    | 0.50  | 0.50  | 0.50 | 0.50 |  | 0.50  | 0.50  |
| l, Upstream Filtering Factor            | 1.00  | 1.00  | 1.00 | 1.00 |  | 1.00  | 1.00  |
| d2, Incremental Delay [s]               | 0.81  | 1.86  | 1.15 | 1.41 |  | 17.40 | 3.86  |
| d3, Initial Queue Delay [s]             | 0.00  | 0.00  | 0.00 | 0.00 |  | 0.00  | 0.00  |
| Rp, platoon ratio                       | 0.33  | 0.33  | 1.33 | 1.33 |  | 1.00  | 1.00  |
| PF, progression factor                  | 1.00  | 1.00  | 1.00 | 1.00 |  | 1.00  | 1.00  |

**Lane Group Results**

|                                       |        |        |        |        |  |        |        |
|---------------------------------------|--------|--------|--------|--------|--|--------|--------|
| X, volume / capacity                  | 0.19   | 0.41   | 0.43   | 0.47   |  | 0.74   | 0.33   |
| d, Delay for Lane Group [s/veh]       | 13.60  | 41.11  | 5.21   | 5.55   |  | 69.66  | 52.94  |
| Lane Group LOS                        | B      | D      | A      | A      |  | E      | D      |
| Critical Lane Group                   | Yes    | No     | No     | Yes    |  | Yes    | No     |
| 50th-Percentile Queue Length [veh/ln] | 2.33   | 9.03   | 2.82   | 2.90   |  | 6.91   | 2.38   |
| 50th-Percentile Queue Length [ft/ln]  | 58.35  | 225.63 | 70.52  | 72.43  |  | 172.77 | 59.40  |
| 95th-Percentile Queue Length [veh/ln] | 4.20   | 13.95  | 5.08   | 5.21   |  | 11.22  | 4.28   |
| 95th-Percentile Queue Length [ft/ln]  | 105.03 | 348.81 | 126.93 | 130.37 |  | 280.55 | 106.91 |

**Movement, Approach, & Intersection Results**

|                                 |       |       |      |      |      |      |      |      |      |       |       |       |
|---------------------------------|-------|-------|------|------|------|------|------|------|------|-------|-------|-------|
| d_M, Delay for Movement [s/veh] | 13.60 | 41.11 | 0.00 | 0.00 | 5.34 | 5.55 | 0.00 | 0.00 | 0.00 | 69.66 | 69.66 | 52.94 |
| Movement LOS                    | B     | D     |      |      | A    | A    |      |      |      | E     | E     | D     |
| d_A, Approach Delay [s/veh]     | 33.91 |       |      | 5.38 |      |      | 0.00 |      |      | 64.88 |       |       |
| Approach LOS                    | C     |       |      | A    |      |      | A    |      |      | E     |       |       |
| d_I, Intersection Delay [s/veh] | 21.24 |       |      |      |      |      |      |      |      |       |       |       |
| Intersection LOS                | C     |       |      |      |      |      |      |      |      |       |       |       |
| Intersection V/C                | 0.505 |       |      |      |      |      |      |      |      |       |       |       |

**Emissions**

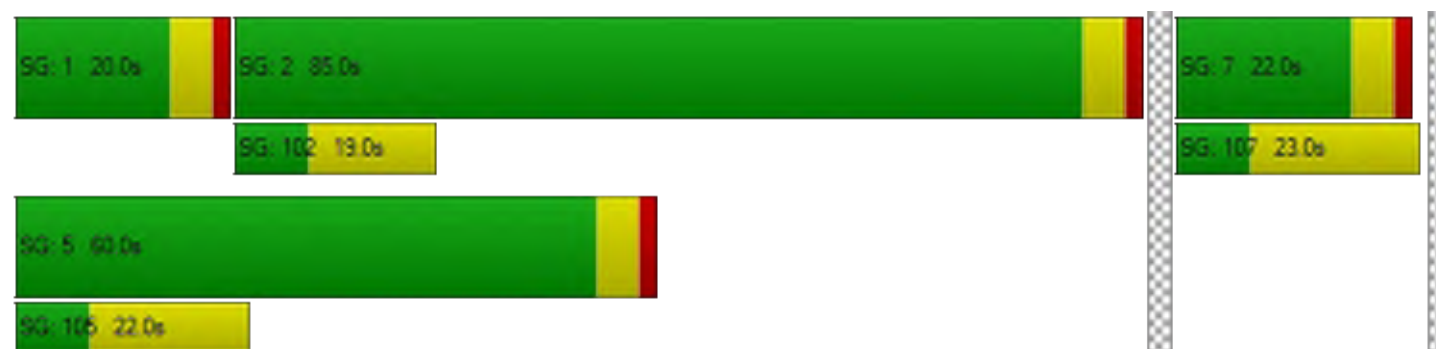
|                              |       |        |        |        |  |        |        |
|------------------------------|-------|--------|--------|--------|--|--------|--------|
| Vehicle Miles Traveled [mph] | 10.50 | 29.59  | 25.76  | 25.76  |  | 19.06  | 7.62   |
| Stops [stops/h]              | 66.16 | 255.84 | 79.96  | 82.12  |  | 195.90 | 67.35  |
| Fuel consumption [US gal/h]  | 1.00  | 4.65   | 2.01   | 2.06   |  | 5.78   | 1.92   |
| CO [g/h]                     | 69.90 | 324.76 | 140.76 | 143.79 |  | 404.17 | 134.03 |
| NOx [g/h]                    | 13.60 | 63.19  | 27.39  | 27.98  |  | 78.64  | 26.08  |
| VOC [g/h]                    | 16.20 | 75.27  | 32.62  | 33.32  |  | 93.67  | 31.06  |

**Other Modes**

|                                                          |       |        |        |       |
|----------------------------------------------------------|-------|--------|--------|-------|
| g_Walk,mi, Effective Walk Time [s]                       | 11.0  | 0.0    | 11.0   | 11.0  |
| M_corner, Corner Circulation Area [ft <sup>2</sup> /ped] | 0.00  | 754.39 | 754.39 | 0.00  |
| M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]  | 0.00  | 0.00   | 0.00   | 0.00  |
| d_p, Pedestrian Delay [s]                                | 52.98 | 0.00   | 52.98  | 52.98 |
| I_p,int, Pedestrian LOS Score for Intersectio            | 2.429 | 0.000  | 1.864  | 2.346 |
| Crosswalk LOS                                            | B     | F      | A      | B     |
| s_b, Saturation Flow Rate of the bicycle lane            | 2000  | 2000   | 2000   | 2000  |
| c_b, Capacity of the bicycle lane [bicycles/h]           | 858   | 1252   | 0      | 260   |
| d_b, Bicycle Delay [s]                                   | 20.69 | 8.88   | 63.50  | 48.07 |
| I_b,int, Bicycle LOS Score for Intersection              | 2.183 | 2.485  | 4.132  | 2.320 |
| Bicycle LOS                                              | B     | B      | D      | B     |

**Sequence**

|        |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|--------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | 1 | 2 | 7 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | 5 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |



**Intersection Level Of Service Report**  
**Intersection 5: 10th Street/I-205 NB Ramp**

|                  |                 |                           |       |
|------------------|-----------------|---------------------------|-------|
| Control Type:    | Signalized      | Delay (sec / veh):        | 18.9  |
| Analysis Method: | HCM 7th Edition | Level Of Service:         | B     |
| Analysis Period: | 15 minutes      | Volume to Capacity (v/c): | 0.584 |

**Intersection Setup**

| Name                         | 10th Street                                                                       |        |       | 10th Street                                                                       |        |        | I-205 NB Exit Ramp                                                                  |        |        | I-205 NB Entry Ramp |        |        |
|------------------------------|-----------------------------------------------------------------------------------|--------|-------|-----------------------------------------------------------------------------------|--------|--------|-------------------------------------------------------------------------------------|--------|--------|---------------------|--------|--------|
| Approach                     | Northbound                                                                        |        |       | Southbound                                                                        |        |        | Eastbound                                                                           |        |        | Westbound           |        |        |
| Lane Configuration           |  |        |       |  |        |        |  |        |        |                     |        |        |
| Turning Movement             | Left                                                                              | Thru   | Right | Left                                                                              | Thru   | Right  | Left                                                                                | Thru   | Right  | Left                | Thru   | Right  |
| Lane Width [ft]              | 12.00                                                                             | 12.00  | 12.00 | 12.00                                                                             | 12.00  | 12.00  | 12.00                                                                               | 12.00  | 12.00  | 12.00               | 12.00  | 12.00  |
| No. of Lanes in Entry Pocket | 0                                                                                 | 0      | 1     | 1                                                                                 | 0      | 0      | 0                                                                                   | 0      | 1      | 0                   | 0      | 0      |
| Entry Pocket Length [ft]     | 100.00                                                                            | 100.00 | 60.00 | 100.00                                                                            | 100.00 | 100.00 | 100.00                                                                              | 100.00 | 100.00 | 100.00              | 100.00 | 100.00 |
| No. of Lanes in Exit Pocket  | 0                                                                                 | 0      | 0     | 0                                                                                 | 0      | 0      | 0                                                                                   | 0      | 0      | 0                   | 0      | 0      |
| Exit Pocket Length [ft]      | 0.00                                                                              | 0.00   | 0.00  | 0.00                                                                              | 0.00   | 0.00   | 0.00                                                                                | 0.00   | 0.00   | 0.00                | 0.00   | 0.00   |
| Speed [mph]                  | 25.00                                                                             |        |       | 25.00                                                                             |        |        | 45.00                                                                               |        |        | 30.00               |        |        |
| Grade [%]                    | 0.00                                                                              |        |       | 0.00                                                                              |        |        | -4.00                                                                               |        |        | 0.00                |        |        |
| Curb Present                 | No                                                                                |        |       | No                                                                                |        |        | No                                                                                  |        |        |                     |        |        |
| Crosswalk                    | Yes                                                                               |        |       | No                                                                                |        |        | Yes                                                                                 |        |        | Yes                 |        |        |

**Volumes**

| Name                                        | 10th Street |        |        | 10th Street |        |        | I-205 NB Exit Ramp |        |        | I-205 NB Entry Ramp |        |        |
|---------------------------------------------|-------------|--------|--------|-------------|--------|--------|--------------------|--------|--------|---------------------|--------|--------|
| Base Volume Input [veh/h]                   | 0           | 304    | 474    | 518         | 439    | 0      | 55                 | 2      | 45     | 0                   | 0      | 0      |
| Base Volume Adjustment Factor               | 1.0000      | 1.0000 | 1.0000 | 1.0000      | 1.0000 | 1.0000 | 1.0000             | 1.0000 | 1.0000 | 1.0000              | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%]               | 2.00        | 3.00   | 2.00   | 3.00        | 0.00   | 2.00   | 0.00               | 50.00  | 2.00   | 2.00                | 2.00   | 2.00   |
| Proportion of CAVs [%]                      | 0.00        |        |        |             |        |        |                    |        |        |                     |        |        |
| Growth Factor                               | 1.0000      | 1.0000 | 1.0000 | 1.0000      | 1.0000 | 1.0000 | 1.0000             | 1.0000 | 1.0000 | 1.0000              | 1.0000 | 1.0000 |
| In-Process Volume [veh/h]                   | 0           | 0      | 0      | 0           | 0      | 0      | 0                  | 0      | 0      | 0                   | 0      | 0      |
| Site-Generated Trips [veh/h]                | 0           | 0      | 0      | 0           | 0      | 0      | 0                  | 0      | 0      | 0                   | 0      | 0      |
| Diverted Trips [veh/h]                      | 0           | 0      | 0      | 0           | 0      | 0      | 0                  | 0      | 0      | 0                   | 0      | 0      |
| Pass-by Trips [veh/h]                       | 0           | 0      | 0      | 0           | 0      | 0      | 0                  | 0      | 0      | 0                   | 0      | 0      |
| Existing Site Adjustment Volume [veh/h]     | 0           | 0      | 0      | 0           | 0      | 0      | 0                  | 0      | 0      | 0                   | 0      | 0      |
| Other Volume [veh/h]                        | 0           | 0      | 0      | 0           | 0      | 0      | 0                  | 0      | 0      | 0                   | 0      | 0      |
| Right Turn on Red Volume [veh/h]            | 0           | 0      | 63     | 0           | 0      | 0      | 0                  | 0      | 35     | 0                   | 0      | 0      |
| Total Hourly Volume [veh/h]                 | 0           | 304    | 411    | 518         | 439    | 0      | 55                 | 2      | 10     | 0                   | 0      | 0      |
| Peak Hour Factor                            | 1.0000      | 0.9700 | 0.9700 | 0.9700      | 0.9700 | 1.0000 | 0.9700             | 0.9700 | 0.9700 | 1.0000              | 1.0000 | 1.0000 |
| Other Adjustment Factor                     | 1.0000      | 1.0000 | 1.0000 | 1.0000      | 1.0000 | 1.0000 | 1.0000             | 1.0000 | 1.0000 | 1.0000              | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h]              | 0           | 78     | 106    | 134         | 113    | 0      | 14                 | 1      | 3      | 0                   | 0      | 0      |
| Total Analysis Volume [veh/h]               | 0           | 313    | 424    | 534         | 453    | 0      | 57                 | 2      | 10     | 0                   | 0      | 0      |
| Presence of On-Street Parking               | No          |        | No     | No          |        | No     | No                 |        | No     |                     |        |        |
| On-Street Parking Maneuver Rate [/h]        | 0           | 0      | 0      | 0           | 0      | 0      | 0                  | 0      | 0      | 0                   | 0      | 0      |
| Local Bus Stopping Rate [/h]                | 0           | 0      | 0      | 0           | 0      | 0      | 0                  | 0      | 0      | 0                   | 0      | 0      |
| v_do, Outbound Pedestrian Volume crossing   | 0           |        |        | 0           |        |        | 0                  |        |        | 0                   |        |        |
| v_di, Inbound Pedestrian Volume crossing m  | 0           |        |        | 0           |        |        | 0                  |        |        | 0                   |        |        |
| v_co, Outbound Pedestrian Volume crossing   | 0           |        |        | 3           |        |        | 4                  |        |        | 0                   |        |        |
| v_ci, Inbound Pedestrian Volume crossing mi | 0           |        |        | 4           |        |        | 3                  |        |        | 0                   |        |        |
| v_ab, Corner Pedestrian Volume [ped/h]      | 0           |        |        | 0           |        |        | 0                  |        |        | 0                   |        |        |
| Bicycle Volume [bicycles/h]                 | 0           |        |        | 0           |        |        | 0                  |        |        | 0                   |        |        |

**Intersection Settings**

|                           |                                       |
|---------------------------|---------------------------------------|
| Located in CBD            | No                                    |
| Signal Coordination Group | -                                     |
| Cycle Length [s]          | 90                                    |
| Active Pattern            | Free Running (No Pattern)             |
| Coordination Type         | <i>Free Running</i>                   |
| Actuation Type            | <i>Fully actuated</i>                 |
| Offset [s]                | 0.0                                   |
| Offset Reference          | Lead Green - Beginning of First Green |
| Permissive Mode           | SingleBand                            |
| Lost time [s]             | 12.00                                 |

**Phasing & Timing (Basic)**

| Control Type                    | Permiss | Permiss | Permiss | ProtPer | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss |
|---------------------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| Flashing Yellow Arrow           |         |         |         | No      |         |         |         |         |         |         |         |         |
| Signal Group                    | 0       | 6       | 0       | 5       | 2       | 0       | 5       | 8       | 0       | 0       | 0       | 0       |
| Auxiliary Signal Groups         |         |         |         |         |         |         |         |         |         |         |         |         |
| Maximum Green [s]               | 0       | 50      | 0       | 45      | 30      | 0       | 45      | 20      | 0       | 0       | 0       | 0       |
| Amber [s]                       | 0.0     | 4.0     | 0.0     | 4.0     | 4.0     | 0.0     | 4.0     | 4.0     | 0.0     | 0.0     | 0.0     | 0.0     |
| All red [s]                     | 0.0     | 1.0     | 0.0     | 1.0     | 1.0     | 0.0     | 1.0     | 1.0     | 0.0     | 0.0     | 0.0     | 0.0     |
| Walk [s]                        | 0.0     | 7.0     | 0.0     | 0.0     | 7.0     | 0.0     | 0.0     | 7.0     | 0.0     | 0.0     | 0.0     | 0.0     |
| Pedestrian Clearance [s]        | 0.0     | 10.0    | 0.0     | 0.0     | 15.0    | 0.0     | 0.0     | 17.0    | 0.0     | 0.0     | 0.0     | 0.0     |
| Delayed Vehicle Green [s]       | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     |
| Rest In Walk                    |         | No      |         |         | No      |         |         | No      |         |         |         |         |
| I1, Start-Up Lost Time [s]      | 0.0     | 2.0     | 0.0     | 2.0     | 2.0     | 0.0     | 2.0     | 2.0     | 0.0     | 0.0     | 0.0     | 0.0     |
| I2, Clearance Lost Time [s]     | 0.0     | 3.0     | 0.0     | 3.0     | 3.0     | 0.0     | 3.0     | 3.0     | 0.0     | 0.0     | 0.0     | 0.0     |
| Detector Location [ft]          | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     |
| Detector Length [ft]            | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     |
| Advanced Detector Location [ft] | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     |
| Advanced Detector Length [ft]   | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     |
| I, Upstream Filtering Factor    | 1.00    | 1.00    | 1.00    | 1.00    | 1.00    | 1.00    | 1.00    | 1.00    | 1.00    | 1.00    | 1.00    | 1.00    |

**Phasing & Timing: Free Running (No Pattern)**

|                       |     |      |     |      |      |     |      |      |     |     |     |     |
|-----------------------|-----|------|-----|------|------|-----|------|------|-----|-----|-----|-----|
| Split [s]             | 0.0 | 14.0 | 0.0 | 9.0  | 14.0 | 0.0 | 9.0  | 14.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Lead / Lag            | -   | -    | -   | Lead | -    | -   | Lead | -    | -   | -   | -   | -   |
| Minimum Green [s]     | 0   | 10   | 0   | 4    | 10   | 0   | 4    | 6    | 0   | 0   | 0   | 0   |
| Vehicle Extension [s] | 0.0 | 6.9  | 0.0 | 2.3  | 6.9  | 0.0 | 2.3  | 2.3  | 0.0 | 0.0 | 0.0 | 0.0 |
| Minimum Recall        |     | Yes  |     | No   | Yes  |     |      | No   |     |     |     |     |
| Maximum Recall        |     | Yes  |     | Yes  | Yes  |     |      | No   |     |     |     |     |
| Pedestrian Recall     |     | No   |     | No   | No   |     |      | No   |     |     |     |     |

**Exclusive Pedestrian Phase**

|                          |   |
|--------------------------|---|
| Pedestrian Signal Group  | 0 |
| Pedestrian Walk [s]      | 0 |
| Pedestrian Clearance [s] | 0 |

**Lane Group Calculations**

| Lane Group                              | C     | R     | L     | C     | C     | R     |  |
|-----------------------------------------|-------|-------|-------|-------|-------|-------|--|
| C, Calculated Cycle Length [s]          | 117   | 117   | 117   | 117   | 117   | 117   |  |
| L, Total Lost Time per Cycle [s]        | 5.00  | 5.00  | 5.00  | 5.00  | 5.00  | 5.00  |  |
| l1_p, Permitted Start-Up Lost Time [s]  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  |  |
| l2, Clearance Lost Time [s]             | 3.00  | 3.00  | 0.00  | 3.00  | 3.00  | 3.00  |  |
| g_i, Effective Green Time [s]           | 50.0  | 50.0  | 100.0 | 100.0 | 7.4   | 7.4   |  |
| g / C, Green / Cycle                    | 0.43  | 0.43  | 0.85  | 0.85  | 0.06  | 0.06  |  |
| (v / s)_i Volume / Saturation Flow Rate | 0.17  | 0.27  | 0.44  | 0.24  | 0.05  | 0.01  |  |
| s, saturation flow rate [veh/h]         | 1855  | 1589  | 1215  | 1900  | 1105  | 1589  |  |
| c, Capacity [veh/h]                     | 790   | 677   | 1043  | 1618  | 70    | 100   |  |
| d1, Uniform Delay [s]                   | 23.28 | 26.39 | 7.91  | 6.87  | 54.43 | 51.85 |  |
| k, delay calibration                    | 0.50  | 0.50  | 0.50  | 0.50  | 0.07  | 0.07  |  |
| l, Upstream Filtering Factor            | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  |  |
| d2, Incremental Delay [s]               | 1.49  | 4.35  | 1.79  | 0.43  | 15.30 | 0.26  |  |
| d3, Initial Queue Delay [s]             | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  |  |
| Rp, platoon ratio                       | 1.00  | 1.00  | 0.67  | 0.67  | 1.00  | 1.00  |  |
| PF, progression factor                  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  |  |

**Lane Group Results**

|                                       |        |        |        |        |       |       |  |
|---------------------------------------|--------|--------|--------|--------|-------|-------|--|
| X, volume / capacity                  | 0.40   | 0.63   | 0.51   | 0.28   | 0.85  | 0.10  |  |
| d, Delay for Lane Group [s/veh]       | 24.77  | 30.74  | 9.71   | 7.30   | 69.73 | 52.12 |  |
| Lane Group LOS                        | C      | C      | A      | A      | E     | D     |  |
| Critical Lane Group                   | No     | Yes    | Yes    | No     | Yes   | No    |  |
| 50th-Percentile Queue Length [veh/ln] | 6.38   | 10.11  | 8.76   | 6.83   | 1.98  | 0.28  |  |
| 50th-Percentile Queue Length [ft/ln]  | 159.38 | 252.66 | 218.99 | 170.75 | 49.47 | 6.97  |  |
| 95th-Percentile Queue Length [veh/ln] | 10.52  | 15.32  | 13.61  | 11.12  | 3.56  | 0.50  |  |
| 95th-Percentile Queue Length [ft/ln]  | 262.90 | 383.00 | 340.34 | 277.90 | 89.04 | 12.55 |  |

**Movement, Approach, & Intersection Results**

|                                 |       |       |       |      |      |      |       |       |       |      |      |      |
|---------------------------------|-------|-------|-------|------|------|------|-------|-------|-------|------|------|------|
| d_M, Delay for Movement [s/veh] | 0.00  | 24.77 | 30.74 | 9.71 | 7.30 | 0.00 | 69.73 | 69.73 | 52.12 | 0.00 | 0.00 | 0.00 |
| Movement LOS                    |       | C     | C     | A    | A    |      | E     | E     | D     |      |      |      |
| d_A, Approach Delay [s/veh]     | 28.20 |       |       | 8.61 |      |      | 67.18 |       |       | 0.00 |      |      |
| Approach LOS                    | C     |       |       | A    |      |      | E     |       |       | A    |      |      |
| d_I, Intersection Delay [s/veh] | 18.92 |       |       |      |      |      |       |       |       |      |      |      |
| Intersection LOS                | B     |       |       |      |      |      |       |       |       |      |      |      |
| Intersection V/C                | 0.584 |       |       |      |      |      |       |       |       |      |      |      |

**Emissions**

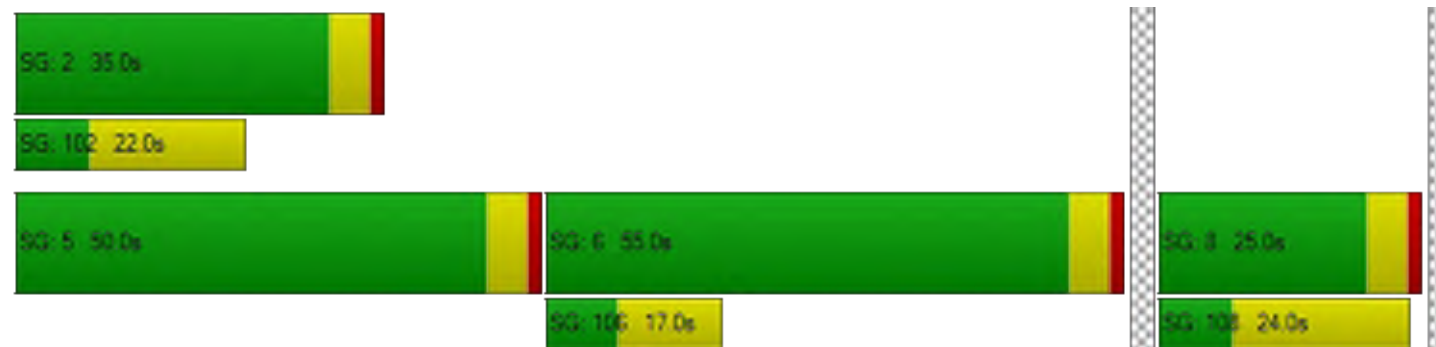
|                              |        |        |        |        |        |       |  |
|------------------------------|--------|--------|--------|--------|--------|-------|--|
| Vehicle Miles Traveled [mph] | 18.50  | 25.06  | 56.63  | 48.04  | 4.53   | 0.77  |  |
| Stops [stops/h]              | 195.49 | 309.90 | 268.61 | 209.44 | 60.68  | 8.55  |  |
| Fuel consumption [US gal/h]  | 3.16   | 4.97   | 4.63   | 3.64   | 1.75   | 0.24  |  |
| CO [g/h]                     | 220.85 | 347.28 | 323.81 | 254.26 | 122.10 | 16.68 |  |
| NOx [g/h]                    | 42.97  | 67.57  | 63.00  | 49.47  | 23.76  | 3.25  |  |
| VOC [g/h]                    | 51.18  | 80.48  | 75.05  | 58.93  | 28.30  | 3.87  |  |

**Other Modes**

|                                                          |       |        |        |       |
|----------------------------------------------------------|-------|--------|--------|-------|
| g_Walk,mi, Effective Walk Time [s]                       | 11.0  | 0.0    | 11.0   | 11.0  |
| M_corner, Corner Circulation Area [ft <sup>2</sup> /ped] | 0.00  | 424.17 | 415.56 | 0.00  |
| M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]  | 0.00  | 0.00   | 917.33 | 0.00  |
| d_p, Pedestrian Delay [s]                                | 48.22 | 0.00   | 48.22  | 48.22 |
| I_p,int, Pedestrian LOS Score for Intersectio            | 2.394 | 0.000  | 1.853  | 2.658 |
| Crosswalk LOS                                            | B     | F      | A      | B     |
| s_b, Saturation Flow Rate of the bicycle lane            | 2000  | 2000   | 2000   | 2000  |
| c_b, Capacity of the bicycle lane [bicycles/h]           | 852   | 511    | 341    | 0     |
| d_b, Bicycle Delay [s]                                   | 19.35 | 32.53  | 40.40  | 58.70 |
| I_b,int, Bicycle LOS Score for Intersection              | 2.880 | 3.188  | 1.731  | 4.132 |
| Bicycle LOS                                              | C     | C      | A      | D     |

**Sequence**

|        |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|--------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | 2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | 5 | 6 | 8 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |



**Intersection Level Of Service Report**  
**Intersection 6: 10th Street/8th Avenue/8th Court**

|                  |                 |                           |       |
|------------------|-----------------|---------------------------|-------|
| Control Type:    | Two-way stop    | Delay (sec / veh):        | 76.6  |
| Analysis Method: | HCM 7th Edition | Level Of Service:         | F     |
| Analysis Period: | 15 minutes      | Volume to Capacity (v/c): | 0.356 |

**Intersection Setup**

| Name                         | 10th Street                                                                       |        |        | 10th Street                                                                       |        |        | 8th Avenue                                                                          |        |        | 8th Court                                                                           |        |       |
|------------------------------|-----------------------------------------------------------------------------------|--------|--------|-----------------------------------------------------------------------------------|--------|--------|-------------------------------------------------------------------------------------|--------|--------|-------------------------------------------------------------------------------------|--------|-------|
| Approach                     | Northbound                                                                        |        |        | Southbound                                                                        |        |        | Eastbound                                                                           |        |        | Westbound                                                                           |        |       |
| Lane Configuration           |  |        |        |  |        |        |  |        |        |  |        |       |
| Turning Movement             | Left                                                                              | Thru   | Right  | Left                                                                              | Thru   | Right  | Left                                                                                | Thru   | Right  | Left                                                                                | Thru   | Right |
| Lane Width [ft]              | 12.00                                                                             | 12.00  | 12.00  | 12.00                                                                             | 12.00  | 12.00  | 12.00                                                                               | 12.00  | 12.00  | 12.00                                                                               | 12.00  | 12.00 |
| No. of Lanes in Entry Pocket | 0                                                                                 | 0      | 0      | 1                                                                                 | 0      | 0      | 0                                                                                   | 0      | 0      | 0                                                                                   | 0      | 1     |
| Entry Pocket Length [ft]     | 100.00                                                                            | 100.00 | 100.00 | 90.00                                                                             | 100.00 | 100.00 | 100.00                                                                              | 100.00 | 100.00 | 100.00                                                                              | 100.00 | 60.00 |
| No. of Lanes in Exit Pocket  | 0                                                                                 | 0      | 0      | 0                                                                                 | 0      | 0      | 0                                                                                   | 0      | 0      | 0                                                                                   | 0      | 0     |
| Exit Pocket Length [ft]      | 0.00                                                                              | 0.00   | 0.00   | 0.00                                                                              | 0.00   | 0.00   | 0.00                                                                                | 0.00   | 0.00   | 0.00                                                                                | 0.00   | 0.00  |
| Speed [mph]                  | 25.00                                                                             |        |        | 25.00                                                                             |        |        | 25.00                                                                               |        |        | 25.00                                                                               |        |       |
| Grade [%]                    | 0.00                                                                              |        |        | 0.00                                                                              |        |        | 0.00                                                                                |        |        | 0.00                                                                                |        |       |
| Crosswalk                    | Yes                                                                               |        |        | Yes                                                                               |        |        | Yes                                                                                 |        |        | Yes                                                                                 |        |       |

**Volumes**

| Name                                    | 10th Street |        |        | 10th Street |        |        | 8th Avenue |        |        | 8th Court |        |        |
|-----------------------------------------|-------------|--------|--------|-------------|--------|--------|------------|--------|--------|-----------|--------|--------|
| Base Volume Input [veh/h]               | 0           | 653    | 47     | 84          | 264    | 136    | 9          | 4      | 221    | 26        | 0      | 116    |
| Base Volume Adjustment Factor           | 1.0000      | 1.0000 | 1.0000 | 1.0000      | 1.0000 | 1.0000 | 1.0000     | 1.0000 | 1.0000 | 1.0000    | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%]           | 0.00        | 2.00   | 2.00   | 0.00        | 1.00   | 0.00   | 0.00       | 0.00   | 1.00   | 0.00      | 2.00   | 1.00   |
| Growth Factor                           | 1.0000      | 1.0000 | 1.0000 | 1.0000      | 1.0000 | 1.0000 | 1.0000     | 1.0000 | 1.0000 | 1.0000    | 1.0000 | 1.0000 |
| In-Process Volume [veh/h]               | 0           | 0      | 0      | 0           | 0      | 0      | 0          | 0      | 0      | 0         | 0      | 0      |
| Site-Generated Trips [veh/h]            | 0           | 0      | 0      | 0           | 0      | 0      | 0          | 0      | 0      | 0         | 0      | 0      |
| Diverted Trips [veh/h]                  | 0           | 0      | 0      | 0           | 0      | 0      | 0          | 0      | 0      | 0         | 0      | 0      |
| Pass-by Trips [veh/h]                   | 0           | 0      | 0      | 0           | 0      | 0      | 0          | 0      | 0      | 0         | 0      | 0      |
| Existing Site Adjustment Volume [veh/h] | 0           | 0      | 0      | 0           | 0      | 0      | 0          | 0      | 0      | 0         | 0      | 0      |
| Other Volume [veh/h]                    | 0           | 0      | 0      | 0           | 0      | 0      | 0          | 0      | 0      | 0         | 0      | 0      |
| Total Hourly Volume [veh/h]             | 0           | 653    | 47     | 84          | 264    | 136    | 9          | 4      | 221    | 26        | 0      | 116    |
| Peak Hour Factor                        | 0.9600      | 0.9600 | 0.9600 | 0.9600      | 0.9600 | 0.9600 | 0.9600     | 0.9600 | 0.9600 | 0.9600    | 1.0000 | 0.9600 |
| Other Adjustment Factor                 | 1.0000      | 1.0000 | 1.0000 | 1.0000      | 1.0000 | 1.0000 | 1.0000     | 1.0000 | 1.0000 | 1.0000    | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h]          | 0           | 170    | 12     | 22          | 69     | 35     | 2          | 1      | 58     | 7         | 0      | 30     |
| Total Analysis Volume [veh/h]           | 0           | 680    | 49     | 88          | 275    | 142    | 9          | 4      | 230    | 27        | 0      | 121    |
| Pedestrian Volume [ped/h]               | 2           |        |        | 0           |        |        | 5          |        |        | 0         |        |        |

**Intersection Settings**

|                                    |      |      |      |      |
|------------------------------------|------|------|------|------|
| Priority Scheme                    | Free | Free | Stop | Stop |
| Flared Lane                        |      |      | No   |      |
| Storage Area [veh]                 | 0    | 0    | 0    | 0    |
| Two-Stage Gap Acceptance           |      |      | No   | No   |
| Number of Storage Spaces in Median | 0    | 0    | 0    | 0    |

**Movement, Approach, & Intersection Results**

|                                       |      |      |      |      |      |      |       |       |       |       |      |       |
|---------------------------------------|------|------|------|------|------|------|-------|-------|-------|-------|------|-------|
| V/C, Movement V/C Ratio               | 0.00 | 0.01 | 0.00 | 0.10 | 0.00 | 0.00 | 0.10  | 0.03  | 0.33  | 0.36  | 0.00 | 0.28  |
| d_M, Delay for Movement [s/veh]       | 8.15 | 0.00 | 0.00 | 9.52 | 0.00 | 0.00 | 49.87 | 33.85 | 15.84 | 76.65 | 0.00 | 16.31 |
| Movement LOS                          | A    | A    | A    | A    | A    | A    | E     | D     | C     | F     |      | C     |
| 95th-Percentile Queue Length [veh/ln] | 0.00 | 0.00 | 0.00 | 0.33 | 0.00 | 0.00 | 2.38  | 2.38  | 2.38  | 1.36  | 0.00 | 1.11  |
| 95th-Percentile Queue Length [ft/ln]  | 0.00 | 0.00 | 0.00 | 8.26 | 0.00 | 0.00 | 59.47 | 59.47 | 59.47 | 33.91 | 0.00 | 27.81 |
| d_A, Approach Delay [s/veh]           | 0.00 |      |      | 1.66 |      |      | 17.40 |       |       | 27.32 |      |       |
| Approach LOS                          | A    |      |      | A    |      |      | C     |       |       | D     |      |       |
| d_I, Intersection Delay [s/veh]       | 5.61 |      |      |      |      |      |       |       |       |       |      |       |
| Intersection LOS                      | F    |      |      |      |      |      |       |       |       |       |      |       |

## Appendix D

### ODOT Crash Data



CITY OF WEST LINN, CLACKAMAS COUNTY

BLANKENSHIP RD and TANNER DR, City of West Linn, Clackamas County, ALL Crashes Severity, Intersection/Intersection Related, 01/01/2020 to 12/31/2024

CITY OF WEST LINN, CLACKAMAS COUNTY

SALAMO RD and 10TH ST, City of West Linn, Clackamas County, ALL Crashes Severity, Intersection/Intersection Related, 01/01/2020 to 12/31/2024

1 - 3 of 3 Crash records shown.

| SER#   | S | D | M | P | R | J           | S            | W | DATE | CLASS | CITY STREET   | RD CHAR | INT-TYPE | INT-REL    | OFFRD | WTHR  | CRASH    | SPCL USE  | MOVE   | A  | S    | PED   | ERROR | ACT | EVENT | CAUSE |
|--------|---|---|---|---|---|-------------|--------------|---|------|-------|---------------|---------|----------|------------|-------|-------|----------|-----------|--------|----|------|-------|-------|-----|-------|-------|
| INVEST | E | A | U | I | C | O           | DAY          |   |      | DIST  | FIRST STREET  |         | (MEDIAN) | TRAF-      | RNDBT | SURF  | COLL     | TRLR QTY  | FROM   |    | G    | E     | LICNS |     |       |       |
| RD DPT | E | L | G | N | H | R           | TIME         |   |      | FROM  | SECOND STREET | DIRECT  | LEGS     | CONTL      | DRVWY | LIGHT | SVRTY    | OWNER     | TO     | P# | TYPE | SVRTY |       |     |       |       |
| UNLOC? | D | C | S | V | L | K           | LAT          |   |      | LONG  | LRS           | LOCTN   | (#LANES) |            |       |       |          | V# TYPE   |        |    | E    | X     | RES   | LOC |       |       |
| 03162  | N | N | N | N |   | Y           | 10/22/2021   |   |      | 16    | SALAMO RD     | INTER   | 3-LEG    | N          | N     | RAIN  | S-1STOP  | 01 NONE 0 | STRGHT |    |      |       |       |     |       |       |
| NONE   |   |   |   |   |   | FR          |              |   |      | 0     | 10TH ST       | SE      |          | TRF SIGNAL | N     | WET   | REAR     | PRVTE     | SE-NW  |    |      |       |       |     | 000   | 00    |
| N      |   |   |   |   |   | 1P          |              |   |      |       |               | 06      | 2        |            | N     | DAY   | INJ      | PSNGR CAR |        | 01 | DRVR | NONE  | 74    | M   | OR-Y  | 29    |
| N      |   |   |   |   |   | 45 20 56.41 | -122 39 6.65 |   |      |       |               |         |          |            |       |       |          |           |        |    |      |       |       |     | OR<25 |       |
|        |   |   |   |   |   |             |              |   |      |       |               |         |          |            |       |       |          | 02 NONE 0 | STOP   |    |      |       |       |     |       |       |
|        |   |   |   |   |   |             |              |   |      |       |               |         |          |            |       |       |          | PRVTE     | SE-NW  |    |      |       |       |     | 012   | 00    |
|        |   |   |   |   |   |             |              |   |      |       |               |         |          |            |       |       |          | PSNGR CAR |        | 01 | DRVR | INJC  | 72    | F   | OR-Y  | 00    |
|        |   |   |   |   |   |             |              |   |      |       |               |         |          |            |       |       |          |           |        |    |      |       |       |     | OR<25 | 00    |
|        |   |   |   |   |   |             |              |   |      |       |               |         |          |            |       |       |          |           |        |    |      |       |       |     |       |       |
| 04517  | N | N | N | N | N | N           | 06/27/2023   |   |      | 16    | SALAMO RD     | STRGHT  |          | Y          | N     | CLR   | S-1STOP  | 01 NONE 0 | STRGHT |    |      |       |       |     |       |       |
| NONE   |   |   |   |   |   | TU          |              |   |      | 100   | 10TH ST       | SE      | (NONE)   | TRF SIGNAL | N     | DRY   | REAR     | PRVTE     | SE-NW  |    |      |       |       |     | 000   | 00    |
| N      |   |   |   |   |   | 9A          |              |   |      |       |               | 08      |          |            | N     | DAY   | INJ      | PSNGR CAR |        | 01 | DRVR | NONE  | 42    | F   | OR-Y  | 29    |
| N      |   |   |   |   |   | 45 20 55.72 | -122 39 5.04 |   |      |       |               |         | (03)     |            |       |       |          |           |        |    |      |       |       |     | OR<25 |       |
|        |   |   |   |   |   |             |              |   |      |       |               |         |          |            |       |       |          | 02 NONE 0 | STOP   |    |      |       |       |     |       |       |
|        |   |   |   |   |   |             |              |   |      |       |               |         |          |            |       |       |          | PRVTE     | SE-NW  |    |      |       |       |     | 012   | 00    |
|        |   |   |   |   |   |             |              |   |      |       |               |         |          |            |       |       |          | PSNGR CAR |        | 01 | DRVR | INJC  | 80    | M   | OR-Y  | 00    |
|        |   |   |   |   |   |             |              |   |      |       |               |         |          |            |       |       |          |           |        |    |      |       |       |     | OR<25 | 00    |
| 02009  | N | N | N | N | N | N           | 06/18/2023   |   |      | 16    | SALAMO RD     | TRANS   |          | Y          | N     | CLD   | S-STRGHT | 01 NONE 9 | STRGHT |    |      |       |       |     |       |       |
| CITY   |   |   |   |   |   | SU          |              |   |      | 200   | 10TH ST       | SE      | (NONE)   | TRF SIGNAL | N     | DRY   | SS-0     | N/A       | SE-NW  |    |      |       |       |     | 031   | 00    |
| N      |   |   |   |   |   | 10A         |              |   |      |       |               | 08      |          |            | N     | DAY   | PDO      | PSNGR CAR |        | 01 | DRVR | NONE  | 00    | Unk | UNK   | 000   |
| N      |   |   |   |   |   | 45 20 55.17 | -122 39 3.26 |   |      |       |               |         | (03)     |            |       |       |          |           |        |    |      |       |       |     | UNK   | 00    |
|        |   |   |   |   |   |             |              |   |      |       |               |         |          |            |       |       |          | 02 NONE 9 | STRGHT |    |      |       |       |     |       |       |
|        |   |   |   |   |   |             |              |   |      |       |               |         |          |            |       |       |          | N/A       | SE-NW  |    |      |       |       |     | 000   | 00    |
|        |   |   |   |   |   |             |              |   |      |       |               |         |          |            |       |       |          | PSNGR CAR |        | 01 | DRVR | NONE  | 00    | Unk | UNK   | 00    |
|        |   |   |   |   |   |             |              |   |      |       |               |         |          |            |       |       |          |           |        |    |      |       |       |     | UNK   | 00    |

Disclaimer: The information contained in this report is compiled from individual driver and police crash reports submitted to the Oregon Department of Transportation as required in ORS 811.720. The Crash Analysis and Reporting Unit is committed to providing the highest quality crash data to customers. However, because submittal of crash report forms is the responsibility of the individual driver, the Crash Analysis and Reporting Unit can not guarantee that all qualifying crashes are represented nor can assurances be made that all details pertaining to a single crash are accurate. Note: Legislative changes to DMV's vehicle crash reporting requirement, effective 01/01/2004, may result in fewer property damage only crashes being eligible for inclusion in the Statewide Crash Data File.

CITY OF WEST LINN, CLACKAMAS COUNTY

SALAMO RD and 10TH ST, City of West Linn, Clackamas County, ALL Crashes Severity, Intersection/Intersection Related, 01/01/2020 to 12/31/2024



CITY OF WEST LINN, CLACKAMAS COUNTY

BLANKENSHIP RD and 10TH ST, City of West Linn, Clackamas County, ALL Crashes Severity, Intersection/Intersection Related, 01/01/2020 to 12/31/2024

CITY OF WEST LINN, CLACKAMAS COUNTY

10TH ST and WB ENFR 10TH, City of West Linn, Clackamas County, ALL Crashes Severity, Intersection/Intersection Related, 01/01/2020 to 12/31/2024

1 - 2 of 2 Crash records shown.

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Disclaimer: The information contained in this report is compiled from individual driver and police crash reports submitted to the Oregon Department of Transportation as required in ORS 811.720. The Crash Analysis and Reporting Unit is committed to providing the highest quality crash data to customers. However, because submittal of crash report forms is the responsibility of the individual driver, the Crash Analysis and Reporting Unit can not guarantee that all qualifying crashes are represented nor can assurances be made that all details pertaining to a single crash are accurate. Note: Legislative changes to DMV's vehicle crash reporting requirement, effective 01/01/2004, may result in fewer property damage only crashes being eligible for inclusion in the Statewide Crash Data File.

CITY OF WEST LINN, CLACKAMAS COUNTY

10TH ST and WB ENFR 10TH, City of West Linn, Clackamas County, ALL Crashes Severity, Intersection/Intersection Related, 01/01/2020 to 12/31/2024

CITY OF WEST LINN, CLACKAMAS COUNTY

10TH ST and WB EXT0 10TH, City of West Linn, Clackamas County, ALL Crashes Severity, Intersection/Intersection Related, 01/01/2020 to 12/31/2024

1 - 3 of 3 Crash records shown.

| SER#   | P | R | J | S | W | DATE | CLASS       | CITY STREET  | RD CHAR       | INT-TYPE | OFFRD   | WTHR  | CRASH | SPCL USE |          |       |       |        |      |       |       |     |     |      |       |               |            |            |
|--------|---|---|---|---|---|------|-------------|--------------|---------------|----------|---------|-------|-------|----------|----------|-------|-------|--------|------|-------|-------|-----|-----|------|-------|---------------|------------|------------|
| INVEST | E | A | U | I | C | O    | DAY         | DIST         | FIRST STREET  | (MEDIAN) | INT-REL | RNDBT | SURF  | COLL     | TRLR QTY | MOVE  | A     | S      |      |       |       |     |     |      |       |               |            |            |
| RD DPT | E | L | G | N | H | R    | TIME        | FROM         | SECOND STREET | LEGS     | TRAF-   |       |       |          | OWNER    | FROM  | PRTC  | INJ    | G    | E     | LICNS | PED |     |      |       |               |            |            |
| UNLOC? | D | C | S | V | L | K    | LAT         | LONG         | LRS           | (#LANES) | CONTL   | DRVWY | LIGHT | SVRTY    | V#       | TYPE  | TO    | P#     | TYPE | SVRTY | E     | X   | RES | LOC  | ERROR | ACT           | EVENT      | CAUSE      |
| 02610  | N | N | N | N | N | N    | 08/26/2022  | 11           | 10TH ST       |          | N       |       | CLR   | O-1STOP  | 01       | NONE  | 9     | BACK   |      |       |       |     |     |      |       |               |            |            |
| CITY   |   |   |   |   |   |      | FR          |              | WB EXT0 10TH  |          | TRF     |       | DRY   | BACK     |          | N/A   | NW-SE |        |      |       |       |     |     |      | 000   |               | 00         |            |
| N      |   |   |   |   |   |      | 12P         |              |               | 06       |         |       |       | PDO      |          | PSNGR | CAR   |        | 01   | DRVR  | NONE  | 00  | Unk | UNK  |       | 000           | 000        | 00         |
| N      |   |   |   |   |   |      | 45 20 54.04 | -122 39 6.69 | 0064AK100S00  |          |         |       |       |          |          |       |       |        |      |       |       |     |     |      |       |               |            |            |
|        |   |   |   |   |   |      |             |              |               |          |         |       |       |          | 02       | NONE  | 9     | STOP   |      |       |       |     |     |      |       | 011           |            | 00         |
|        |   |   |   |   |   |      |             |              |               |          |         |       |       |          |          | N/A   | SE-NW |        | 01   | DRVR  | NONE  | 00  | Unk | UNK  |       | 000           | 000        | 00         |
|        |   |   |   |   |   |      |             |              |               |          |         |       |       |          |          | PSNGR | CAR   |        |      |       |       |     |     |      |       |               |            |            |
| 04263  | N | N | N | N | N | N    | 12/06/2023  | 11           | 10TH ST       |          | N       |       | RAIN  | S-1STOP  | 01       | NONE  | 0     | STRGHT |      |       |       |     |     |      |       |               | 32, 27, 29 |            |
| CITY   |   |   |   |   |   |      | WE          |              | WB EXT0 10TH  |          | TRF     |       | WET   | REAR     |          | PRVTE | S -N  |        |      |       |       |     |     |      | 000   |               | 00         |            |
| N      |   |   |   |   |   |      | 2P          |              |               | 06       |         |       |       | INJ      |          | PSNGR | CAR   |        | 01   | DRVR  | NONE  | 36  | M   | OR-Y |       | 052, 016, 026 | 038        | 32, 27, 29 |
| N      |   |   |   |   |   |      | 45 20 54.04 | -122 39 6.69 | 0064AL100S00  |          |         |       |       |          |          |       |       |        |      |       |       |     |     |      |       |               |            |            |
|        |   |   |   |   |   |      |             |              |               |          |         |       |       |          | 02       | NONE  | 0     | STOP   |      |       |       |     |     |      |       | 012           |            | 00         |
|        |   |   |   |   |   |      |             |              |               |          |         |       |       |          |          | PRVTE | S -N  |        | 01   | DRVR  | INJC  | 52  | F   | OR-Y |       | 000           | 000        | 00         |
|        |   |   |   |   |   |      |             |              |               |          |         |       |       |          |          | PSNGR | CAR   |        |      |       |       |     |     |      |       |               |            |            |
| 04306  | N | N | N | N | N | N    | 12/09/2023  | 16           | 10TH ST       |          | N       |       | RAIN  | S-1STOP  | 01       | NONE  | 0     | STRGHT |      |       |       |     |     |      |       |               | 29         |            |
| NONE   |   |   |   |   |   |      | SA          |              | WB EXT0 10TH  |          | TRF     |       | WET   | REAR     |          | PRVTE | S -N  |        |      |       |       |     |     |      | 000   |               | 00         |            |
| N      |   |   |   |   |   |      | 8P          |              |               | 06       |         |       |       | INJ      |          | PSNGR | CAR   |        | 01   | DRVR  | NONE  | 16  | F   | OR-Y |       | 026           | 000        | 29         |
| N      |   |   |   |   |   |      | 45 20 54.04 | -122 39 6.69 | 0064AI100S00  |          |         |       |       |          |          |       |       |        |      |       |       |     |     |      |       |               |            |            |
|        |   |   |   |   |   |      |             |              |               |          |         |       |       |          | 02       | NONE  | 0     | STOP   |      |       |       |     |     |      |       | 011           |            | 00         |
|        |   |   |   |   |   |      |             |              |               |          |         |       |       |          |          | PRVTE | S -N  |        | 01   | DRVR  | INJC  | 39  | M   | OR-Y |       | 000           | 000        | 00         |
|        |   |   |   |   |   |      |             |              |               |          |         |       |       |          |          |       |       |        |      |       |       |     |     |      |       |               |            |            |
|        |   |   |   |   |   |      |             |              |               |          |         |       |       |          | 02       | NONE  | 0     | STOP   |      |       |       |     |     |      |       | 011           |            | 00         |
|        |   |   |   |   |   |      |             |              |               |          |         |       |       |          |          | PRVTE | S -N  |        | 02   | PSNG  | INJC  | 39  | F   |      | 000   | 000           | 00         |            |
|        |   |   |   |   |   |      |             |              |               |          |         |       |       |          |          |       |       |        |      |       |       |     |     |      |       |               |            |            |
|        |   |   |   |   |   |      |             |              |               |          |         |       |       |          | 02       | NONE  | 0     | STOP   |      |       |       |     |     |      |       | 011           |            | 00         |
|        |   |   |   |   |   |      |             |              |               |          |         |       |       |          |          | PRVTE | S -N  |        | 03   | PSNG  | INJC  | 06  | F   |      | 000   | 000           | 00         |            |
|        |   |   |   |   |   |      |             |              |               |          |         |       |       |          |          |       |       |        |      |       |       |     |     |      |       |               |            |            |
|        |   |   |   |   |   |      |             |              |               |          |         |       |       |          | 02       | NONE  | 0     | STOP   |      |       |       |     |     |      |       | 011           |            | 00         |
|        |   |   |   |   |   |      |             |              |               |          |         |       |       |          |          | PRVTE | S -N  |        | 04   | PSNG  | INJC  | 08  | M   |      | 000   | 000           | 00         |            |
|        |   |   |   |   |   |      |             |              |               |          |         |       |       |          |          | PSNGR | CAR   |        |      |       |       |     |     |      |       |               |            |            |

Disclaimer: The information contained in this report is compiled from individual driver and police crash reports submitted to the Oregon Department of Transportation as required in ORS 811.720. The Crash Analysis and Reporting Unit is committed to providing the highest quality crash data to customers. However, because submittal of crash report forms is the responsibility of the individual driver, the Crash Analysis and Reporting Unit can not guarantee that all qualifying crashes are represented nor can assurances be made that all details pertaining to a single crash are accurate. Note: Legislative changes to DMV's vehicle crash reporting requirement, effective 01/01/2004, may result in fewer property damage only crashes being eligible for inclusion in the Statewide Crash Data File.

CITY OF WEST LINN, CLACKAMAS COUNTY

10TH ST and WB EXT0 10TH, City of West Linn, Clackamas County, ALL Crashes Severity, Intersection/Intersection Related, 01/01/2020 to 12/31/2024



CITY OF WEST LINN, CLACKAMAS COUNTY

10TH ST and EB ENFR 10TH, City of West Linn, Clackamas County, ALL Crashes Severity, Intersection/Intersection Related, 01/01/2020 to 12/31/2024



CITY OF WEST LINN, CLACKAMAS COUNTY

10TH ST and EB EXT0 10TH, City of West Linn, Clackamas County, ALL Crashes Severity, Intersection/Intersection Related, 01/01/2020 to 12/31/2024



CITY OF WEST LINN, CLACKAMAS COUNTY

10TH ST and 8TH CT, City of West Linn, Clackamas County, ALL Crashes Severity, Intersection/Intersection Related, 01/01/2020 to 12/31/2024



CITY OF WEST LINN, CLACKAMAS COUNTY

10TH ST and 8TH AVE, City of West Linn, Clackamas County, ALL Crashes Severity, Intersection/Intersection Related, 01/01/2020 to 12/31/2024

| ACTION CODE TRANSLATION LIST |                   |                                                                                           |
|------------------------------|-------------------|-------------------------------------------------------------------------------------------|
| ACTION CODE                  | SHORT DESCRIPTION | LONG DESCRIPTION                                                                          |
| 000                          | NONE              | NO ACTION OR NON-WARRANTED                                                                |
| 001                          | SKIDDED           | SKIDDED                                                                                   |
| 002                          | ON/OFF V          | GETTING ON OR OFF STOPPED OR PARKED VEHICLE                                               |
| 003                          | LOAD OVR          | OVERHANGING LOAD STRUCK ANOTHER VEHICLE, ETC.                                             |
| 006                          | SLOW DN           | SLOWED DOWN                                                                               |
| 007                          | AVOIDING          | AVOIDING MANEUVER                                                                         |
| 008                          | PAR PARK          | PARALLEL PARKING                                                                          |
| 009                          | ANG PARK          | ANGLE PARKING                                                                             |
| 010                          | INTERFERE         | PASSENGER INTERFERING WITH DRIVER                                                         |
| 011                          | STOPPED           | STOPPED IN TRAFFIC NOT WAITING TO MAKE A LEFT TURN                                        |
| 012                          | STP/L TRN         | STOPPED BECAUSE OF LEFT TURN SIGNAL OR WAITING, ETC.                                      |
| 013                          | STP TURN          | STOPPED WHILE EXECUTING A TURN                                                            |
| 014                          | EMR V PKD         | EMERGENCY VEHICLE LEGALLY PARKED IN THE ROADWAY                                           |
| 015                          | GO A/STOP         | PROCEED AFTER STOPPING FOR A STOP SIGN/FLASHING RED.                                      |
| 016                          | TRN A/RED         | TURNED ON RED AFTER STOPPING                                                              |
| 017                          | LOSTCTRL          | LOST CONTROL OF VEHICLE                                                                   |
| 018                          | EXIT DWY          | ENTERING STREET OR HIGHWAY FROM ALLEY OR DRIVEWAY                                         |
| 019                          | ENTR DWY          | ENTERING ALLEY OR DRIVEWAY FROM STREET OR HIGHWAY                                         |
| 020                          | STR ENTR          | BEFORE ENTERING ROADWAY, STRUCK PEDESTRIAN, ETC. ON SIDEWALK OR SHOULDER                  |
| 021                          | NO DRVR           | CAR RAN AWAY - NO DRIVER                                                                  |
| 022                          | PREV COL          | STRUCK, OR WAS STRUCK BY, VEHICLE OR PEDESTRIAN IN PRIOR COLLISION BEFORE ACC. STABILIZED |
| 023                          | STALLED           | VEHICLE STALLED OR DISABLED                                                               |
| 024                          | DRVR DEAD         | DEAD BY UNASSOCIATED CAUSE                                                                |
| 025                          | FATIGUE           | FATIGUED, SLEEPY, ASLEEP                                                                  |
| 026                          | SUN               | DRIVER BLINDED BY SUN                                                                     |
| 027                          | HDLGHTS           | DRIVER BLINDED BY HEADLIGHTS                                                              |
| 028                          | ILLNESS           | PHYSICALLY ILL                                                                            |
| 029                          | THRU MED          | VEHICLE CROSSED, PLUNGED OVER, OR THROUGH MEDIAN BARRIER                                  |
| 030                          | PURSUIT           | PURSUING OR ATTEMPTING TO STOP A VEHICLE                                                  |
| 031                          | PASSING           | PASSING SITUATION                                                                         |
| 032                          | PRKOFFRD          | VEHICLE PARKED BEYOND CURB OR SHOULDER                                                    |
| 033                          | CROS MED          | VEHICLE CROSSED EARTH OR GRASS MEDIAN                                                     |
| 034                          | X N/SGNL          | CROSSING AT INTERSECTION - NO TRAFFIC SIGNAL PRESENT                                      |
| 035                          | X W/ SGNL         | CROSSING AT INTERSECTION - TRAFFIC SIGNAL PRESENT                                         |
| 036                          | DIAGONAL          | CROSSING AT INTERSECTION - DIAGONALLY                                                     |
| 037                          | BTWN INT          | CROSSING BETWEEN INTERSECTIONS                                                            |
| 038                          | DISTRACT          | DRIVER'S ATTENTION DISTRACTED                                                             |
| 039                          | W/TRAF-S          | WALKING, RUNNING, RIDING, ETC., ON SHOULDER WITH TRAFFIC                                  |
| 040                          | A/TRAF-S          | WALKING, RUNNING, RIDING, ETC., ON SHOULDER FACING TRAFFIC                                |
| 041                          | W/TRAF-P          | WALKING, RUNNING, RIDING, ETC., ON PAVEMENT WITH TRAFFIC                                  |
| 042                          | A/TRAF-P          | WALKING, RUNNING, RIDING, ETC., ON PAVEMENT FACING TRAFFIC                                |
| 043                          | PLAYINRD          | PLAYING IN STREET OR ROAD                                                                 |
| 044                          | PUSH MV           | PUSHING OR WORKING ON VEHICLE IN ROAD OR ON SHOULDER                                      |
| 045                          | WORK ON           | WORKING IN ROADWAY OR ALONG SHOULDER                                                      |
| 046                          | W/ TRAFIC         | NON-MOTORIST WALKING, RUNNING, RIDING, ETC. WITH TRAFFIC                                  |
| 047                          | A/ TRAFIC         | NON-MOTORIST WALKING, RUNNING, RIDING, ETC. FACING TRAFFIC                                |
| 050                          | LAY ON RD         | STANDING OR LYING IN ROADWAY                                                              |
| 051                          | ENT OFFRD         | ENTERING / STARTING IN TRAFFIC LANE FROM OFF ROAD                                         |
| 052                          | MERGING           | MERGING                                                                                   |
| 055                          | SPRAY             | BLINDED BY WATER SPRAY                                                                    |

| ACTION CODE TRANSLATION LIST |                      |                  |
|------------------------------|----------------------|------------------|
| ACTION<br>CODE               | SHORT<br>DESCRIPTION | LONG DESCRIPTION |
| 088                          | OTHER                | OTHER ACTION     |
| 099                          | UNK                  | UNKNOWN ACTION   |

| CAUSE CODE TRANSLATION LIST |                   |                                                    |
|-----------------------------|-------------------|----------------------------------------------------|
| CAUSE CODE                  | SHORT DESCRIPTION | LONG DESCRIPTION                                   |
| 00                          | NO CODE           | NO CAUSE ASSOCIATED AT THIS LEVEL                  |
| 01                          | TOO-FAST          | TOO FAST FOR CONDITIONS (NOT EXCEED POSTED SPEED)  |
| 02                          | NO-YIELD          | DID NOT YIELD RIGHT-OF-WAY                         |
| 03                          | PAS-STOP          | PASSED STOP SIGN OR RED FLASHER                    |
| 04                          | DIS SIG           | DISREGARDED TRAFFIC SIGNAL                         |
| 05                          | LEFT-CTR          | DROVE LEFT OF CENTER ON TWO-WAY ROAD; STRADDLING   |
| 06                          | IMP-OVER          | IMPROPER OVERTAKING                                |
| 07                          | TOO-CLOS          | FOLLOWED TOO CLOSELY                               |
| 08                          | IMP-TURN          | MADE IMPROPER TURN                                 |
| 09                          | DRINKING          | ALCOHOL OR DRUG INVOLVED                           |
| 10                          | OTHR-IMP          | OTHER IMPROPER DRIVING                             |
| 11                          | MECH-DEF          | MECHANICAL DEFECT                                  |
| 12                          | OTHER             | OTHER (NOT IMPROPER DRIVING)                       |
| 13                          | IMP LN C          | IMPROPER CHANGE OF TRAFFIC LANES                   |
| 14                          | DIS TCD           | DISREGARDED OTHER TRAFFIC CONTROL DEVICE           |
| 15                          | WRNG WAY          | WRONG WAY ON ONE-WAY ROAD; WRONG SIDE DIVIDED ROAD |
| 16                          | FATIGUE           | DRIVER DROWSY/FATIGUED/SLEEPY                      |
| 17                          | ILLNESS           | PHYSICAL ILLNESS                                   |
| 18                          | IN RDWY           | NON-MOTORIST ILLEGALLY IN ROADWAY                  |
| 19                          | NT VISBL          | NON-MOTORIST NOT VISIBLE; NON-REFLECTIVE CLOTHING  |
| 20                          | IMP PKNG          | VEHICLE IMPROPERLY PARKED                          |
| 21                          | DEF STER          | DEFECTIVE STEERING MECHANISM                       |
| 22                          | DEF BRKE          | INADEQUATE OR NO BRAKES                            |
| 24                          | LOADSHT           | VEHICLE LOST LOAD OR LOAD SHIFTED                  |
| 25                          | TIREFAIL          | TIRE FAILURE                                       |
| 26                          | PHANTOM           | PHANTOM / NON-CONTACT VEHICLE                      |
| 27                          | INATTENT          | INATTENTION                                        |
| 28                          | NM INATT          | NON-MOTORIST INATTENTION                           |
| 29                          | F AVOID           | FAILED TO AVOID VEHICLE AHEAD                      |
| 30                          | SPEED             | DRIVING IN EXCESS OF POSTED SPEED                  |
| 31                          | RACING            | SPEED RACING (PER PAR)                             |
| 32                          | CARELESS          | CARELESS DRIVING (PER PAR)                         |
| 33                          | RECKLESS          | RECKLESS DRIVING (PER PAR)                         |
| 34                          | AGGRESV           | AGGRESSIVE DRIVING (PER PAR)                       |
| 35                          | RD RAGE           | ROAD RAGE (PER PAR)                                |
| 40                          | VIEW OBS          | VIEW OBSCURED                                      |
| 50                          | USED MDN          | IMPROPER USE OF MEDIAN OR SHOULDER                 |
| 51                          | FAIL LN           | FAILED TO MAINTAIN LANE                            |
| 52                          | OFF RD            | RAN OFF ROAD                                       |

| COLLISION TYPE CODE TRANSLATION LIST |                   |                              |
|--------------------------------------|-------------------|------------------------------|
| COLL CODE                            | SHORT DESCRIPTION | LONG DESCRIPTION             |
| &                                    | OTH               | MISCELLANEOUS                |
| -                                    | BACK              | BACKING                      |
| 0                                    | PED               | PEDESTRIAN                   |
| 1                                    | ANGL              | ANGLE                        |
| 2                                    | HEAD              | HEAD-ON                      |
| 3                                    | REAR              | REAR-END                     |
| 4                                    | SS-M              | SIDESWIPE - MEETING          |
| 5                                    | SS-O              | SIDESWIPE - OVERTAKING       |
| 6                                    | TURN              | TURNING MOVEMENT             |
| 7                                    | PARK              | PARKING MANEUVER             |
| 8                                    | NCOL              | NON-COLLISION                |
| 9                                    | FIX               | FIXED OBJECT OR OTHER OBJECT |

| CRASH TYPE CODE TRANSLATION LIST |                   |                                                    |
|----------------------------------|-------------------|----------------------------------------------------|
| CRASH TYPE                       | SHORT DESCRIPTION | LONG DESCRIPTION                                   |
| &                                | OVERTURN          | OVERTURNED                                         |
| 0                                | NON-COLL          | OTHER NON-COLLISION                                |
| 1                                | OTH RDWY          | MOTOR VEHICLE ON OTHER ROADWAY                     |
| 2                                | PRKD MV           | PARKED MOTOR VEHICLE                               |
| 3                                | PED               | PEDESTRIAN                                         |
| 4                                | TRAIN             | RAILWAY TRAIN                                      |
| 6                                | BIKE              | PEDALCYCLIST                                       |
| 7                                | ANIMAL            | ANIMAL                                             |
| 8                                | FIX OBJ           | FIXED OBJECT                                       |
| 9                                | OTH OBJ           | OTHER OBJECT                                       |
| A                                | ANGL-STP          | ENTERING AT ANGLE - ONE VEHICLE STOPPED            |
| B                                | ANGL-OTH          | ENTERING AT ANGLE - ALL OTHERS                     |
| C                                | S-STRGHT          | FROM SAME DIRECTION - BOTH GOING STRAIGHT          |
| D                                | S-1TURN           | FROM SAME DIRECTION - ONE TURN, ONE STRAIGHT       |
| E                                | S-1STOP           | FROM SAME DIRECTION - ONE STOPPED                  |
| F                                | S-OTHER           | FROM SAME DIRECTION-ALL OTHERS, INCLUDING PARKING  |
| G                                | O-STRGHT          | FROM OPPOSITE DIRECTION - BOTH GOING STRAIGHT      |
| H                                | O-1 L-TURN        | FROM OPPOSITE DIRECTION-ONE LEFT TURN,ONE STRAIGHT |
| I                                | O-1STOP           | FROM OPPOSITE DIRECTION - ONE STOPPED              |
| J                                | O-OTHER           | FROM OPPOSITE DIRECTION-ALL OTHERS INCL. PARKING   |

| DRIVER LICENSE CODE TRANSLATION LIST |               |                                                 | DRIVER RESIDENCE CODE TRANSLATION LIST |               |                                              |
|--------------------------------------|---------------|-------------------------------------------------|----------------------------------------|---------------|----------------------------------------------|
| LIC<br>CODE                          | SHORT<br>DESC | LONG DESCRIPTION                                | RES<br>CODE                            | SHORT<br>DESC | LONG DESCRIPTION                             |
| 0                                    | NONE          | NOT LICENSED (HAD NEVER BEEN LICENSED)          | 1                                      | OR<25         | OREGON RESIDENT WITHIN 25 MILE OF HOME       |
| 1                                    | OR-Y          | VALID OREGON LICENSE                            | 2                                      | OR>25         | OREGON RESIDENT 25 OR MORE MILES FROM HOME   |
| 2                                    | OTH-Y         | VALID LICENSE, OTHER STATE OR COUNTRY           | 3                                      | OR-?          | OREGON RESIDENT - UNKNOWN DISTANCE FROM HOME |
| 3                                    | SUSP          | SUSPENDED/REVOKED                               | 4                                      | N-RES         | NON-RESIDENT                                 |
| 4                                    | EXP           | EXPIRED                                         | 9                                      | UNK           | UNKNOWN IF OREGON RESIDENT                   |
| 8                                    | N-VAL         | OTHER NON-VALID LICENSE                         |                                        |               |                                              |
| 9                                    | UNK           | UNKNOWN IF DRIVER WAS LICENSED AT TIME OF CRASH |                                        |               |                                              |

| ERROR CODE TRANSLATION LIST |                      |                                                                                             |
|-----------------------------|----------------------|---------------------------------------------------------------------------------------------|
| ERROR<br>CODE               | SHORT<br>DESCRIPTION | FULL DESCRIPTION                                                                            |
| 000                         | NONE                 | NO ERROR                                                                                    |
| 001                         | WIDE TRN             | WIDE TURN                                                                                   |
| 002                         | CUT CORN             | CUT CORNER ON TURN                                                                          |
| 003                         | FAIL TRN             | FAILED TO OBEY MANDATORY TRAFFIC TURN SIGNAL, SIGN OR LANE MARKINGS                         |
| 004                         | L IN TRF             | LEFT TURN IN FRONT OF ONCOMING TRAFFIC                                                      |
| 005                         | L PROHIB             | LEFT TURN WHERE PROHIBITED                                                                  |
| 006                         | FRM WRNG             | TURNED FROM WRONG LANE                                                                      |
| 007                         | TO WRONG             | TURNED INTO WRONG LANE                                                                      |
| 008                         | ILLEG U              | U-TURNED ILLEGALLY                                                                          |
| 009                         | IMP STOP             | IMPROPERLY STOPPED IN TRAFFIC LANE                                                          |
| 010                         | IMP SIG              | IMPROPER SIGNAL OR FAILURE TO SIGNAL                                                        |
| 011                         | IMP BACK             | BACKING IMPROPERLY (NOT PARKING)                                                            |
| 012                         | IMP PARK             | IMPROPERLY PARKED                                                                           |
| 013                         | UNPARK               | IMPROPER START LEAVING PARKED POSITION                                                      |
| 014                         | IMP STRT             | IMPROPER START FROM STOPPED POSITION                                                        |
| 015                         | IMP LGHT             | IMPROPER OR NO LIGHTS (VEHICLE IN TRAFFIC)                                                  |
| 016                         | INATTENT             | INATTENTION (FAILURE TO DIM LIGHTS PRIOR TO 4/1/97)                                         |
| 017                         | UNSF VEH             | DRIVING UNSAFE VEHICLE (NO OTHER ERROR APPARENT)                                            |
| 018                         | OTH PARK             | ENTERING/EXITING PARKED POSITION W/ INSUFFICIENT CLEARANCE; OTHER IMPROPER PARKING MANEUVER |
| 019                         | DIS DRIV             | DISREGARDED OTHER DRIVER'S SIGNAL                                                           |
| 020                         | DIS SGNL             | DISREGARDED TRAFFIC SIGNAL                                                                  |
| 021                         | RAN STOP             | DISREGARDED STOP SIGN OR FLASHING RED                                                       |
| 022                         | DIS SIGN             | DISREGARDED WARNING SIGN, FLARES OR FLASHING AMBER                                          |
| 023                         | DIS OFCR             | DISREGARDED POLICE OFFICER OR FLAGMAN                                                       |
| 024                         | DIS EMER             | DISREGARDED SIREN OR WARNING OF EMERGENCY VEHICLE                                           |
| 025                         | DIS RR               | DISREGARDED RR SIGNAL, RR SIGN, OR RR FLAGMAN                                               |
| 026                         | REAR-END             | FAILED TO AVOID STOPPED OR PARKED VEHICLE AHEAD OTHER THAN SCHOOL BUS                       |
| 027                         | BIKE ROW             | DID NOT HAVE RIGHT-OF-WAY OVER PEDALCYCLIST                                                 |
| 028                         | NO ROW               | DID NOT HAVE RIGHT-OF-WAY                                                                   |
| 029                         | PED ROW              | FAILED TO YIELD RIGHT-OF-WAY TO PEDESTRIAN                                                  |
| 030                         | PAS CURV             | PASSING ON A CURVE                                                                          |
| 031                         | PAS WRNG             | PASSING ON THE WRONG SIDE                                                                   |
| 032                         | PAS TANG             | PASSING ON STRAIGHT ROAD UNDER UNSAFE CONDITIONS                                            |
| 033                         | PAS X-WK             | PASSED VEHICLE STOPPED AT CROSSWALK FOR PEDESTRIAN                                          |
| 034                         | PAS INTR             | PASSING AT INTERSECTION                                                                     |
| 035                         | PAS HILL             | PASSING ON CREST OF HILL                                                                    |
| 036                         | N/PAS ZN             | PASSING IN "NO PASSING" ZONE                                                                |
| 037                         | PAS TRAF             | PASSING IN FRONT OF ONCOMING TRAFFIC                                                        |
| 038                         | CUT-IN               | CUTTING IN (TWO LANES - TWO WAY ONLY)                                                       |
| 039                         | WRNGSIDE             | DRIVING ON WRONG SIDE OF THE ROAD (2-WAY UNDIVIDED ROADWAYS)                                |
| 040                         | THRU MED             | DRIVING THROUGH SAFETY ZONE OR OVER ISLAND                                                  |
| 041                         | F/ST BUS             | FAILED TO STOP FOR SCHOOL BUS                                                               |

ERROR CODE TRANSLATION LIST

| ERROR | SHORT       |                                                                     |
|-------|-------------|---------------------------------------------------------------------|
| CODE  | DESCRIPTION | FULL DESCRIPTION                                                    |
| 042   | F/SLO MV    | FAILED TO DECREASE SPEED FOR SLOWER MOVING VEHICLE                  |
| 043   | TOO CLOSE   | FOLLOWING TOO CLOSELY (MUST BE ON OFFICER'S REPORT)                 |
| 044   | STRDL LN    | STRADDLING OR DRIVING ON WRONG LANES                                |
| 045   | IMP CHG     | IMPROPER CHANGE OF TRAFFIC LANES                                    |
| 046   | WRNG WAY    | WRONG WAY ON ONE-WAY ROADWAY; WRONG SIDE DIVIDED ROAD               |
| 047   | BASCRULE    | DRIVING TOO FAST FOR CONDITIONS (NOT EXCEEDING POSTED SPEED)        |
| 048   | OPN DOOR    | OPENED DOOR INTO ADJACENT TRAFFIC LANE                              |
| 049   | IMPEDING    | IMPEDING TRAFFIC                                                    |
| 050   | SPEED       | DRIVING IN EXCESS OF POSTED SPEED                                   |
| 051   | RECKLESS    | RECKLESS DRIVING (PER PAR)                                          |
| 052   | CARELESS    | CARELESS DRIVING (PER PAR)                                          |
| 053   | RACING      | SPEED RACING (PER PAR)                                              |
| 054   | X N/SGNL    | CROSSING AT INTERSECTION, NO TRAFFIC SIGNAL PRESENT                 |
| 055   | X W/SGNL    | CROSSING AT INTERSECTION, TRAFFIC SIGNAL PRESENT                    |
| 056   | DIAGONAL    | CROSSING AT INTERSECTION - DIAGONALLY                               |
| 057   | BTWN INT    | CROSSING BETWEEN INTERSECTIONS                                      |
| 059   | W/TRAF-S    | WALKING, RUNNING, RIDING, ETC., ON SHOULDER WITH TRAFFIC            |
| 060   | A/TRAF-S    | WALKING, RUNNING, RIDING, ETC., ON SHOULDER FACING TRAFFIC          |
| 061   | W/TRAF-P    | WALKING, RUNNING, RIDING, ETC., ON PAVEMENT WITH TRAFFIC            |
| 062   | A/TRAF-P    | WALKING, RUNNING, RIDING, ETC., ON PAVEMENT FACING TRAFFIC          |
| 063   | PLAYINRD    | PLAYING IN STREET OR ROAD                                           |
| 064   | PUSH MV     | PUSHING OR WORKING ON VEHICLE IN ROAD OR ON SHOULDER                |
| 065   | WORK IN RD  | WORKING IN ROADWAY OR ALONG SHOULDER                                |
| 070   | LAY ON RD   | STANDING OR LYING IN ROADWAY                                        |
| 071   | NM IMP USE  | IMPROPER USE OF TRAFFIC LANE BY NON-MOTORIST                        |
| 073   | ELUDING     | ELUDING / ATTEMPT TO ELUDE                                          |
| 079   | F NEG CURV  | FAILED TO NEGOTIATE A CURVE                                         |
| 080   | FAIL LN     | FAILED TO MAINTAIN LANE                                             |
| 081   | OFF RD      | RAN OFF ROAD                                                        |
| 082   | NO CLEAR    | DRIVER MISJUDGED CLEARANCE                                          |
| 083   | OVRSTEER    | OVER-CORRECTING                                                     |
| 084   | NOT USED    | CODE NOT IN USE                                                     |
| 085   | OVRLOAD     | OVERLOADING OR IMPROPER LOADING OF VEHICLE WITH CARGO OR PASSENGERS |
| 097   | UNA DIS TC  | UNABLE TO DETERMINE WHICH DRIVER DISREGARDED TRAFFIC CONTROL DEVICE |

| EVENT CODE TRANSLATION LIST |                   |                                                                                               |
|-----------------------------|-------------------|-----------------------------------------------------------------------------------------------|
| EVENT CODE                  | SHORT DESCRIPTION | LONG DESCRIPTION                                                                              |
| 001                         | FEL/JUMP          | OCCUPANT FELL, JUMPED OR WAS EJECTED FROM MOVING VEHICLE                                      |
| 002                         | INTERFER          | PASSENGER INTERFERED WITH DRIVER                                                              |
| 003                         | BUG INTF          | ANIMAL OR INSECT IN VEHICLE INTERFERED WITH DRIVER                                            |
| 004                         | INDRCT PED        | PEDESTRIAN INDIRECTLY INVOLVED (NOT STRUCK)                                                   |
| 005                         | SUB-PED           | "SUB-PED": PEDESTRIAN INJURED SUBSEQUENT TO COLLISION, ETC.                                   |
| 006                         | INDRCT BIK        | PEDALCYCLIST INDIRECTLY INVOLVED (NOT STRUCK)                                                 |
| 007                         | HITCHIKR          | HITCHHIKER (SOLICITING A RIDE)                                                                |
| 008                         | PSNGR TOW         | PASSENGER OR NON-MOTORIST BEING TOWED OR PUSHED ON CONVEYANCE                                 |
| 009                         | ON/OFF V          | GETTING ON/OFF STOPPED/PARKED VEHICLE (OCCUPANTS ONLY; MUST HAVE PHYSICAL CONTACT W/ VEHICLE) |
| 010                         | SUB OTRN          | OVERTURNED AFTER FIRST HARMFUL EVENT                                                          |
| 011                         | MV PUSHD          | VEHICLE BEING PUSHED                                                                          |
| 012                         | MV TOWED          | VEHICLE TOWED OR HAD BEEN TOWING ANOTHER VEHICLE                                              |
| 013                         | FORCED            | VEHICLE FORCED BY IMPACT INTO ANOTHER VEHICLE, PEDALCYCLIST OR PEDESTRIAN                     |
| 014                         | SET MOTN          | VEHICLE SET IN MOTION BY NON-DRIVER (CHILD RELEASED BRAKES, ETC.)                             |
| 015                         | RR ROW            | AT OR ON RAILROAD RIGHT-OF-WAY (NOT LIGHT RAIL)                                               |
| 016                         | LT RL ROW         | AT OR ON LIGHT-RAIL RIGHT-OF-WAY                                                              |
| 017                         | RR HIT V          | TRAIN STRUCK VEHICLE                                                                          |
| 018                         | V HIT RR          | VEHICLE STRUCK TRAIN                                                                          |
| 019                         | HIT RR CAR        | VEHICLE STRUCK RAILROAD CAR ON ROADWAY                                                        |
| 020                         | JACKNIFE          | JACKKNIFE; TRAILER OR TOWED VEHICLE STRUCK TOWING VEHICLE                                     |
| 021                         | TRL OTRN          | TRAILER OR TOWED VEHICLE OVERTURNED                                                           |
| 022                         | CN BROKE          | TRAILER CONNECTION BROKE                                                                      |
| 023                         | DETACH TRL        | DETACHED TRAILING OBJECT STRUCK OTHER VEHICLE, NON-MOTORIST, OR OBJECT                        |
| 024                         | V DOOR OPN        | VEHICLE DOOR OPENED INTO ADJACENT TRAFFIC LANE                                                |
| 025                         | WHEELOFF          | WHEEL CAME OFF                                                                                |
| 026                         | HOOD UP           | HOOD FLEW UP                                                                                  |
| 028                         | LOAD SHIFT        | LOST LOAD, LOAD MOVED OR SHIFTED                                                              |
| 029                         | TIREFAIL          | TIRE FAILURE                                                                                  |
| 030                         | PET               | PET: CAT, DOG AND SIMILAR                                                                     |
| 031                         | LVSTOCK           | STOCK: COW, CALF, BULL, STEER, SHEEP, ETC.                                                    |
| 032                         | HORSE             | HORSE, MULE, OR DONKEY                                                                        |
| 033                         | HRSE&RID          | HORSE AND RIDER                                                                               |
| 034                         | GAME              | WILD ANIMAL, GAME (INCLUDES BIRDS; NOT DEER OR ELK)                                           |
| 035                         | DEER ELK          | DEER OR ELK, WAPITI                                                                           |
| 036                         | ANML VEH          | ANIMAL-DRAWN VEHICLE                                                                          |
| 037                         | CULVERT           | CULVERT, OPEN LOW OR HIGH MANHOLE                                                             |
| 038                         | ATENUATN          | IMPACT ATTENUATOR                                                                             |
| 039                         | PK METER          | PARKING METER                                                                                 |
| 040                         | CURB              | CURB (ALSO NARROW SIDEWALKS ON BRIDGES)                                                       |
| 041                         | JIGGLE            | JIGGLE BAR OR TRAFFIC SNAKE FOR CHANNELIZATION                                                |
| 042                         | GDRL END          | LEADING EDGE OF GUARDRAIL                                                                     |
| 043                         | GARDRAIL          | GUARD RAIL (NOT METAL MEDIAN BARRIER)                                                         |
| 044                         | BARRIER           | MEDIAN BARRIER (RAISED OR METAL)                                                              |
| 045                         | WALL              | RETAINING WALL OR TUNNEL WALL                                                                 |
| 046                         | BR RAIL           | BRIDGE RAILING OR PARAPET (ON BRIDGE OR APPROACH)                                             |
| 047                         | BR ABUTMNT        | BRIDGE ABUTMENT (INCLUDED "APPROACH END" THRU 2013)                                           |
| 048                         | BR COLMN          | BRIDGE PILLAR OR COLUMN                                                                       |
| 049                         | BR GIRDR          | BRIDGE GIRDER (HORIZONTAL BRIDGE STRUCTURE OVERHEAD)                                          |
| 050                         | ISLAND            | TRAFFIC RAISED ISLAND                                                                         |
| 051                         | GORE              | GORE                                                                                          |
| 052                         | POLE UNK          | POLE - TYPE UNKNOWN                                                                           |
| 053                         | POLE UTL          | POLE - POWER OR TELEPHONE                                                                     |
| 054                         | ST LIGHT          | POLE - STREET LIGHT ONLY                                                                      |
| 055                         | TRF SGNL          | POLE - TRAFFIC SIGNAL AND PED SIGNAL ONLY                                                     |
| 056                         | SGN BRDG          | POLE - SIGN BRIDGE                                                                            |
| 057                         | STOPSIGN          | STOP OR YIELD SIGN                                                                            |
| 058                         | OTH SIGN          | OTHER SIGN, INCLUDING STREET SIGNS                                                            |
| 059                         | HYDRANT           | HYDRANT                                                                                       |

| EVENT CODE TRANSLATION LIST |                   |                                                                                  |
|-----------------------------|-------------------|----------------------------------------------------------------------------------|
| EVENT CODE                  | SHORT DESCRIPTION | LONG DESCRIPTION                                                                 |
| 060                         | MARKER            | DELINEATOR OR MARKER (REFLECTOR POSTS)                                           |
| 061                         | MAILBOX           | MAILBOX                                                                          |
| 062                         | TREE              | TREE, STUMP OR SHRUBS                                                            |
| 063                         | VEG OHED          | TREE BRANCH OR OTHER VEGETATION OVERHEAD, ETC.                                   |
| 064                         | WIRE/CBL          | WIRE OR CABLE ACROSS OR OVER THE ROAD                                            |
| 065                         | TEMP SGN          | TEMPORARY SIGN OR BARRICADE IN ROAD, ETC.                                        |
| 066                         | PERM SGN          | PERMANENT SIGN OR BARRICADE IN/OFF ROAD                                          |
| 067                         | SLIDE             | SLIDES, FALLEN OR FALLING ROCKS                                                  |
| 068                         | FRGN OBJ          | FOREIGN OBSTRUCTION/DEBRIS IN ROAD (NOT GRAVEL)                                  |
| 069                         | EQP WORK          | EQUIPMENT WORKING IN/OFF ROAD                                                    |
| 070                         | OTH EQP           | OTHER EQUIPMENT IN OR OFF ROAD (INCLUDES PARKED TRAILER, BOAT)                   |
| 071                         | MAIN EQP          | WRECKER, STREET SWEEPER, SNOW PLOW OR SANDING EQUIPMENT                          |
| 072                         | OTHER WALL        | ROCK, BRICK OR OTHER SOLID WALL                                                  |
| 073                         | IRRG L PVMT       | OTHER BUMP (NOT SPEED BUMP), POTHOLE OR PAVEMENT IRREGULARITY (PER PAR)          |
| 074                         | OVERHD OBJ        | OTHER OVERHEAD OBJECT (HIGHWAY SIGN, SIGNAL HEAD, ETC.); NOT BRIDGE              |
| 075                         | CAVE IN           | BRIDGE OR ROAD CAVE IN                                                           |
| 076                         | HI WATER          | HIGH WATER                                                                       |
| 077                         | SNO BANK          | SNOW BANK                                                                        |
| 078                         | LO-HI EDGE        | LOW OR HIGH SHOULDER AT PAVEMENT EDGE                                            |
| 079                         | DITCH             | CUT SLOPE OR DITCH EMBANKMENT                                                    |
| 080                         | OBJ FRM MV        | STRUCK BY ROCK OR OTHER OBJECT SET IN MOTION BY OTHER VEHICLE (INCL. LOST LOADS) |
| 081                         | FLY-OBJ           | STRUCK BY ROCK OR OTHER MOVING OR FLYING OBJECT (NOT SET IN MOTION BY VEHICLE)   |
| 082                         | VEH HID           | VEHICLE OBSCURED VIEW                                                            |
| 083                         | VEG HID           | VEGETATION OBSCURED VIEW                                                         |
| 084                         | BLDG HID          | VIEW OBSCURED BY FENCE, SIGN, PHONE BOOTH, ETC.                                  |
| 085                         | WIND GUST         | WIND GUST                                                                        |
| 086                         | IMMERSED          | VEHICLE IMMERSED IN BODY OF WATER                                                |
| 087                         | FIRE/EXP          | FIRE OR EXPLOSION                                                                |
| 088                         | FENC/BLD          | FENCE OR BUILDING, ETC.                                                          |
| 089                         | OTHR CRASH        | CRASH RELATED TO ANOTHER SEPARATE CRASH                                          |
| 090                         | TO 1 SIDE         | TWO-WAY TRAFFIC ON DIVIDED ROADWAY ALL ROUTED TO ONE SIDE                        |
| 091                         | BUILDING          | BUILDING OR OTHER STRUCTURE                                                      |
| 092                         | PHANTOM           | OTHER (PHANTOM) NON-CONTACT VEHICLE                                              |
| 093                         | CELL PHONE        | CELL PHONE (ON PAR OR DRIVER IN USE)                                             |
| 094                         | VIOL GDL          | TEENAGE DRIVER IN VIOLATION OF GRADUATED LICENSE PGM                             |
| 095                         | GUY WIRE          | GUY WIRE                                                                         |
| 096                         | BERM              | BERM (EARTHEN OR GRAVEL MOUND)                                                   |
| 097                         | GRAVEL            | GRAVEL IN ROADWAY                                                                |
| 098                         | ABR EDGE          | ABRUPT EDGE                                                                      |
| 099                         | CELL WTNSD        | CELL PHONE USE WITNESSED BY OTHER PARTICIPANT                                    |
| 100                         | UNK FIXD          | FIXED OBJECT, UNKNOWN TYPE.                                                      |
| 101                         | OTHER OBJ         | NON-FIXED OBJECT, OTHER OR UNKNOWN TYPE                                          |
| 102                         | TEXTING           | TEXTING                                                                          |
| 103                         | WZ WORKER         | WORK ZONE WORKER                                                                 |
| 104                         | ON VEHICLE        | PASSENGER RIDING ON VEHICLE EXTERIOR                                             |
| 105                         | PEDAL PSGR        | PASSENGER RIDING ON PEDALCYCLE                                                   |
| 106                         | MAN WHLCHR        | PEDESTRIAN IN NON-MOTORIZED WHEELCHAIR                                           |
| 107                         | MTR WHLCHR        | PEDESTRIAN IN MOTORIZED WHEELCHAIR                                               |
| 108                         | OFFICER           | LAW ENFORCEMENT / POLICE OFFICER                                                 |
| 109                         | SUB-BIKE          | "SUB-BIKE": PEDALCYCLIST INJURED SUBSEQUENT TO COLLISION, ETC.                   |
| 110                         | N-MTR             | NON-MOTORIST STRUCK VEHICLE                                                      |
| 111                         | S CAR VS V        | STREET CAR/TROLLEY (ON RAILS OR OVERHEAD WIRE SYSTEM) STRUCK VEHICLE             |
| 112                         | V VS S CAR        | VEHICLE STRUCK STREET CAR/TROLLEY (ON RAILS OR OVERHEAD WIRE SYSTEM)             |
| 113                         | S CAR ROW         | AT OR ON STREET CAR OR TROLLEY RIGHT-OF-WAY                                      |
| 114                         | RR EQUIP          | VEHICLE STRUCK RAILROAD EQUIPMENT (NOT TRAIN) ON TRACKS                          |
| 115                         | DSTRCT GPS        | DISTRACTED BY NAVIGATION SYSTEM OR GPS DEVICE                                    |
| 116                         | DSTRCT OTH        | DISTRACTED BY OTHER ELECTRONIC DEVICE                                            |
| 117                         | RR GATE           | RAIL CROSSING DROP-ARM GATE                                                      |

| EVENT CODE TRANSLATION LIST |                      |                                                                             |
|-----------------------------|----------------------|-----------------------------------------------------------------------------|
| EVENT<br>CODE               | SHORT<br>DESCRIPTION | LONG DESCRIPTION                                                            |
| 118                         | EXPNSN JNT           | EXPANSION JOINT                                                             |
| 119                         | JERSEY BAR           | JERSEY BARRIER                                                              |
| 120                         | WIRE BAR             | WIRE OR CABLE MEDIAN BARRIER                                                |
| 121                         | FENCE                | FENCE                                                                       |
| 123                         | OBJ IN VEH           | LOOSE OBJECT IN VEHICLE STRUCK OCCUPANT                                     |
| 124                         | SLIPPERY             | SLIDING OR SWERVING DUE TO WET, ICY, SLIPPERY OR LOOSE SURFACE (NOT GRAVEL) |
| 125                         | SHLDR                | SHOULDER GAVE WAY                                                           |
| 126                         | BOULDER              | ROCK(S), BOULDER (NOT GRAVEL; NOT ROCK SLIDE)                               |
| 127                         | LAND SLIDE           | ROCK SLIDE OR LAND SLIDE                                                    |
| 128                         | CURVE INV            | CURVE PRESENT AT CRASH LOCATION                                             |
| 129                         | HILL INV             | VERTICAL GRADE / HILL PRESENT AT CRASH LOCATION                             |
| 130                         | CURVE HID            | VIEW OBSCURED BY CURVE                                                      |
| 131                         | HILL HID             | VIEW OBSCURED BY VERTICAL GRADE / HILL                                      |
| 132                         | WINDOW HID           | VIEW OBSCURED BY VEHICLE WINDOW CONDITIONS                                  |
| 133                         | SPRAY HID            | VIEW OBSCURED BY WATER SPRAY                                                |
| 134                         | TORRENTIAL           | TORRENTIAL RAIN (EXCEPTIONALLY HEAVY RAIN)                                  |

| FUNCTIONAL CLASSIFICATION TRANSLATION LIST |                                                   |  |
|--------------------------------------------|---------------------------------------------------|--|
| FUNC CLASS                                 | DESCRIPTION                                       |  |
| 01                                         | RURAL PRINCIPAL ARTERIAL - INTERSTATE             |  |
| 02                                         | RURAL PRINCIPAL ARTERIAL - OTHER                  |  |
| 06                                         | RURAL MINOR ARTERIAL                              |  |
| 07                                         | RURAL MAJOR COLLECTOR                             |  |
| 08                                         | RURAL MINOR COLLECTOR                             |  |
| 09                                         | RURAL LOCAL                                       |  |
| 11                                         | URBAN PRINCIPAL ARTERIAL - INTERSTATE             |  |
| 12                                         | URBAN PRINCIPAL ARTERIAL - OTHER FREEWAYS AND EXP |  |
| 14                                         | URBAN PRINCIPAL ARTERIAL - OTHER                  |  |
| 16                                         | URBAN MINOR ARTERIAL                              |  |
| 17                                         | URBAN MAJOR COLLECTOR                             |  |
| 18                                         | URBAN MINOR COLLECTOR                             |  |
| 19                                         | URBAN LOCAL                                       |  |
| 78                                         | UNKNOWN RURAL SYSTEM                              |  |
| 79                                         | UNKNOWN RURAL NON-SYSTEM                          |  |
| 98                                         | UNKNOWN URBAN SYSTEM                              |  |
| 99                                         | UNKNOWN URBAN NON-SYSTEM                          |  |

| HIGHWAY COMPONENT TRANSLATION LIST |                        |
|------------------------------------|------------------------|
| CODE                               | DESCRIPTION            |
| 0                                  | MAINLINE STATE HIGHWAY |
| 1                                  | COUPLET                |
| 3                                  | FRONTAGE ROAD          |
| 6                                  | CONNECTION             |
| 8                                  | HIGHWAY - OTHER        |

| INJURY SEVERITY CODE TRANSLATION LIST |            |                                                |
|---------------------------------------|------------|------------------------------------------------|
| CODE                                  | SHORT DESC | LONG DESCRIPTION                               |
| 1                                     | KILL       | FATAL INJURY                                   |
| 2                                     | INJA       | INCAPACITATING INJURY - BLEEDING, BROKEN BONES |
| 3                                     | INJB       | NON-INCAPACITATING INJURY                      |
| 4                                     | INJC       | POSSIBLE INJURY - COMPLAINT OF PAIN            |
| 5                                     | PRI        | DIED PRIOR TO CRASH                            |
| 7                                     | NO<5       | NO INJURY - 0 TO 4 YEARS OF AGE                |
| 9                                     | NONE       | PARTICIPANT UNINJURED, OVER THE AGE OF 4       |

| LIGHT CONDITION CODE TRANSLATION LIST |            |                               |
|---------------------------------------|------------|-------------------------------|
| CODE                                  | SHORT DESC | LONG DESCRIPTION              |
| 0                                     | UNK        | UNKNOWN                       |
| 1                                     | DAY        | DAYLIGHT                      |
| 2                                     | DLIT       | DARKNESS - WITH STREET LIGHTS |
| 3                                     | DARK       | DARKNESS - NO STREET LIGHTS   |
| 4                                     | DAWN       | DAWN (TWILIGHT)               |
| 5                                     | DUSK       | DUSK (TWILIGHT)               |

| MEDIAN TYPE CODE TRANSLATION LIST |            |                              |
|-----------------------------------|------------|------------------------------|
| CODE                              | SHORT DESC | LONG DESCRIPTION             |
| 0                                 | NONE       | NO MEDIAN                    |
| 1                                 | RSDMD      | SOLID MEDIAN BARRIER         |
| 2                                 | DIVMD      | EARTH, GRASS OR PAVED MEDIAN |

| MILEAGE TYPE CODE TRANSLATION LIST |                  |
|------------------------------------|------------------|
| CODE                               | LONG DESCRIPTION |
| 0                                  | REGULAR MILEAGE  |
| T                                  | TEMPORARY        |
| Y                                  | SPUR             |
| Z                                  | OVERLAPPING      |

| MOVEMENT TYPE CODE TRANSLATION LIST |               |                     |
|-------------------------------------|---------------|---------------------|
| CODE                                | SHORT<br>DESC | LONG DESCRIPTION    |
| 0                                   | UNK           | UNKNOWN             |
| 1                                   | STRGHT        | STRAIGHT AHEAD      |
| 2                                   | TURN-R        | TURNING RIGHT       |
| 3                                   | TURN-L        | TURNING LEFT        |
| 4                                   | U-TURN        | MAKING A U-TURN     |
| 5                                   | BACK          | BACKING             |
| 6                                   | STOP          | STOPPED IN TRAFFIC  |
| 7                                   | PRKD-P        | PARKED - PROPERLY   |
| 8                                   | PRKD-I        | PARKED - IMPROPERLY |
| 9                                   | PARKNG        | PARKING MANEUVER    |

| NON-MOTORIST LOCATION CODE TRANSLATION LIST |                                                    |
|---------------------------------------------|----------------------------------------------------|
| CODE                                        | LONG DESCRIPTION                                   |
| 00                                          | AT INTERSECTION - NOT IN ROADWAY                   |
| 01                                          | AT INTERSECTION - INSIDE CROSSWALK                 |
| 02                                          | AT INTERSECTION - IN ROADWAY, OUTSIDE CROSSWALK    |
| 03                                          | AT INTERSECTION - IN ROADWAY, XWALK AVAIL UNKNWN   |
| 04                                          | NOT AT INTERSECTION - IN ROADWAY                   |
| 05                                          | NOT AT INTERSECTION - ON SHOULDER                  |
| 06                                          | NOT AT INTERSECTION - ON MEDIAN                    |
| 07                                          | NOT AT INTERSECTION - WITHIN TRAFFIC RIGHT-OF-WAY  |
| 08                                          | NOT AT INTERSECTION - IN BIKE PATH OR PARKING LANE |
| 09                                          | NOT-AT INTERSECTION - ON SIDEWALK                  |
| 10                                          | OUTSIDE TRAFFICWAY BOUNDARIES                      |
| 13                                          | AT INTERSECTION - IN BIKE LANE                     |
| 14                                          | NOT AT INTERSECTION - IN BIKE LANE                 |
| 15                                          | NOT AT INTERSECTION - INSIDE MID-BLOCK CROSSWALK   |
| 16                                          | NOT AT INTERSECTION - IN PARKING LANE              |
| 18                                          | OTHER, NOT IN ROADWAY                              |
| 99                                          | UNKNOWN LOCATION                                   |

| ROAD CHARACTER CODE TRANSLATION LIST |               |                          |
|--------------------------------------|---------------|--------------------------|
| CODE                                 | SHORT<br>DESC | LONG DESCRIPTION         |
| 0                                    | UNK           | UNKNOWN                  |
| 1                                    | INTER         | INTERSECTION             |
| 2                                    | ALLEY         | DRIVEWAY OR ALLEY        |
| 3                                    | STRGHT        | STRAIGHT ROADWAY         |
| 4                                    | TRANS         | TRANSITION               |
| 5                                    | CURVE         | CURVE (HORIZONTAL CURVE) |
| 6                                    | OPENAC        | OPEN ACCESS OR TURNOUT   |
| 7                                    | GRADE         | GRADE (VERTICAL CURVE)   |
| 8                                    | BRIDGE        | BRIDGE STRUCTURE         |
| 9                                    | TUNNEL        | TUNNEL                   |

| PARTICIPANT TYPE CODE TRANSLATION LIST |               |                                             |
|----------------------------------------|---------------|---------------------------------------------|
| CODE                                   | SHORT<br>DESC | LONG DESCRIPTION                            |
| 0                                      | OCC           | UNKNOWN OCCUPANT TYPE                       |
| 1                                      | DRVR          | DRIVER                                      |
| 2                                      | PSNG          | PASSENGER                                   |
| 3                                      | PED           | PEDESTRIAN                                  |
| 4                                      | CONV          | PEDESTRIAN USING A PEDESTRIAN CONVEYANCE    |
| 5                                      | PTOW          | PEDESTRIAN TOWING OR TRAILERING AN OBJECT   |
| 6                                      | BIKE          | PEDALCYCLIST                                |
| 7                                      | BTOW          | PEDALCYCLIST TOWING OR TRAILERING AN OBJECT |
| 8                                      | PRKD          | OCCUPANT OF A PARKED MOTOR VEHICLE          |
| 9                                      | UNK           | UNKNOWN TYPE OF NON-MOTORIST                |

| TRAFFIC CONTROL DEVICE CODE TRANSLATION LIST |            |                                                  |
|----------------------------------------------|------------|--------------------------------------------------|
| CODE                                         | SHORT DESC | LONG DESCRIPTION                                 |
| 000                                          | NONE       | NO CONTROL                                       |
| 001                                          | TRF SIGNAL | TRAFFIC SIGNALS                                  |
| 002                                          | FLASHBCN-R | FLASHING BEACON - RED (STOP)                     |
| 003                                          | FLASHBCN-A | FLASHING BEACON - AMBER (SLOW)                   |
| 004                                          | STOP SIGN  | STOP SIGN                                        |
| 005                                          | SLOW SIGN  | SLOW SIGN                                        |
| 006                                          | REG-SIGN   | REGULATORY SIGN                                  |
| 007                                          | YIELD      | YIELD SIGN                                       |
| 008                                          | WARNING    | WARNING SIGN                                     |
| 009                                          | CURVE      | CURVE SIGN                                       |
| 010                                          | SCHL X-ING | SCHOOL CROSSING SIGN OR SPECIAL SIGNAL           |
| 011                                          | OFCR/FLAG  | POLICE OFFICER, FLAGMAN - SCHOOL PATROL          |
| 012                                          | BRDG-GATE  | BRIDGE GATE - BARRIER                            |
| 013                                          | TEMP-BARR  | TEMPORARY BARRIER                                |
| 014                                          | NO-PASS-ZN | NO PASSING ZONE                                  |
| 015                                          | ONE-WAY    | ONE-WAY STREET                                   |
| 016                                          | CHANNEL    | CHANNELIZATION                                   |
| 017                                          | MEDIAN BAR | MEDIAN BARRIER                                   |
| 018                                          | PILOT CAR  | PILOT CAR                                        |
| 019                                          | SP PED SIG | SPECIAL PEDESTRIAN SIGNAL                        |
| 020                                          | X-BUCK     | CROSSBUCK                                        |
| 021                                          | THR-GN-SIG | THROUGH GREEN ARROW OR SIGNAL                    |
| 022                                          | L-GRN-SIG  | LEFT TURN GREEN ARROW, LANE MARKINGS, OR SIGNAL  |
| 023                                          | R-GRN-SIG  | RIGHT TURN GREEN ARROW, LANE MARKINGS, OR SIGNAL |
| 024                                          | WIGWAG     | WIGWAG OR FLASHING LIGHTS W/O DROP-ARM GATE      |
| 025                                          | X-BUCK WRN | CROSSBUCK AND ADVANCE WARNING                    |
| 026                                          | WW W/ GATE | FLASHING LIGHTS WITH DROP-ARM GATES              |
| 027                                          | OVRHD SGNL | SUPPLEMENTAL OVERHEAD SIGNAL (RR XING ONLY)      |
| 028                                          | SP RR STOP | SPECIAL RR STOP SIGN                             |
| 029                                          | ILUM GRD X | ILLUMINATED GRADE CROSSING                       |
| 037                                          | RAMP METER | METERED RAMP                                     |
| 038                                          | RUMBLE STR | RUMBLE STRIP                                     |
| 090                                          | L-TURN REF | LEFT TURN REFUGE (WHEN REFUGE IS INVOLVED)       |
| 091                                          | R-TURN ALL | RIGHT TURN AT ALL TIMES SIGN, ETC.               |
| 092                                          | EMR SGN/FL | EMERGENCY SIGNS OR FLARES                        |
| 093                                          | ACCEL LANE | ACCELERATION OR DECELERATION LANES               |
| 094                                          | R-TURN PRO | RIGHT TURN PROHIBITED ON RED AFTER STOPPING      |
| 095                                          | BUS STPSGN | BUS STOP SIGN AND RED LIGHTS                     |
| 099                                          | UNKNOWN    | UNKNOWN OR NOT DEFINITE                          |

| VEHICLE TYPE CODE TRANSLATION LIST |            |                                                   |
|------------------------------------|------------|---------------------------------------------------|
| CODE                               | SHORT DESC | LONG DESCRIPTION                                  |
| 00                                 | PDO        | NOT COLLECTED FOR PDO CRASHES                     |
| 01                                 | PSNGR CAR  | PASSENGER CAR, PICKUP, LIGHT DELIVERY, ETC.       |
| 02                                 | BOBTAIL    | TRUCK TRACTOR WITH NO TRAILERS (BOBTAIL)          |
| 03                                 | FARM TRCTR | FARM TRACTOR OR SELF-PROPELLED FARM EQUIPMENT     |
| 04                                 | SEMI TOW   | TRUCK TRACTOR WITH TRAILER/MOBILE HOME IN TOW     |
| 05                                 | TRUCK      | TRUCK WITH NON-DETACHABLE BED, PANEL, ETC.        |
| 06                                 | MOPED      | MOPED, MINIBIKE, SEATED MOTOR SCOOTER, MOTOR BIKE |
| 07                                 | SCHL BUS   | SCHOOL BUS (INCLUDES VAN)                         |
| 08                                 | OTH BUS    | OTHER BUS                                         |
| 09                                 | MTRCYCLE   | MOTORCYCLE, DIRT BIKE                             |
| 10                                 | OTHER      | OTHER: FORKLIFT, BACKHOE, ETC.                    |
| 11                                 | MOTRHOME   | MOTORHOME                                         |
| 12                                 | TROLLEY    | MOTORIZED STREET CAR/TROLLEY (NO RAILS/WIRES)     |
| 13                                 | ATV        | ATV                                               |
| 14                                 | MTRSCTR    | MOTORIZED SCOOTER (STANDING)                      |
| 15                                 | SNOWMOBILE | SNOWMOBILE                                        |
| 99                                 | UNKNOWN    | UNKNOWN VEHICLE TYPE                              |

| WEATHER CONDITION CODE TRANSLATION LIST |            |                  |
|-----------------------------------------|------------|------------------|
| CODE                                    | SHORT DESC | LONG DESCRIPTION |
| 0                                       | UNK        | UNKNOWN          |
| 1                                       | CLR        | CLEAR            |
| 2                                       | CLD        | CLOUDY           |
| 3                                       | RAIN       | RAIN             |
| 4                                       | SLT        | SLEET            |
| 5                                       | FOG        | FOG              |
| 6                                       | SNOW       | SNOW             |
| 7                                       | DUST       | DUST             |
| 8                                       | SMOK       | SMOKE            |
| 9                                       | ASH        | ASH              |

Appendix E  
Year 2029 Background Traffic Conditions  
Analysis Worksheets

**Intersection Level Of Service Report****Intersection 1: Blankenship Road/Parkrose Hardware Driveway/Office Park Driveway**

|                  |                 |                           |       |
|------------------|-----------------|---------------------------|-------|
| Control Type:    | Two-way stop    | Delay (sec / veh):        | 29.8  |
| Analysis Method: | HCM 7th Edition | Level Of Service:         | D     |
| Analysis Period: | 15 minutes      | Volume to Capacity (v/c): | 0.093 |

**Intersection Setup**

| Name                         | Pa Ha                                                                             |        |        | Office Park Driveway                                                              |        |        | Blankenship Road                                                                    |        |        | Blankenship Road                                                                    |        |        |
|------------------------------|-----------------------------------------------------------------------------------|--------|--------|-----------------------------------------------------------------------------------|--------|--------|-------------------------------------------------------------------------------------|--------|--------|-------------------------------------------------------------------------------------|--------|--------|
| Approach                     | Northbound                                                                        |        |        | Southbound                                                                        |        |        | Eastbound                                                                           |        |        | Westbound                                                                           |        |        |
| Lane Configuration           |  |        |        |  |        |        |  |        |        |  |        |        |
| Turning Movement             | Left                                                                              | Thru   | Right  | Left                                                                              | Thru   | Right  | Left                                                                                | Thru   | Right  | Left                                                                                | Thru   | Right  |
| Lane Width [ft]              | 12.00                                                                             | 12.00  | 12.00  | 12.00                                                                             | 12.00  | 12.00  | 12.00                                                                               | 12.00  | 12.00  | 12.00                                                                               | 12.00  | 12.00  |
| No. of Lanes in Entry Pocket | 0                                                                                 | 0      | 0      | 0                                                                                 | 0      | 0      | 1                                                                                   | 0      | 0      | 1                                                                                   | 0      | 0      |
| Entry Pocket Length [ft]     | 100.00                                                                            | 100.00 | 100.00 | 100.00                                                                            | 100.00 | 100.00 | 100.00                                                                              | 100.00 | 100.00 | 150.00                                                                              | 100.00 | 100.00 |
| No. of Lanes in Exit Pocket  | 0                                                                                 | 0      | 0      | 0                                                                                 | 0      | 0      | 0                                                                                   | 0      | 0      | 0                                                                                   | 0      | 0      |
| Exit Pocket Length [ft]      | 0.00                                                                              | 0.00   | 0.00   | 0.00                                                                              | 0.00   | 0.00   | 0.00                                                                                | 0.00   | 0.00   | 0.00                                                                                | 0.00   | 0.00   |
| Speed [mph]                  | 25.00                                                                             |        |        | 25.00                                                                             |        |        | 25.00                                                                               |        |        | 25.00                                                                               |        |        |
| Grade [%]                    | 12.00                                                                             |        |        | -5.00                                                                             |        |        | 0.00                                                                                |        |        | 0.00                                                                                |        |        |
| Crosswalk                    | Yes                                                                               |        |        | Yes                                                                               |        |        | No                                                                                  |        |        | No                                                                                  |        |        |

**Volumes**

| Name                                    | Pa Ha  |        |        | Office Park Driveway |        |        | Blankenship Road |        |        | Blankenship Road |        |        |
|-----------------------------------------|--------|--------|--------|----------------------|--------|--------|------------------|--------|--------|------------------|--------|--------|
| Base Volume Input [veh/h]               | 13     | 0      | 39     | 4                    | 1      | 1      | 0                | 398    | 8      | 18               | 257    | 27     |
| Base Volume Adjustment Factor           | 1.0000 | 1.0000 | 1.0000 | 1.0000               | 1.0000 | 1.0000 | 1.0000           | 1.0000 | 1.0000 | 1.0000           | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%]           | 0.00   | 0.00   | 9.00   | 0.00                 | 0.00   | 0.00   | 0.00             | 2.00   | 0.00   | 0.00             | 5.00   | 5.00   |
| Growth Factor                           | 1.0000 | 1.0000 | 1.0000 | 1.0000               | 1.0000 | 1.0000 | 1.0000           | 1.0000 | 1.0000 | 1.0000           | 1.0000 | 1.0000 |
| In-Process Volume [veh/h]               | 0      | 0      | 0      | 0                    | 0      | 0      | 0                | 0      | 0      | 0                | 0      | 0      |
| Site-Generated Trips [veh/h]            | 0      | 0      | 0      | 0                    | 0      | 0      | 0                | 0      | 0      | 0                | 0      | 0      |
| Diverted Trips [veh/h]                  | 0      | 0      | 0      | 0                    | 0      | 0      | 0                | 0      | 0      | 0                | 0      | 0      |
| Pass-by Trips [veh/h]                   | 0      | 0      | 0      | 0                    | 0      | 0      | 0                | 0      | 0      | 0                | 0      | 0      |
| Existing Site Adjustment Volume [veh/h] | 0      | 0      | 0      | 0                    | 0      | 0      | 0                | 0      | 0      | 0                | 0      | 0      |
| Other Volume [veh/h]                    | 0      | 0      | 0      | 0                    | 0      | 0      | 0                | 0      | 0      | 0                | 0      | 0      |
| Total Hourly Volume [veh/h]             | 13     | 0      | 39     | 4                    | 1      | 1      | 0                | 398    | 8      | 18               | 257    | 27     |
| Peak Hour Factor                        | 0.8500 | 0.8500 | 0.8500 | 0.8500               | 0.8500 | 0.8500 | 0.8500           | 0.8500 | 0.8500 | 0.8500           | 0.8500 | 0.8500 |
| Other Adjustment Factor                 | 1.0000 | 1.0000 | 1.0000 | 1.0000               | 1.0000 | 1.0000 | 1.0000           | 1.0000 | 1.0000 | 1.0000           | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h]          | 4      | 0      | 11     | 1                    | 0      | 0      | 0                | 117    | 2      | 5                | 76     | 8      |
| Total Analysis Volume [veh/h]           | 15     | 0      | 46     | 5                    | 1      | 1      | 0                | 468    | 9      | 21               | 302    | 32     |
| Pedestrian Volume [ped/h]               | 2      |        |        | 0                    |        |        | 0                |        |        | 0                |        |        |

**Intersection Settings**

|                                    |      |      |      |      |
|------------------------------------|------|------|------|------|
| Priority Scheme                    | Stop | Stop | Free | Free |
| Flared Lane                        | No   | No   |      |      |
| Storage Area [veh]                 | 0    | 0    | 0    | 0    |
| Two-Stage Gap Acceptance           | No   | No   |      |      |
| Number of Storage Spaces in Median | 0    | 0    | 0    | 0    |

**Movement, Approach, & Intersection Results**

|                                       |       |       |       |       |       |      |      |      |      |      |      |      |
|---------------------------------------|-------|-------|-------|-------|-------|------|------|------|------|------|------|------|
| V/C, Movement V/C Ratio               | 0.09  | 0.00  | 0.09  | 0.02  | 0.00  | 0.00 | 0.00 | 0.00 | 0.00 | 0.02 | 0.00 | 0.00 |
| d_M, Delay for Movement [s/veh]       | 29.80 | 29.15 | 14.84 | 16.60 | 14.78 | 9.94 | 7.91 | 0.00 | 0.00 | 8.36 | 0.00 | 0.00 |
| Movement LOS                          | D     | D     | B     | C     | B     | A    | A    | A    | A    | A    | A    | A    |
| 95th-Percentile Queue Length [veh/ln] | 0.67  | 0.67  | 0.67  | 0.06  | 0.06  | 0.06 | 0.00 | 0.00 | 0.00 | 0.06 | 0.00 | 0.00 |
| 95th-Percentile Queue Length [ft/ln]  | 16.86 | 16.86 | 16.86 | 1.51  | 1.51  | 1.51 | 0.00 | 0.00 | 0.00 | 1.47 | 0.00 | 0.00 |
| d_A, Approach Delay [s/veh]           | 18.52 |       |       | 15.39 |       |      | 0.00 |      |      | 0.49 |      |      |
| Approach LOS                          | C     |       |       | C     |       |      | A    |      |      | A    |      |      |
| d_I, Intersection Delay [s/veh]       | 1.57  |       |       |       |       |      |      |      |      |      |      |      |
| Intersection LOS                      | D     |       |       |       |       |      |      |      |      |      |      |      |

### Intersection Level Of Service Report

#### Intersection 2: Blankenship Road/Tannler Drive

|                  |                 |                           |       |
|------------------|-----------------|---------------------------|-------|
| Control Type:    | Two-way stop    | Delay (sec / veh):        | 45.2  |
| Analysis Method: | HCM 7th Edition | Level Of Service:         | E     |
| Analysis Period: | 15 minutes      | Volume to Capacity (v/c): | 0.032 |

#### Intersection Setup

| Name                         | Dutch Bros Driveway                                                               |        |       | Tannler Drive                                                                     |        |        | Blankenship Road                                                                    |        |        | Blankenship Road                                                                    |        |        |
|------------------------------|-----------------------------------------------------------------------------------|--------|-------|-----------------------------------------------------------------------------------|--------|--------|-------------------------------------------------------------------------------------|--------|--------|-------------------------------------------------------------------------------------|--------|--------|
| Approach                     | Northbound                                                                        |        |       | Southbound                                                                        |        |        | Eastbound                                                                           |        |        | Westbound                                                                           |        |        |
| Lane Configuration           |  |        |       |  |        |        |  |        |        |  |        |        |
| Turning Movement             | Left                                                                              | Thru   | Right | Left                                                                              | Thru   | Right  | Left                                                                                | Thru   | Right  | Left                                                                                | Thru   | Right  |
| Lane Width [ft]              | 12.00                                                                             | 12.00  | 12.00 | 12.00                                                                             | 12.00  | 12.00  | 12.00                                                                               | 12.00  | 12.00  | 12.00                                                                               | 12.00  | 12.00  |
| No. of Lanes in Entry Pocket | 0                                                                                 | 0      | 1     | 0                                                                                 | 0      | 1      | 1                                                                                   | 0      | 0      | 1                                                                                   | 0      | 0      |
| Entry Pocket Length [ft]     | 100.00                                                                            | 100.00 | 90.00 | 100.00                                                                            | 100.00 | 100.00 | 150.00                                                                              | 100.00 | 100.00 | 100.00                                                                              | 100.00 | 100.00 |
| No. of Lanes in Exit Pocket  | 0                                                                                 | 0      | 0     | 0                                                                                 | 0      | 0      | 0                                                                                   | 0      | 0      | 0                                                                                   | 0      | 0      |
| Exit Pocket Length [ft]      | 0.00                                                                              | 0.00   | 0.00  | 0.00                                                                              | 0.00   | 0.00   | 0.00                                                                                | 0.00   | 0.00   | 0.00                                                                                | 0.00   | 0.00   |
| Speed [mph]                  | 25.00                                                                             |        |       | 25.00                                                                             |        |        | 25.00                                                                               |        |        | 25.00                                                                               |        |        |
| Grade [%]                    | 7.00                                                                              |        |       | -7.00                                                                             |        |        | 0.00                                                                                |        |        | 0.00                                                                                |        |        |
| Crosswalk                    | Yes                                                                               |        |       | No                                                                                |        |        | No                                                                                  |        |        | No                                                                                  |        |        |

#### Volumes

| Name                                    | Dutch Bros Driveway |        |        | Tannler Drive |        |        | Blankenship Road |        |        | Blankenship Road |        |        |
|-----------------------------------------|---------------------|--------|--------|---------------|--------|--------|------------------|--------|--------|------------------|--------|--------|
| Base Volume Input [veh/h]               | 3                   | 1      | 51     | 117           | 5      | 51     | 44               | 385    | 12     | 108              | 248    | 47     |
| Base Volume Adjustment Factor           | 1.0000              | 1.0000 | 1.0000 | 1.0000        | 1.0000 | 1.0000 | 1.0000           | 1.0000 | 1.0000 | 1.0000           | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%]           | 0.00                | 0.00   | 4.00   | 1.00          | 0.00   | 0.00   | 5.00             | 2.00   | 0.00   | 2.00             | 4.00   | 9.00   |
| Growth Factor                           | 1.0000              | 1.0000 | 1.0000 | 1.0000        | 1.0000 | 1.0000 | 1.0000           | 1.0000 | 1.0000 | 1.0000           | 1.0000 | 1.0000 |
| In-Process Volume [veh/h]               | 0                   | 0      | 0      | 0             | 0      | 0      | 0                | 0      | 0      | 0                | 0      | 0      |
| Site-Generated Trips [veh/h]            | 0                   | 0      | 0      | 0             | 0      | 0      | 0                | 0      | 0      | 0                | 0      | 0      |
| Diverted Trips [veh/h]                  | 0                   | 0      | 0      | 0             | 0      | 0      | 0                | 0      | 0      | 0                | 0      | 0      |
| Pass-by Trips [veh/h]                   | 0                   | 0      | 0      | 0             | 0      | 0      | 0                | 0      | 0      | 0                | 0      | 0      |
| Existing Site Adjustment Volume [veh/h] | 0                   | 0      | 0      | 0             | 0      | 0      | 0                | 0      | 0      | 0                | 0      | 0      |
| Other Volume [veh/h]                    | 0                   | 0      | 0      | 0             | 0      | 0      | 0                | 0      | 0      | 0                | 0      | 0      |
| Total Hourly Volume [veh/h]             | 3                   | 1      | 51     | 117           | 5      | 51     | 44               | 385    | 12     | 108              | 248    | 47     |
| Peak Hour Factor                        | 0.8900              | 0.8900 | 0.8900 | 0.8900        | 0.8900 | 0.8900 | 0.8900           | 0.8900 | 0.8900 | 0.8900           | 0.8900 | 0.8900 |
| Other Adjustment Factor                 | 1.0000              | 1.0000 | 1.0000 | 1.0000        | 1.0000 | 1.0000 | 1.0000           | 1.0000 | 1.0000 | 1.0000           | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h]          | 1                   | 0      | 14     | 33            | 1      | 14     | 12               | 108    | 3      | 30               | 70     | 13     |
| Total Analysis Volume [veh/h]           | 3                   | 1      | 57     | 131           | 6      | 57     | 49               | 433    | 13     | 121              | 279    | 53     |
| Pedestrian Volume [ped/h]               | 3                   |        |        | 0             |        |        | 0                |        |        | 0                |        |        |

**Intersection Settings**

|                                    |      |      |      |      |
|------------------------------------|------|------|------|------|
| Priority Scheme                    | Stop | Stop | Free | Free |
| Flared Lane                        |      |      |      |      |
| Storage Area [veh]                 | 0    | 2    | 0    | 0    |
| Two-Stage Gap Acceptance           | No   | No   |      |      |
| Number of Storage Spaces in Median | 0    | 0    | 0    | 0    |

**Movement, Approach, & Intersection Results**

|                                       |       |       |       |       |       |      |      |      |      |      |      |      |
|---------------------------------------|-------|-------|-------|-------|-------|------|------|------|------|------|------|------|
| V/C, Movement V/C Ratio               | 0.03  | 0.01  | 0.10  | 0.60  | 0.02  | 0.07 | 0.04 | 0.00 | 0.00 | 0.11 | 0.00 | 0.00 |
| d_M, Delay for Movement [s/veh]       | 45.20 | 37.61 | 12.17 | 44.79 | 41.15 | 9.95 | 8.10 | 0.00 | 0.00 | 8.65 | 0.00 | 0.00 |
| Movement LOS                          | E     | E     | B     | E     | E     | A    | A    | A    | A    | A    | A    | A    |
| 95th-Percentile Queue Length [veh/ln] | 0.13  | 0.13  | 0.34  | 3.63  | 3.63  | 0.23 | 0.13 | 0.00 | 0.00 | 0.37 | 0.00 | 0.00 |
| 95th-Percentile Queue Length [ft/ln]  | 3.16  | 3.16  | 8.47  | 90.81 | 90.81 | 5.86 | 3.16 | 0.00 | 0.00 | 9.17 | 0.00 | 0.00 |
| d_A, Approach Delay [s/veh]           | 14.21 |       |       | 34.44 |       |      | 0.80 |      |      | 2.31 |      |      |
| Approach LOS                          | B     |       |       | D     |       |      | A    |      |      | A    |      |      |
| d_I, Intersection Delay [s/veh]       | 7.47  |       |       |       |       |      |      |      |      |      |      |      |
| Intersection LOS                      | E     |       |       |       |       |      |      |      |      |      |      |      |

**Intersection Level Of Service Report****Intersection 3: Blankenship Road/Salamo Road/10th Street**

|                  |                 |                           |       |
|------------------|-----------------|---------------------------|-------|
| Control Type:    | Signalized      | Delay (sec / veh):        | 30.4  |
| Analysis Method: | HCM 7th Edition | Level Of Service:         | C     |
| Analysis Period: | 15 minutes      | Volume to Capacity (v/c): | 0.630 |

**Intersection Setup**

| Name                         | 10th Street                                                                       |        | Blankenship Road                                                                    |        | Salamo Road                                                                         |        |
|------------------------------|-----------------------------------------------------------------------------------|--------|-------------------------------------------------------------------------------------|--------|-------------------------------------------------------------------------------------|--------|
| Approach                     | Northbound                                                                        |        | Eastbound                                                                           |        | Westbound                                                                           |        |
| Lane Configuration           |  |        |  |        |  |        |
| Turning Movement             | Left                                                                              | Right  | Thru                                                                                | Right  | Left                                                                                | Thru   |
| Lane Width [ft]              | 12.00                                                                             | 12.00  | 12.00                                                                               | 12.00  | 12.00                                                                               | 12.00  |
| No. of Lanes in Entry Pocket | 0                                                                                 | 1      | 0                                                                                   | 1      | 1                                                                                   | 0      |
| Entry Pocket Length [ft]     | 100.00                                                                            | 100.00 | 100.00                                                                              | 100.00 | 250.00                                                                              | 100.00 |
| No. of Lanes in Exit Pocket  | 0                                                                                 | 0      | 0                                                                                   | 0      | 0                                                                                   | 0      |
| Exit Pocket Length [ft]      | 0.00                                                                              | 0.00   | 0.00                                                                                | 0.00   | 0.00                                                                                | 0.00   |
| Speed [mph]                  | 25.00                                                                             |        | 25.00                                                                               |        | 35.00                                                                               |        |
| Grade [%]                    | 7.00                                                                              |        | 0.00                                                                                |        | -3.00                                                                               |        |
| Curb Present                 | No                                                                                |        | No                                                                                  |        | No                                                                                  |        |
| Crosswalk                    | Yes                                                                               |        | No                                                                                  |        | No                                                                                  |        |

**Volumes**

| Name                                        | 10th Street |        | Blankenship Road |        | Salamo Road |        |
|---------------------------------------------|-------------|--------|------------------|--------|-------------|--------|
| Base Volume Input [veh/h]                   | 293         | 366    | 68               | 486    | 493         | 110    |
| Base Volume Adjustment Factor               | 1.0000      | 1.0000 | 1.0000           | 1.0000 | 1.0000      | 1.0000 |
| Heavy Vehicles Percentage [%]               | 5.00        | 8.00   | 5.00             | 2.00   | 3.00        | 1.00   |
| Proportion of CAVs [%]                      | 0.00        |        |                  |        |             |        |
| Growth Factor                               | 1.0000      | 1.0000 | 1.0000           | 1.0000 | 1.0000      | 1.0000 |
| In-Process Volume [veh/h]                   | 0           | 0      | 0                | 0      | 0           | 0      |
| Site-Generated Trips [veh/h]                | 0           | 0      | 0                | 0      | 0           | 0      |
| Diverted Trips [veh/h]                      | 0           | 0      | 0                | 0      | 0           | 0      |
| Pass-by Trips [veh/h]                       | 0           | 0      | 0                | 0      | 0           | 0      |
| Existing Site Adjustment Volume [veh/h]     | 0           | 0      | 0                | 0      | 0           | 0      |
| Other Volume [veh/h]                        | 0           | 0      | 0                | 0      | 0           | 0      |
| Right Turn on Red Volume [veh/h]            | 0           | 4      | 0                | 33     | 0           | 0      |
| Total Hourly Volume [veh/h]                 | 293         | 362    | 68               | 453    | 493         | 110    |
| Peak Hour Factor                            | 0.9100      | 0.9100 | 0.9100           | 0.9100 | 0.9100      | 0.9100 |
| Other Adjustment Factor                     | 1.0000      | 1.0000 | 1.0000           | 1.0000 | 1.0000      | 1.0000 |
| Total 15-Minute Volume [veh/h]              | 80          | 99     | 19               | 124    | 135         | 30     |
| Total Analysis Volume [veh/h]               | 322         | 398    | 75               | 498    | 542         | 121    |
| Presence of On-Street Parking               | No          | No     | No               | No     | No          | No     |
| On-Street Parking Maneuver Rate [/h]        | 0           | 0      | 0                | 0      | 0           | 0      |
| Local Bus Stopping Rate [/h]                | 0           | 0      | 0                | 0      | 0           | 0      |
| v_do, Outbound Pedestrian Volume crossing   | 0           |        | 0                |        | 0           |        |
| v_di, Inbound Pedestrian Volume crossing m  | 0           |        | 0                |        | 0           |        |
| v_co, Outbound Pedestrian Volume crossing   | 0           |        | 0                |        | 0           |        |
| v_ci, Inbound Pedestrian Volume crossing mi | 0           |        | 0                |        | 0           |        |
| v_ab, Corner Pedestrian Volume [ped/h]      | 0           |        | 0                |        | 0           |        |
| Bicycle Volume [bicycles/h]                 | 1           |        | 0                |        | 0           |        |

**Intersection Settings**

|                           |                                       |
|---------------------------|---------------------------------------|
| Located in CBD            | No                                    |
| Signal Coordination Group | -                                     |
| Cycle Length [s]          | 90                                    |
| Active Pattern            | Free Running (No Pattern)             |
| Coordination Type         | <i>Free Running</i>                   |
| Actuation Type            | <i>Fully actuated</i>                 |
| Offset [s]                | 0.0                                   |
| Offset Reference          | Lead Green - Beginning of First Green |
| Permissive Mode           | SingleBand                            |
| Lost time [s]             | 12.00                                 |

**Phasing & Timing (Basic)**

| Control Type                    | Overlap | Overlap | Permissive | Overlap | Protected | Permissive |
|---------------------------------|---------|---------|------------|---------|-----------|------------|
| Flashing Yellow Arrow           |         |         |            |         |           |            |
| Signal Group                    | 6       | 6       | 4          | 5       | 3         | 8          |
| Auxiliary Signal Groups         | 5,6,7   | 3,5,6,7 |            | 4,5,7   |           |            |
| Maximum Green [s]               | 6       | 6       | 16         | 40      | 35        | 32         |
| Amber [s]                       | 4.0     | 4.0     | 4.0        | 4.0     | 4.0       | 5.0        |
| All red [s]                     | 1.5     | 1.5     | 1.5        | 1.5     | 1.5       | 1.0        |
| Walk [s]                        | 0.0     | 0.0     | 8.0        | 7.0     | 7.0       | 0.0        |
| Pedestrian Clearance [s]        | 0.0     | 0.0     | 27.0       | 15.0    | 10.0      | 0.0        |
| Delayed Vehicle Green [s]       | 0.0     | 0.0     | 0.0        | 0.0     | 0.0       | 0.0        |
| Rest In Walk                    | No      |         | No         |         |           | No         |
| I1, Start-Up Lost Time [s]      | 2.0     | 2.0     | 2.0        | 2.0     | 2.0       | 2.0        |
| I2, Clearance Lost Time [s]     | 2.0     | 2.0     | 2.0        | 2.0     | 2.0       | 2.0        |
| Detector Location [ft]          | 0.0     | 0.0     | 0.0        | 0.0     | 0.0       | 0.0        |
| Detector Length [ft]            | 0.0     | 0.0     | 0.0        | 0.0     | 0.0       | 0.0        |
| Advanced Detector Location [ft] | 0.0     | 0.0     | 0.0        | 0.0     | 0.0       | 0.0        |
| Advanced Detector Length [ft]   | 0.0     | 0.0     | 0.0        | 0.0     | 0.0       | 0.0        |
| I, Upstream Filtering Factor    | 1.00    | 1.00    | 1.00       | 1.00    | 1.00      | 1.00       |

**Phasing & Timing: Free Running (No Pattern)**

|                       |     |     |      |      |      |      |
|-----------------------|-----|-----|------|------|------|------|
| Split [s]             | 9.0 | 9.0 | 14.0 | 14.0 | 9.0  | 14.0 |
| Lead / Lag            | Lag | -   | -    | -    | Lead | -    |
| Minimum Green [s]     | 2   | 2   | 6    | 10   | 4    | 6    |
| Vehicle Extension [s] | 0.5 | 0.5 | 2.3  | 5.2  | 2.3  | 2.3  |
| Minimum Recall        | No  | No  | No   | Yes  | No   | No   |
| Maximum Recall        | No  | No  | No   | No   | No   | No   |
| Pedestrian Recall     | No  | No  | No   | No   | No   | No   |

**Exclusive Pedestrian Phase**

|                          |   |
|--------------------------|---|
| Pedestrian Signal Group  | 0 |
| Pedestrian Walk [s]      | 0 |
| Pedestrian Clearance [s] | 0 |

**Lane Group Calculations**

| Lane Group                              | L     | R    | C     | R     | L     | C     |
|-----------------------------------------|-------|------|-------|-------|-------|-------|
| C, Calculated Cycle Length [s]          | 116   | 116  | 116   | 116   | 116   | 116   |
| L, Total Lost Time per Cycle [s]        | 4.00  | 4.00 | 4.00  | 4.00  | 4.00  | 4.00  |
| l1_p, Permitted Start-Up Lost Time [s]  | 0.00  | 0.00 | 0.00  | 0.00  | 0.00  | 0.00  |
| l2, Clearance Lost Time [s]             | 0.00  | 2.00 | 2.00  | 0.00  | 2.00  | 2.00  |
| g_i, Effective Green Time [s]           | 51.6  | 88.1 | 11.6  | 58.4  | 36.5  | 52.1  |
| g / C, Green / Cycle                    | 0.45  | 0.76 | 0.10  | 0.50  | 0.32  | 0.45  |
| (v / s)_i Volume / Saturation Flow Rate | 0.22  | 0.31 | 0.04  | 0.31  | 0.31  | 0.06  |
| s, saturation flow rate [veh/h]         | 1476  | 1264 | 1825  | 1589  | 1767  | 1885  |
| c, Capacity [veh/h]                     | 621   | 914  | 183   | 762   | 556   | 847   |
| d1, Uniform Delay [s]                   | 14.76 | 0.00 | 48.95 | 14.59 | 39.23 | 18.77 |
| k, delay calibration                    | 0.31  | 0.49 | 0.07  | 0.50  | 0.47  | 0.07  |
| l, Upstream Filtering Factor            | 1.00  | 1.00 | 1.00  | 1.00  | 1.00  | 1.00  |
| d2, Incremental Delay [s]               | 1.88  | 1.48 | 0.90  | 4.34  | 31.00 | 0.05  |
| d3, Initial Queue Delay [s]             | 0.00  | 0.00 | 0.00  | 0.00  | 0.00  | 0.00  |
| Rp, platoon ratio                       | 1.33  | 1.33 | 1.00  | 1.00  | 1.00  | 1.00  |
| PF, progression factor                  | 1.00  | 1.00 | 1.00  | 1.00  | 1.00  | 1.00  |

**Lane Group Results**

|                                       |        |       |       |        |        |       |
|---------------------------------------|--------|-------|-------|--------|--------|-------|
| X, volume / capacity                  | 0.52   | 0.44  | 0.41  | 0.65   | 0.97   | 0.14  |
| d, Delay for Lane Group [s/veh]       | 16.65  | 1.48  | 49.85 | 18.93  | 70.23  | 18.81 |
| Lane Group LOS                        | B      | A     | D     | B      | E      | B     |
| Critical Lane Group                   | Yes    | Yes   | No    | Yes    | Yes    | No    |
| 50th-Percentile Queue Length [veh/ln] | 4.40   | 0.37  | 2.10  | 8.26   | 19.55  | 1.89  |
| 50th-Percentile Queue Length [ft/ln]  | 110.02 | 9.36  | 52.48 | 206.43 | 488.86 | 47.31 |
| 95th-Percentile Queue Length [veh/ln] | 7.84   | 0.67  | 3.78  | 12.97  | 26.81  | 3.41  |
| 95th-Percentile Queue Length [ft/ln]  | 196.03 | 16.85 | 94.46 | 324.24 | 670.16 | 85.16 |

**Movement, Approach, & Intersection Results**

|                                 |       |      |       |       |       |       |
|---------------------------------|-------|------|-------|-------|-------|-------|
| d_M, Delay for Movement [s/veh] | 16.65 | 1.48 | 49.85 | 18.93 | 70.23 | 18.81 |
| Movement LOS                    | B     | A    | D     | B     | E     | B     |
| d_A, Approach Delay [s/veh]     | 8.26  |      | 22.97 |       | 60.85 |       |
| Approach LOS                    | A     |      | C     |       | E     |       |
| d_I, Intersection Delay [s/veh] | 30.40 |      |       |       |       |       |
| Intersection LOS                | C     |      |       |       |       |       |
| Intersection V/C                | 0.630 |      |       |       |       |       |

**Emissions**

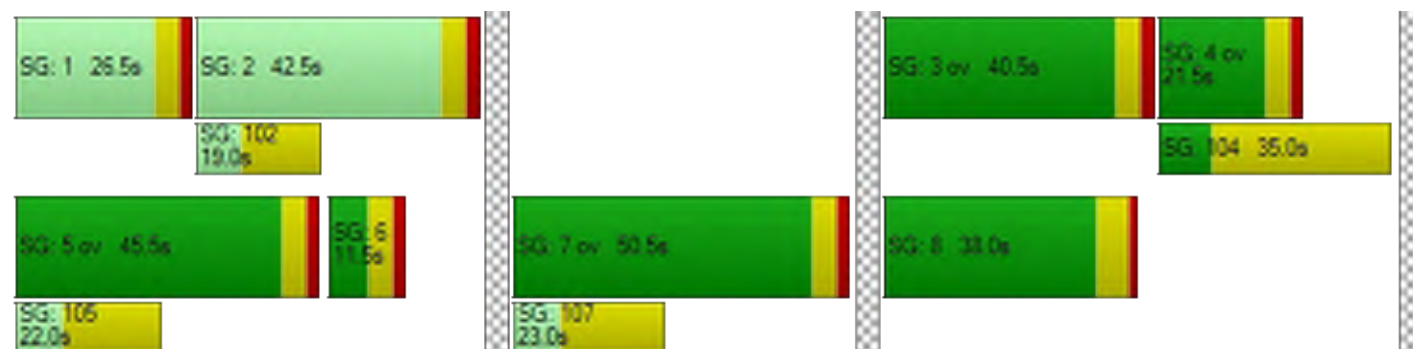
|                              |        |       |       |        |         |        |
|------------------------------|--------|-------|-------|--------|---------|--------|
| Vehicle Miles Traveled [mph] | 16.04  | 19.83 | 3.96  | 26.28  | 75.09   | 16.76  |
| Stops [stops/h]              | 136.96 | 11.65 | 65.33 | 256.98 | 608.58  | 58.90  |
| Fuel consumption [US gal/h]  | 2.34   | 1.06  | 1.19  | 4.09   | 15.18   | 1.55   |
| CO [g/h]                     | 163.40 | 73.81 | 83.14 | 285.57 | 1061.42 | 108.01 |
| NOx [g/h]                    | 31.79  | 14.36 | 16.18 | 55.56  | 206.51  | 21.02  |
| VOC [g/h]                    | 37.87  | 17.11 | 19.27 | 66.18  | 245.99  | 25.03  |

**Other Modes**

|                                                          |       |       |       |
|----------------------------------------------------------|-------|-------|-------|
| g_Walk,mi, Effective Walk Time [s]                       | 12.0  | 0.0   | 0.0   |
| M_corner, Corner Circulation Area [ft <sup>2</sup> /ped] | 0.00  | 0.00  | 0.00  |
| M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]  | 0.00  | 0.00  | 0.00  |
| d_p, Pedestrian Delay [s]                                | 46.46 | 0.00  | 0.00  |
| I_p,int, Pedestrian LOS Score for Intersectio            | 2.513 | 0.000 | 0.000 |
| Crosswalk LOS                                            | B     | F     | F     |
| s_b, Saturation Flow Rate of the bicycle lane            | 2000  | 2000  | 2000  |
| c_b, Capacity of the bicycle lane [bicycles/h]           | 415   | 277   | 553   |
| d_b, Bicycle Delay [s]                                   | 36.34 | 42.94 | 30.26 |
| I_b,int, Bicycle LOS Score for Intersection              | 1.560 | 2.560 | 2.654 |
| Bicycle LOS                                              | A     | B     | B     |

**Sequence**

|        |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|--------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | 1 | 2 | - | 3 | 4 | - | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | 5 | 6 | 7 | 8 | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |



**Intersection Level Of Service Report**  
**Intersection 4: 10th Street/I-205 SB Ramp**

|                  |                 |                           |       |
|------------------|-----------------|---------------------------|-------|
| Control Type:    | Signalized      | Delay (sec / veh):        | 42.1  |
| Analysis Method: | HCM 7th Edition | Level Of Service:         | D     |
| Analysis Period: | 15 minutes      | Volume to Capacity (v/c): | 0.680 |

**Intersection Setup**

| Name                         | 10th Street                                                                       |        |        | 10th Street                                                                       |        |        | I-205 SB Entry Ramp |        |        | I-205 SB Exit Ramp                                                                  |        |        |
|------------------------------|-----------------------------------------------------------------------------------|--------|--------|-----------------------------------------------------------------------------------|--------|--------|---------------------|--------|--------|-------------------------------------------------------------------------------------|--------|--------|
| Approach                     | Northbound                                                                        |        |        | Southbound                                                                        |        |        | Eastbound           |        |        | Westbound                                                                           |        |        |
| Lane Configuration           |  |        |        |  |        |        |                     |        |        |  |        |        |
| Turning Movement             | Left                                                                              | Thru   | Right  | Left                                                                              | Thru   | Right  | Left                | Thru   | Right  | Left                                                                                | Thru   | Right  |
| Lane Width [ft]              | 12.00                                                                             | 12.00  | 12.00  | 12.00                                                                             | 12.00  | 12.00  | 12.00               | 12.00  | 12.00  | 12.00                                                                               | 12.00  | 12.00  |
| No. of Lanes in Entry Pocket | 1                                                                                 | 0      | 0      | 0                                                                                 | 0      | 0      | 0                   | 0      | 0      | 0                                                                                   | 0      | 1      |
| Entry Pocket Length [ft]     | 200.00                                                                            | 100.00 | 100.00 | 100.00                                                                            | 100.00 | 100.00 | 100.00              | 100.00 | 100.00 | 100.00                                                                              | 100.00 | 200.00 |
| No. of Lanes in Exit Pocket  | 0                                                                                 | 0      | 1      | 0                                                                                 | 0      | 0      | 0                   | 0      | 0      | 0                                                                                   | 0      | 0      |
| Exit Pocket Length [ft]      | 0.00                                                                              | 0.00   | 100.00 | 0.00                                                                              | 0.00   | 0.00   | 0.00                | 0.00   | 0.00   | 0.00                                                                                | 0.00   | 0.00   |
| Speed [mph]                  | 25.00                                                                             |        |        | 25.00                                                                             |        |        | 30.00               |        |        | 45.00                                                                               |        |        |
| Grade [%]                    | 9.00                                                                              |        |        | -4.00                                                                             |        |        | 0.00                |        |        | 0.00                                                                                |        |        |
| Curb Present                 | No                                                                                |        |        | No                                                                                |        |        |                     |        |        | No                                                                                  |        |        |
| Crosswalk                    | Yes                                                                               |        |        | No                                                                                |        |        | Yes                 |        |        | Yes                                                                                 |        |        |

**Volumes**

| Name                                        | 10th Street |        |        | 10th Street |        |        | I-205 SB Entry Ramp |        |        | I-205 SB Exit Ramp |        |        |
|---------------------------------------------|-------------|--------|--------|-------------|--------|--------|---------------------|--------|--------|--------------------|--------|--------|
| Base Volume Input [veh/h]                   | 165         | 499    | 0      | 0           | 507    | 472    | 0                   | 0      | 0      | 133                | 4      | 160    |
| Base Volume Adjustment Factor               | 1.0000      | 1.0000 | 1.0000 | 1.0000      | 1.0000 | 1.0000 | 1.0000              | 1.0000 | 1.0000 | 1.0000             | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%]               | 9.00        | 7.00   | 2.00   | 2.00        | 2.00   | 2.00   | 2.00                | 2.00   | 2.00   | 6.00               | 25.00  | 4.00   |
| Proportion of CAVs [%]                      | 0.00        |        |        |             |        |        |                     |        |        |                    |        |        |
| Growth Factor                               | 1.0000      | 1.0000 | 1.0000 | 1.0000      | 1.0000 | 1.0000 | 1.0000              | 1.0000 | 1.0000 | 1.0000             | 1.0000 | 1.0000 |
| In-Process Volume [veh/h]                   | 0           | 0      | 0      | 0           | 0      | 0      | 0                   | 0      | 0      | 0                  | 0      | 0      |
| Site-Generated Trips [veh/h]                | 0           | 0      | 0      | 0           | 0      | 0      | 0                   | 0      | 0      | 0                  | 0      | 0      |
| Diverted Trips [veh/h]                      | 0           | 0      | 0      | 0           | 0      | 0      | 0                   | 0      | 0      | 0                  | 0      | 0      |
| Pass-by Trips [veh/h]                       | 0           | 0      | 0      | 0           | 0      | 0      | 0                   | 0      | 0      | 0                  | 0      | 0      |
| Existing Site Adjustment Volume [veh/h]     | 0           | 0      | 0      | 0           | 0      | 0      | 0                   | 0      | 0      | 0                  | 0      | 0      |
| Other Volume [veh/h]                        | 0           | 0      | 0      | 0           | 0      | 0      | 0                   | 0      | 0      | 0                  | 0      | 0      |
| Right Turn on Red Volume [veh/h]            | 0           | 0      | 0      | 0           | 0      | 122    | 0                   | 0      | 0      | 0                  | 0      | 73     |
| Total Hourly Volume [veh/h]                 | 165         | 499    | 0      | 0           | 507    | 350    | 0                   | 0      | 0      | 133                | 4      | 87     |
| Peak Hour Factor                            | 0.9000      | 0.9000 | 1.0000 | 1.0000      | 0.9000 | 0.9000 | 1.0000              | 1.0000 | 1.0000 | 0.9000             | 0.9000 | 0.9000 |
| Other Adjustment Factor                     | 1.0000      | 1.0000 | 1.0000 | 1.0000      | 1.0000 | 1.0000 | 1.0000              | 1.0000 | 1.0000 | 1.0000             | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h]              | 46          | 139    | 0      | 0           | 141    | 97     | 0                   | 0      | 0      | 37                 | 1      | 24     |
| Total Analysis Volume [veh/h]               | 183         | 554    | 0      | 0           | 563    | 389    | 0                   | 0      | 0      | 148                | 4      | 97     |
| Presence of On-Street Parking               | No          |        | No     | No          |        | No     |                     |        |        | No                 |        | No     |
| On-Street Parking Maneuver Rate [/h]        | 0           | 0      | 0      | 0           | 0      | 0      | 0                   | 0      | 0      | 0                  | 0      | 0      |
| Local Bus Stopping Rate [/h]                | 0           | 0      | 0      | 0           | 0      | 0      | 0                   | 0      | 0      | 0                  | 0      | 0      |
| v_do, Outbound Pedestrian Volume crossing   | 0           |        |        | 0           |        |        | 0                   |        |        | 0                  |        |        |
| v_di, Inbound Pedestrian Volume crossing m  | 0           |        |        | 0           |        |        | 0                   |        |        | 0                  |        |        |
| v_co, Outbound Pedestrian Volume crossing   | 0           |        |        | 1           |        |        | 2                   |        |        | 0                  |        |        |
| v_ci, Inbound Pedestrian Volume crossing mi | 0           |        |        | 2           |        |        | 1                   |        |        | 0                  |        |        |
| v_ab, Corner Pedestrian Volume [ped/h]      | 0           |        |        | 0           |        |        | 0                   |        |        | 0                  |        |        |
| Bicycle Volume [bicycles/h]                 | 1           |        |        | 1           |        |        | 0                   |        |        | 0                  |        |        |

**Intersection Settings**

|                           |                                       |
|---------------------------|---------------------------------------|
| Located in CBD            | No                                    |
| Signal Coordination Group | -                                     |
| Cycle Length [s]          | 90                                    |
| Active Pattern            | Free Running (No Pattern)             |
| Coordination Type         | <i>Free Running</i>                   |
| Actuation Type            | <i>Fully actuated</i>                 |
| Offset [s]                | 0.0                                   |
| Offset Reference          | Lead Green - Beginning of First Green |
| Permissive Mode           | SingleBand                            |
| Lost time [s]             | 12.00                                 |

**Phasing & Timing (Basic)**

| Control Type                    | ProtPer | Permiss | Permiss | Permiss | Overlap | Overlap | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss |
|---------------------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| Flashing Yellow Arrow           | Yes     |         |         |         |         |         |         |         |         |         |         |         |
| Signal Group                    | 1       | 5       | 0       | 0       | 2       | 2       | 0       | 0       | 0       | 0       | 7       | 0       |
| Auxiliary Signal Groups         |         |         |         |         | 2,3,4   | 2,3,4   |         |         |         |         |         |         |
| Maximum Green [s]               | 21      | 40      | 0       | 0       | 37      | 37      | 0       | 0       | 0       | 0       | 45      | 0       |
| Amber [s]                       | 4.0     | 4.0     | 0.0     | 0.0     | 4.0     | 4.0     | 0.0     | 0.0     | 0.0     | 0.0     | 4.0     | 0.0     |
| All red [s]                     | 1.5     | 1.5     | 0.0     | 0.0     | 1.5     | 1.5     | 0.0     | 0.0     | 0.0     | 0.0     | 1.5     | 0.0     |
| Walk [s]                        | 0.0     | 7.0     | 0.0     | 0.0     | 7.0     | 7.0     | 0.0     | 0.0     | 0.0     | 0.0     | 7.0     | 0.0     |
| Pedestrian Clearance [s]        | 0.0     | 15.0    | 0.0     | 0.0     | 12.0    | 12.0    | 0.0     | 0.0     | 0.0     | 0.0     | 16.0    | 0.0     |
| Delayed Vehicle Green [s]       | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     |
| Rest In Walk                    |         | No      |         |         | No      |         |         |         |         |         | No      |         |
| I1, Start-Up Lost Time [s]      | 2.0     | 2.0     | 0.0     | 0.0     | 2.0     | 2.0     | 0.0     | 0.0     | 0.0     | 0.0     | 2.0     | 0.0     |
| I2, Clearance Lost Time [s]     | 2.0     | 2.0     | 0.0     | 0.0     | 2.0     | 2.0     | 0.0     | 0.0     | 0.0     | 0.0     | 2.0     | 0.0     |
| Detector Location [ft]          | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     |
| Detector Length [ft]            | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     |
| Advanced Detector Location [ft] | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     |
| Advanced Detector Length [ft]   | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     |
| I, Upstream Filtering Factor    | 1.00    | 1.00    | 1.00    | 1.00    | 1.00    | 1.00    | 1.00    | 1.00    | 1.00    | 1.00    | 1.00    | 1.00    |

**Phasing & Timing: Free Running (No Pattern)**

|                       |      |      |     |     |      |      |     |     |     |     |      |     |
|-----------------------|------|------|-----|-----|------|------|-----|-----|-----|-----|------|-----|
| Split [s]             | 9.0  | 14.0 | 0.0 | 0.0 | 14.0 | 14.0 | 0.0 | 0.0 | 0.0 | 0.0 | 14.0 | 0.0 |
| Lead / Lag            | Lead | -    | -   | -   | -    | -    | -   | -   | -   | -   | -    | -   |
| Minimum Green [s]     | 4    | 10   | 0   | 0   | 6    | 6    | 0   | 0   | 0   | 0   | 6    | 0   |
| Vehicle Extension [s] | 2.3  | 5.2  | 0.0 | 0.0 | 3.0  | 3.0  | 0.0 | 0.0 | 0.0 | 0.0 | 3.0  | 0.0 |
| Minimum Recall        | No   | Yes  |     |     | Yes  | Yes  |     |     |     |     | No   |     |
| Maximum Recall        | No   | No   |     |     | No   | No   |     |     |     |     | No   |     |
| Pedestrian Recall     | No   | No   |     |     | No   | No   |     |     |     |     | No   |     |

**Exclusive Pedestrian Phase**

|                          |   |
|--------------------------|---|
| Pedestrian Signal Group  | 0 |
| Pedestrian Walk [s]      | 0 |
| Pedestrian Clearance [s] | 0 |

**Lane Group Calculations**

| Lane Group                              | L     | C     | C    | C    |  | C     | R     |
|-----------------------------------------|-------|-------|------|------|--|-------|-------|
| C, Calculated Cycle Length [s]          | 113   | 113   | 113  | 113  |  | 113   | 113   |
| L, Total Lost Time per Cycle [s]        | 4.00  | 4.00  | 4.00 | 4.00 |  | 4.00  | 4.00  |
| l1_p, Permitted Start-Up Lost Time [s]  | 0.00  | 0.00  | 0.00 | 0.00 |  | 0.00  | 0.00  |
| l2, Clearance Lost Time [s]             | 2.00  | 2.00  | 2.00 | 2.00 |  | 2.00  | 2.00  |
| g_i, Effective Green Time [s]           | 18.5  | 41.5  | 62.8 | 62.8 |  | 15.5  | 15.5  |
| g / C, Green / Cycle                    | 0.16  | 0.37  | 0.56 | 0.56 |  | 0.14  | 0.14  |
| (v / s)_i Volume / Saturation Flow Rate | 0.14  | 0.38  | 0.25 | 0.30 |  | 0.10  | 0.06  |
| s, saturation flow rate [veh/h]         | 1344  | 1441  | 1869 | 1602 |  | 1454  | 1564  |
| c, Capacity [veh/h]                     | 220   | 530   | 991  | 849  |  | 200   | 215   |
| d1, Uniform Delay [s]                   | 45.68 | 35.70 | 8.38 | 8.89 |  | 46.88 | 44.76 |
| k, delay calibration                    | 0.21  | 0.50  | 0.29 | 0.39 |  | 0.11  | 0.11  |
| l, Upstream Filtering Factor            | 1.00  | 1.00  | 1.00 | 1.00 |  | 1.00  | 1.00  |
| d2, Incremental Delay [s]               | 14.35 | 51.61 | 0.98 | 2.09 |  | 5.84  | 1.47  |
| d3, Initial Queue Delay [s]             | 0.00  | 0.00  | 0.00 | 0.00 |  | 0.00  | 0.00  |
| Rp, platoon ratio                       | 1.00  | 1.00  | 1.00 | 1.00 |  | 1.00  | 1.00  |
| PF, progression factor                  | 1.00  | 1.00  | 1.00 | 1.00 |  | 1.00  | 1.00  |

**Lane Group Results**

|                                       |        |        |        |        |  |        |        |
|---------------------------------------|--------|--------|--------|--------|--|--------|--------|
| X, volume / capacity                  | 0.83   | 1.05   | 0.48   | 0.56   |  | 0.76   | 0.45   |
| d, Delay for Lane Group [s/veh]       | 60.03  | 87.31  | 9.36   | 10.98  |  | 52.72  | 46.23  |
| Lane Group LOS                        | E      | F      | A      | B      |  | D      | D      |
| Critical Lane Group                   | No     | Yes    | No     | Yes    |  | Yes    | No     |
| 50th-Percentile Queue Length [veh/ln] | 5.86   | 21.95  | 3.53   | 3.95   |  | 4.31   | 2.51   |
| 50th-Percentile Queue Length [ft/ln]  | 146.60 | 548.76 | 88.32  | 98.82  |  | 107.64 | 62.84  |
| 95th-Percentile Queue Length [veh/ln] | 9.84   | 30.57  | 6.36   | 7.11   |  | 7.71   | 4.52   |
| 95th-Percentile Queue Length [ft/ln]  | 245.89 | 764.21 | 158.98 | 177.87 |  | 192.72 | 113.12 |

**Movement, Approach, & Intersection Results**

|                                 |       |       |      |       |      |       |      |      |      |       |       |       |
|---------------------------------|-------|-------|------|-------|------|-------|------|------|------|-------|-------|-------|
| d_M, Delay for Movement [s/veh] | 60.03 | 87.31 | 0.00 | 0.00  | 9.61 | 10.98 | 0.00 | 0.00 | 0.00 | 52.72 | 52.72 | 46.23 |
| Movement LOS                    | E     | F     |      |       | A    | B     |      |      |      | D     | D     | D     |
| d_A, Approach Delay [s/veh]     | 80.53 |       |      | 10.17 |      |       | 0.00 |      |      | 50.19 |       |       |
| Approach LOS                    | F     |       |      | B     |      |       | A    |      |      | D     |       |       |
| d_I, Intersection Delay [s/veh] | 42.07 |       |      |       |      |       |      |      |      |       |       |       |
| Intersection LOS                | D     |       |      |       |      |       |      |      |      |       |       |       |
| Intersection V/C                | 0.680 |       |      |       |      |       |      |      |      |       |       |       |

**Emissions**

|                              |        |         |        |        |  |        |        |
|------------------------------|--------|---------|--------|--------|--|--------|--------|
| Vehicle Miles Traveled [mph] | 19.41  | 58.75   | 23.72  | 23.72  |  | 15.25  | 9.73   |
| Stops [stops/h]              | 187.21 | 700.75  | 112.78 | 126.19 |  | 137.46 | 80.25  |
| Fuel consumption [US gal/h]  | 3.83   | 15.17   | 2.41   | 2.61   |  | 3.86   | 2.24   |
| CO [g/h]                     | 267.44 | 1060.52 | 168.19 | 182.72 |  | 269.98 | 156.85 |
| NOx [g/h]                    | 52.03  | 206.34  | 32.72  | 35.55  |  | 52.53  | 30.52  |
| VOC [g/h]                    | 61.98  | 245.79  | 38.98  | 42.35  |  | 62.57  | 36.35  |

**Other Modes**

|                                                          |       |  |         |  |         |  |       |
|----------------------------------------------------------|-------|--|---------|--|---------|--|-------|
| g_Walk,mi, Effective Walk Time [s]                       | 11.0  |  | 0.0     |  | 11.0    |  | 11.0  |
| M_corner, Corner Circulation Area [ft <sup>2</sup> /ped] | 0.00  |  | 1030.87 |  | 1011.73 |  | 0.00  |
| M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]  | 0.00  |  | 0.00    |  | 0.00    |  | 0.00  |
| d_p, Pedestrian Delay [s]                                | 45.92 |  | 0.00    |  | 45.92   |  | 45.92 |
| I_p,int, Pedestrian LOS Score for Intersectio            | 2.436 |  | 0.000   |  | 2.115   |  | 2.065 |
| Crosswalk LOS                                            | B     |  | F       |  | B       |  | B     |
| s_b, Saturation Flow Rate of the bicycle lane            | 2000  |  | 2000    |  | 2000    |  | 2000  |
| c_b, Capacity of the bicycle lane [bicycles/h]           | 709   |  | 603     |  | 0       |  | 798   |
| d_b, Bicycle Delay [s]                                   | 23.49 |  | 27.52   |  | 56.38   |  | 20.36 |
| I_b,int, Bicycle LOS Score for Intersection              | 2.776 |  | 2.446   |  | 4.132   |  | 2.091 |
| Bicycle LOS                                              | C     |  | B       |  | D       |  | B     |

**Sequence**

|        |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|--------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | 1 | 2 | - | 3 | 4 | - | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | 5 | 6 | 7 | 8 | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |



**Intersection Level Of Service Report**  
**Intersection 5: 10th Street/I-205 NB Ramp**

|                  |                 |                           |       |
|------------------|-----------------|---------------------------|-------|
| Control Type:    | Signalized      | Delay (sec / veh):        | 24.4  |
| Analysis Method: | HCM 7th Edition | Level Of Service:         | C     |
| Analysis Period: | 15 minutes      | Volume to Capacity (v/c): | 0.586 |

**Intersection Setup**

| Name                         | 10th Street                                                                       |        |       | 10th Street                                                                       |        |        | I-205 NB Exit Ramp                                                                  |        |        | I-205 NB Entry Ramp |        |        |
|------------------------------|-----------------------------------------------------------------------------------|--------|-------|-----------------------------------------------------------------------------------|--------|--------|-------------------------------------------------------------------------------------|--------|--------|---------------------|--------|--------|
| Approach                     | Northbound                                                                        |        |       | Southbound                                                                        |        |        | Eastbound                                                                           |        |        | Westbound           |        |        |
| Lane Configuration           |  |        |       |  |        |        |  |        |        |                     |        |        |
| Turning Movement             | Left                                                                              | Thru   | Right | Left                                                                              | Thru   | Right  | Left                                                                                | Thru   | Right  | Left                | Thru   | Right  |
| Lane Width [ft]              | 12.00                                                                             | 12.00  | 12.00 | 12.00                                                                             | 12.00  | 12.00  | 12.00                                                                               | 12.00  | 12.00  | 12.00               | 12.00  | 12.00  |
| No. of Lanes in Entry Pocket | 0                                                                                 | 0      | 1     | 1                                                                                 | 0      | 0      | 0                                                                                   | 0      | 1      | 0                   | 0      | 0      |
| Entry Pocket Length [ft]     | 100.00                                                                            | 100.00 | 60.00 | 100.00                                                                            | 100.00 | 100.00 | 100.00                                                                              | 100.00 | 100.00 | 100.00              | 100.00 | 100.00 |
| No. of Lanes in Exit Pocket  | 0                                                                                 | 0      | 0     | 0                                                                                 | 0      | 0      | 0                                                                                   | 0      | 0      | 0                   | 0      | 0      |
| Exit Pocket Length [ft]      | 0.00                                                                              | 0.00   | 0.00  | 0.00                                                                              | 0.00   | 0.00   | 0.00                                                                                | 0.00   | 0.00   | 0.00                | 0.00   | 0.00   |
| Speed [mph]                  | 25.00                                                                             |        |       | 25.00                                                                             |        |        | 45.00                                                                               |        |        | 30.00               |        |        |
| Grade [%]                    | 0.00                                                                              |        |       | 0.00                                                                              |        |        | -4.00                                                                               |        |        | 0.00                |        |        |
| Curb Present                 | No                                                                                |        |       | No                                                                                |        |        | No                                                                                  |        |        |                     |        |        |
| Crosswalk                    | Yes                                                                               |        |       | No                                                                                |        |        | Yes                                                                                 |        |        | Yes                 |        |        |

**Volumes**

| Name                                        | 10th Street |        |        | 10th Street |        |        | I-205 NB Exit Ramp |        |        | I-205 NB Entry Ramp |        |        |
|---------------------------------------------|-------------|--------|--------|-------------|--------|--------|--------------------|--------|--------|---------------------|--------|--------|
| Base Volume Input [veh/h]                   | 0           | 397    | 187    | 249         | 391    | 0      | 267                | 0      | 149    | 0                   | 0      | 0      |
| Base Volume Adjustment Factor               | 1.0000      | 1.0000 | 1.0000 | 1.0000      | 1.0000 | 1.0000 | 1.0000             | 1.0000 | 1.0000 | 1.0000              | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%]               | 2.00        | 6.00   | 2.00   | 3.00        | 4.00   | 2.00   | 9.00               | 0.00   | 1.00   | 2.00                | 2.00   | 2.00   |
| Proportion of CAVs [%]                      | 0.00        |        |        |             |        |        |                    |        |        |                     |        |        |
| Growth Factor                               | 1.0000      | 1.0000 | 1.0000 | 1.0000      | 1.0000 | 1.0000 | 1.0000             | 1.0000 | 1.0000 | 1.0000              | 1.0000 | 1.0000 |
| In-Process Volume [veh/h]                   | 0           | 0      | 0      | 0           | 0      | 0      | 0                  | 0      | 0      | 0                   | 0      | 0      |
| Site-Generated Trips [veh/h]                | 0           | 0      | 0      | 0           | 0      | 0      | 0                  | 0      | 0      | 0                   | 0      | 0      |
| Diverted Trips [veh/h]                      | 0           | 0      | 0      | 0           | 0      | 0      | 0                  | 0      | 0      | 0                   | 0      | 0      |
| Pass-by Trips [veh/h]                       | 0           | 0      | 0      | 0           | 0      | 0      | 0                  | 0      | 0      | 0                   | 0      | 0      |
| Existing Site Adjustment Volume [veh/h]     | 0           | 0      | 0      | 0           | 0      | 0      | 0                  | 0      | 0      | 0                   | 0      | 0      |
| Other Volume [veh/h]                        | 0           | 0      | 0      | 0           | 0      | 0      | 0                  | 0      | 0      | 0                   | 0      | 0      |
| Right Turn on Red Volume [veh/h]            | 0           | 0      | 60     | 0           | 0      | 0      | 0                  | 0      | 91     | 0                   | 0      | 0      |
| Total Hourly Volume [veh/h]                 | 0           | 397    | 127    | 249         | 391    | 0      | 267                | 0      | 58     | 0                   | 0      | 0      |
| Peak Hour Factor                            | 1.0000      | 0.8800 | 0.8800 | 0.8800      | 0.8800 | 1.0000 | 0.8800             | 0.8800 | 0.8800 | 1.0000              | 1.0000 | 1.0000 |
| Other Adjustment Factor                     | 1.0000      | 1.0000 | 1.0000 | 1.0000      | 1.0000 | 1.0000 | 1.0000             | 1.0000 | 1.0000 | 1.0000              | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h]              | 0           | 113    | 36     | 71          | 111    | 0      | 76                 | 0      | 16     | 0                   | 0      | 0      |
| Total Analysis Volume [veh/h]               | 0           | 451    | 144    | 283         | 444    | 0      | 303                | 0      | 66     | 0                   | 0      | 0      |
| Presence of On-Street Parking               | No          |        | No     | No          |        | No     | No                 |        | No     |                     |        |        |
| On-Street Parking Maneuver Rate [/h]        | 0           | 0      | 0      | 0           | 0      | 0      | 0                  | 0      | 0      | 0                   | 0      | 0      |
| Local Bus Stopping Rate [/h]                | 0           | 0      | 0      | 0           | 0      | 0      | 0                  | 0      | 0      | 0                   | 0      | 0      |
| v_do, Outbound Pedestrian Volume crossing   | 0           |        |        | 0           |        |        | 0                  |        |        | 0                   |        |        |
| v_di, Inbound Pedestrian Volume crossing m  | 0           |        |        | 0           |        |        | 0                  |        |        | 0                   |        |        |
| v_co, Outbound Pedestrian Volume crossing   | 0           |        |        | 0           |        |        | 1                  |        |        | 0                   |        |        |
| v_ci, Inbound Pedestrian Volume crossing mi | 0           |        |        | 1           |        |        | 0                  |        |        | 0                   |        |        |
| v_ab, Corner Pedestrian Volume [ped/h]      | 0           |        |        | 0           |        |        | 0                  |        |        | 0                   |        |        |
| Bicycle Volume [bicycles/h]                 | 1           |        |        | 0           |        |        | 0                  |        |        | 0                   |        |        |

**Intersection Settings**

|                           |                                       |
|---------------------------|---------------------------------------|
| Located in CBD            | No                                    |
| Signal Coordination Group | -                                     |
| Cycle Length [s]          | 90                                    |
| Active Pattern            | Free Running (No Pattern)             |
| Coordination Type         | <i>Free Running</i>                   |
| Actuation Type            | <i>Fully actuated</i>                 |
| Offset [s]                | 0.0                                   |
| Offset Reference          | Lead Green - Beginning of First Green |
| Permissive Mode           | SingleBand                            |
| Lost time [s]             | 12.00                                 |

**Phasing & Timing (Basic)**

| Control Type                    | Permiss | Permiss | Permiss | ProtPer | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss |
|---------------------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| Flashing Yellow Arrow           |         |         |         | No      |         |         |         |         |         |         |         |         |
| Signal Group                    | 0       | 6       | 0       | 5       | 2       | 0       | 5       | 8       | 0       | 0       | 0       | 0       |
| Auxiliary Signal Groups         |         |         |         |         |         |         |         |         |         |         |         |         |
| Maximum Green [s]               | 0       | 50      | 0       | 45      | 30      | 0       | 45      | 20      | 0       | 0       | 0       | 0       |
| Amber [s]                       | 0.0     | 4.0     | 0.0     | 4.0     | 4.0     | 0.0     | 4.0     | 4.0     | 0.0     | 0.0     | 0.0     | 0.0     |
| All red [s]                     | 0.0     | 1.0     | 0.0     | 1.0     | 1.0     | 0.0     | 1.0     | 1.0     | 0.0     | 0.0     | 0.0     | 0.0     |
| Walk [s]                        | 0.0     | 7.0     | 0.0     | 0.0     | 7.0     | 0.0     | 0.0     | 7.0     | 0.0     | 0.0     | 0.0     | 0.0     |
| Pedestrian Clearance [s]        | 0.0     | 10.0    | 0.0     | 0.0     | 15.0    | 0.0     | 0.0     | 17.0    | 0.0     | 0.0     | 0.0     | 0.0     |
| Delayed Vehicle Green [s]       | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     |
| Rest In Walk                    |         | No      |         |         | No      |         |         | No      |         |         |         |         |
| I1, Start-Up Lost Time [s]      | 0.0     | 2.0     | 0.0     | 2.0     | 2.0     | 0.0     | 2.0     | 2.0     | 0.0     | 0.0     | 0.0     | 0.0     |
| I2, Clearance Lost Time [s]     | 0.0     | 3.0     | 0.0     | 3.0     | 3.0     | 0.0     | 3.0     | 3.0     | 0.0     | 0.0     | 0.0     | 0.0     |
| Detector Location [ft]          | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     |
| Detector Length [ft]            | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     |
| Advanced Detector Location [ft] | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     |
| Advanced Detector Length [ft]   | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     |
| I, Upstream Filtering Factor    | 1.00    | 1.00    | 1.00    | 1.00    | 1.00    | 1.00    | 1.00    | 1.00    | 1.00    | 1.00    | 1.00    | 1.00    |

**Phasing & Timing: Free Running (No Pattern)**

|                       |     |      |     |      |      |     |      |      |     |     |     |     |
|-----------------------|-----|------|-----|------|------|-----|------|------|-----|-----|-----|-----|
| Split [s]             | 0.0 | 14.0 | 0.0 | 9.0  | 14.0 | 0.0 | 9.0  | 14.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Lead / Lag            | -   | -    | -   | Lead | -    | -   | Lead | -    | -   | -   | -   | -   |
| Minimum Green [s]     | 0   | 10   | 0   | 4    | 10   | 0   | 4    | 6    | 0   | 0   | 0   | 0   |
| Vehicle Extension [s] | 0.0 | 6.9  | 0.0 | 2.3  | 6.9  | 0.0 | 2.3  | 2.3  | 0.0 | 0.0 | 0.0 | 0.0 |
| Minimum Recall        |     | Yes  |     | No   | Yes  |     |      | No   |     |     |     |     |
| Maximum Recall        |     | Yes  |     | No   | No   |     |      | Yes  |     |     |     |     |
| Pedestrian Recall     |     | No   |     | No   | No   |     |      | No   |     |     |     |     |

**Exclusive Pedestrian Phase**

|                          |   |
|--------------------------|---|
| Pedestrian Signal Group  | 0 |
| Pedestrian Walk [s]      | 0 |
| Pedestrian Clearance [s] | 0 |

**Lane Group Calculations**

| Lane Group                              | C     | R     | L     | C     | C     | R     |  |
|-----------------------------------------|-------|-------|-------|-------|-------|-------|--|
| C, Calculated Cycle Length [s]          | 100   | 100   | 100   | 100   | 100   | 100   |  |
| L, Total Lost Time per Cycle [s]        | 5.00  | 5.00  | 5.00  | 5.00  | 5.00  | 5.00  |  |
| l1_p, Permitted Start-Up Lost Time [s]  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  |  |
| l2, Clearance Lost Time [s]             | 3.00  | 3.00  | 0.00  | 3.00  | 3.00  | 3.00  |  |
| g_i, Effective Green Time [s]           | 50.0  | 50.0  | 70.2  | 70.2  | 20.0  | 20.0  |  |
| g / C, Green / Cycle                    | 0.50  | 0.50  | 0.70  | 0.70  | 0.20  | 0.20  |  |
| (v / s)_i Volume / Saturation Flow Rate | 0.25  | 0.09  | 0.27  | 0.24  | 0.17  | 0.04  |  |
| s, saturation flow rate [veh/h]         | 1810  | 1557  | 1054  | 1840  | 1809  | 1602  |  |
| c, Capacity [veh/h]                     | 902   | 776   | 710   | 1290  | 361   | 319   |  |
| d1, Uniform Delay [s]                   | 16.80 | 13.87 | 10.54 | 12.08 | 41.92 | 36.41 |  |
| k, delay calibration                    | 0.50  | 0.50  | 0.66  | 0.66  | 0.50  | 0.50  |  |
| l, Upstream Filtering Factor            | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  |  |
| d2, Incremental Delay [s]               | 1.98  | 0.53  | 2.19  | 0.96  | 20.43 | 1.46  |  |
| d3, Initial Queue Delay [s]             | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  |  |
| Rp, platoon ratio                       | 1.00  | 1.00  | 0.67  | 0.67  | 0.67  | 0.67  |  |
| PF, progression factor                  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  |  |

**Lane Group Results**

|                                       |        |       |        |        |        |       |  |
|---------------------------------------|--------|-------|--------|--------|--------|-------|--|
| X, volume / capacity                  | 0.50   | 0.19  | 0.40   | 0.34   | 0.84   | 0.21  |  |
| d, Delay for Lane Group [s/veh]       | 18.77  | 14.40 | 12.73  | 13.04  | 62.35  | 37.87 |  |
| Lane Group LOS                        | B      | B     | B      | B      | E      | D     |  |
| Critical Lane Group                   | Yes    | No    | Yes    | No     | Yes    | No    |  |
| 50th-Percentile Queue Length [veh/ln] | 7.28   | 1.90  | 4.43   | 7.26   | 9.47   | 1.53  |  |
| 50th-Percentile Queue Length [ft/ln]  | 182.05 | 47.57 | 110.80 | 181.40 | 236.76 | 38.27 |  |
| 95th-Percentile Queue Length [veh/ln] | 11.71  | 3.43  | 7.88   | 11.67  | 14.52  | 2.76  |  |
| 95th-Percentile Queue Length [ft/ln]  | 292.69 | 85.63 | 197.11 | 291.85 | 362.94 | 68.88 |  |

**Movement, Approach, & Intersection Results**

|                                 |       |       |       |       |       |      |       |       |       |      |      |      |
|---------------------------------|-------|-------|-------|-------|-------|------|-------|-------|-------|------|------|------|
| d_M, Delay for Movement [s/veh] | 0.00  | 18.77 | 14.40 | 12.73 | 13.04 | 0.00 | 62.35 | 62.35 | 37.87 | 0.00 | 0.00 | 0.00 |
| Movement LOS                    |       | B     | B     | B     | B     |      | E     | E     | D     |      |      |      |
| d_A, Approach Delay [s/veh]     | 17.71 |       |       | 12.92 |       |      | 57.97 |       |       | 0.00 |      |      |
| Approach LOS                    | B     |       |       | B     |       |      | E     |       |       | A    |      |      |
| d_I, Intersection Delay [s/veh] | 24.44 |       |       |       |       |      |       |       |       |      |      |      |
| Intersection LOS                | C     |       |       |       |       |      |       |       |       |      |      |      |
| Intersection V/C                | 0.586 |       |       |       |       |      |       |       |       |      |      |      |

**Emissions**

|                              |        |       |        |        |        |       |  |
|------------------------------|--------|-------|--------|--------|--------|-------|--|
| Vehicle Miles Traveled [mph] | 26.66  | 8.51  | 30.01  | 47.09  | 23.25  | 5.07  |  |
| Stops [stops/h]              | 261.51 | 68.33 | 159.16 | 260.59 | 340.11 | 54.97 |  |
| Fuel consumption [US gal/h]  | 3.93   | 1.07  | 2.69   | 4.30   | 8.87   | 1.37  |  |
| CO [g/h]                     | 274.36 | 74.57 | 188.28 | 300.27 | 620.02 | 95.47 |  |
| NOx [g/h]                    | 53.38  | 14.51 | 36.63  | 58.42  | 120.63 | 18.57 |  |
| VOC [g/h]                    | 63.59  | 17.28 | 43.64  | 69.59  | 143.70 | 22.13 |  |

**Other Modes**

|                                                          |       |         |         |       |
|----------------------------------------------------------|-------|---------|---------|-------|
| g_Walk,mi, Effective Walk Time [s]                       | 11.0  | 0.0     | 11.0    | 11.0  |
| M_corner, Corner Circulation Area [ft <sup>2</sup> /ped] | 0.00  | 3150.00 | 3100.34 | 0.00  |
| M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]  | 0.00  | 0.00    | 7536.64 | 0.00  |
| d_p, Pedestrian Delay [s]                                | 39.73 | 0.00    | 39.73   | 39.73 |
| I_p,int, Pedestrian LOS Score for Intersectio            | 2.371 | 0.000   | 2.186   | 2.042 |
| Crosswalk LOS                                            | B     | F       | B       | B     |
| s_b, Saturation Flow Rate of the bicycle lane            | 2000  | 2000    | 2000    | 2000  |
| c_b, Capacity of the bicycle lane [bicycles/h]           | 998   | 599     | 399     | 0     |
| d_b, Bicycle Delay [s]                                   | 12.60 | 24.61   | 32.12   | 50.12 |
| I_b,int, Bicycle LOS Score for Intersection              | 2.640 | 2.759   | 2.319   | 4.132 |
| Bicycle LOS                                              | B     | C       | B       | D     |

**Sequence**

|        |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|--------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | 2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | 5 | 6 | 8 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |



**Intersection Level Of Service Report**  
**Intersection 6: 10th Street/8th Avenue/8th Court**

|                  |                 |                           |       |
|------------------|-----------------|---------------------------|-------|
| Control Type:    | Two-way stop    | Delay (sec / veh):        | 49.8  |
| Analysis Method: | HCM 7th Edition | Level Of Service:         | E     |
| Analysis Period: | 15 minutes      | Volume to Capacity (v/c): | 0.293 |

**Intersection Setup**

| Name                         | 10th Street                                                                       |        |        | 10th Street                                                                       |        |        | 8th Avenue                                                                          |        |        | 8th Court                                                                           |        |       |
|------------------------------|-----------------------------------------------------------------------------------|--------|--------|-----------------------------------------------------------------------------------|--------|--------|-------------------------------------------------------------------------------------|--------|--------|-------------------------------------------------------------------------------------|--------|-------|
| Approach                     | Northbound                                                                        |        |        | Southbound                                                                        |        |        | Eastbound                                                                           |        |        | Westbound                                                                           |        |       |
| Lane Configuration           |  |        |        |  |        |        |  |        |        |  |        |       |
| Turning Movement             | Left                                                                              | Thru   | Right  | Left                                                                              | Thru   | Right  | Left                                                                                | Thru   | Right  | Left                                                                                | Thru   | Right |
| Lane Width [ft]              | 12.00                                                                             | 12.00  | 12.00  | 12.00                                                                             | 12.00  | 12.00  | 12.00                                                                               | 12.00  | 12.00  | 12.00                                                                               | 12.00  | 12.00 |
| No. of Lanes in Entry Pocket | 0                                                                                 | 0      | 0      | 1                                                                                 | 0      | 0      | 0                                                                                   | 0      | 0      | 0                                                                                   | 0      | 1     |
| Entry Pocket Length [ft]     | 100.00                                                                            | 100.00 | 100.00 | 90.00                                                                             | 100.00 | 100.00 | 100.00                                                                              | 100.00 | 100.00 | 100.00                                                                              | 100.00 | 60.00 |
| No. of Lanes in Exit Pocket  | 0                                                                                 | 0      | 0      | 0                                                                                 | 0      | 0      | 0                                                                                   | 0      | 0      | 0                                                                                   | 0      | 0     |
| Exit Pocket Length [ft]      | 0.00                                                                              | 0.00   | 0.00   | 0.00                                                                              | 0.00   | 0.00   | 0.00                                                                                | 0.00   | 0.00   | 0.00                                                                                | 0.00   | 0.00  |
| Speed [mph]                  | 25.00                                                                             |        |        | 25.00                                                                             |        |        | 25.00                                                                               |        |        | 25.00                                                                               |        |       |
| Grade [%]                    | 0.00                                                                              |        |        | 0.00                                                                              |        |        | 0.00                                                                                |        |        | 0.00                                                                                |        |       |
| Crosswalk                    | Yes                                                                               |        |        | Yes                                                                               |        |        | Yes                                                                                 |        |        | Yes                                                                                 |        |       |

**Volumes**

| Name                                    | 10th Street |        |        | 10th Street |        |        | 8th Avenue |        |        | 8th Court |        |        |
|-----------------------------------------|-------------|--------|--------|-------------|--------|--------|------------|--------|--------|-----------|--------|--------|
| Base Volume Input [veh/h]               | 1           | 441    | 63     | 129         | 316    | 95     | 3          | 1      | 50     | 29        | 0      | 140    |
| Base Volume Adjustment Factor           | 1.0000      | 1.0000 | 1.0000 | 1.0000      | 1.0000 | 1.0000 | 1.0000     | 1.0000 | 1.0000 | 1.0000    | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%]           | 0.00        | 6.00   | 3.00   | 3.00        | 7.00   | 2.00   | 0.00       | 0.00   | 4.00   | 4.00      | 2.00   | 3.00   |
| Growth Factor                           | 1.0000      | 1.0000 | 1.0000 | 1.0000      | 1.0000 | 1.0000 | 1.0000     | 1.0000 | 1.0000 | 1.0000    | 1.0000 | 1.0000 |
| In-Process Volume [veh/h]               | 0           | 0      | 0      | 0           | 0      | 0      | 0          | 0      | 0      | 0         | 0      | 0      |
| Site-Generated Trips [veh/h]            | 0           | 0      | 0      | 0           | 0      | 0      | 0          | 0      | 0      | 0         | 0      | 0      |
| Diverted Trips [veh/h]                  | 0           | 0      | 0      | 0           | 0      | 0      | 0          | 0      | 0      | 0         | 0      | 0      |
| Pass-by Trips [veh/h]                   | 0           | 0      | 0      | 0           | 0      | 0      | 0          | 0      | 0      | 0         | 0      | 0      |
| Existing Site Adjustment Volume [veh/h] | 0           | 0      | 0      | 0           | 0      | 0      | 0          | 0      | 0      | 0         | 0      | 0      |
| Other Volume [veh/h]                    | 0           | 0      | 0      | 0           | 0      | 0      | 0          | 0      | 0      | 0         | 0      | 0      |
| Total Hourly Volume [veh/h]             | 1           | 441    | 63     | 129         | 316    | 95     | 3          | 1      | 50     | 29        | 0      | 140    |
| Peak Hour Factor                        | 0.8900      | 0.8900 | 0.8900 | 0.8900      | 0.8900 | 0.8900 | 0.8900     | 0.8900 | 0.8900 | 0.8900    | 1.0000 | 0.8900 |
| Other Adjustment Factor                 | 1.0000      | 1.0000 | 1.0000 | 1.0000      | 1.0000 | 1.0000 | 1.0000     | 1.0000 | 1.0000 | 1.0000    | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h]          | 0           | 124    | 18     | 36          | 89     | 27     | 1          | 0      | 14     | 8         | 0      | 39     |
| Total Analysis Volume [veh/h]           | 1           | 496    | 71     | 145         | 355    | 107    | 3          | 1      | 56     | 33        | 0      | 157    |
| Pedestrian Volume [ped/h]               | 1           |        |        | 1           |        |        | 1          |        |        | 0         |        |        |

**Intersection Settings**

|                                    |      |      |      |      |
|------------------------------------|------|------|------|------|
| Priority Scheme                    | Free | Free | Stop | Stop |
| Flared Lane                        |      |      | No   |      |
| Storage Area [veh]                 | 0    | 0    | 0    | 0    |
| Two-Stage Gap Acceptance           |      |      | No   | No   |
| Number of Storage Spaces in Median | 0    | 0    | 0    | 0    |

**Movement, Approach, & Intersection Results**

|                                       |      |      |      |       |      |      |       |       |       |       |      |       |
|---------------------------------------|------|------|------|-------|------|------|-------|-------|-------|-------|------|-------|
| V/C, Movement V/C Ratio               | 0.00 | 0.00 | 0.00 | 0.14  | 0.00 | 0.00 | 0.04  | 0.01  | 0.09  | 0.29  | 0.00 | 0.29  |
| d_M, Delay for Movement [s/veh]       | 8.25 | 0.00 | 0.00 | 9.21  | 0.00 | 0.00 | 49.57 | 31.02 | 11.85 | 49.77 | 0.00 | 14.26 |
| Movement LOS                          | A    | A    | A    | A     | A    | A    | E     | D     | B     | E     |      | B     |
| 95th-Percentile Queue Length [veh/ln] | 0.00 | 0.00 | 0.00 | 0.51  | 0.00 | 0.00 | 0.45  | 0.45  | 0.45  | 1.12  | 0.00 | 1.19  |
| 95th-Percentile Queue Length [ft/ln]  | 0.04 | 0.04 | 0.04 | 12.66 | 0.00 | 0.00 | 11.22 | 11.22 | 11.22 | 27.98 | 0.00 | 29.65 |
| d_A, Approach Delay [s/veh]           | 0.01 |      |      | 2.20  |      |      | 14.05 |       |       | 20.43 |      |       |
| Approach LOS                          | A    |      |      | A     |      |      | B     |       |       | C     |      |       |
| d_I, Intersection Delay [s/veh]       | 4.26 |      |      |       |      |      |       |       |       |       |      |       |
| Intersection LOS                      | E    |      |      |       |      |      |       |       |       |       |      |       |

**Intersection Level Of Service Report****Intersection 1: Blankenship Road/Parkrose Hardware Driveway/Office Park Driveway**

|                  |                 |                           |       |
|------------------|-----------------|---------------------------|-------|
| Control Type:    | Two-way stop    | Delay (sec / veh):        | 109.6 |
| Analysis Method: | HCM 7th Edition | Level Of Service:         | F     |
| Analysis Period: | 15 minutes      | Volume to Capacity (v/c): | 0.325 |

**Intersection Setup**

| Name                         | Pa Ha                                                                             |        |        | Office Park Driveway                                                              |        |        | Blankenship Road                                                                    |        |        | Blankenship Road                                                                    |        |        |
|------------------------------|-----------------------------------------------------------------------------------|--------|--------|-----------------------------------------------------------------------------------|--------|--------|-------------------------------------------------------------------------------------|--------|--------|-------------------------------------------------------------------------------------|--------|--------|
| Approach                     | Northbound                                                                        |        |        | Southbound                                                                        |        |        | Eastbound                                                                           |        |        | Westbound                                                                           |        |        |
| Lane Configuration           |  |        |        |  |        |        |  |        |        |  |        |        |
| Turning Movement             | Left                                                                              | Thru   | Right  | Left                                                                              | Thru   | Right  | Left                                                                                | Thru   | Right  | Left                                                                                | Thru   | Right  |
| Lane Width [ft]              | 12.00                                                                             | 12.00  | 12.00  | 12.00                                                                             | 12.00  | 12.00  | 12.00                                                                               | 12.00  | 12.00  | 12.00                                                                               | 12.00  | 12.00  |
| No. of Lanes in Entry Pocket | 0                                                                                 | 0      | 0      | 0                                                                                 | 0      | 0      | 1                                                                                   | 0      | 0      | 1                                                                                   | 0      | 0      |
| Entry Pocket Length [ft]     | 100.00                                                                            | 100.00 | 100.00 | 100.00                                                                            | 100.00 | 100.00 | 100.00                                                                              | 100.00 | 100.00 | 150.00                                                                              | 100.00 | 100.00 |
| No. of Lanes in Exit Pocket  | 0                                                                                 | 0      | 0      | 0                                                                                 | 0      | 0      | 0                                                                                   | 0      | 0      | 0                                                                                   | 0      | 0      |
| Exit Pocket Length [ft]      | 0.00                                                                              | 0.00   | 0.00   | 0.00                                                                              | 0.00   | 0.00   | 0.00                                                                                | 0.00   | 0.00   | 0.00                                                                                | 0.00   | 0.00   |
| Speed [mph]                  | 25.00                                                                             |        |        | 25.00                                                                             |        |        | 25.00                                                                               |        |        | 25.00                                                                               |        |        |
| Grade [%]                    | 12.00                                                                             |        |        | -5.00                                                                             |        |        | 0.00                                                                                |        |        | 0.00                                                                                |        |        |
| Crosswalk                    | Yes                                                                               |        |        | Yes                                                                               |        |        | No                                                                                  |        |        | No                                                                                  |        |        |

**Volumes**

| Name                                    | Pa Ha  |        |        | Office Park Driveway |        |        | Blankenship Road |        |        | Blankenship Road |        |        |
|-----------------------------------------|--------|--------|--------|----------------------|--------|--------|------------------|--------|--------|------------------|--------|--------|
| Base Volume Input [veh/h]               | 15     | 2      | 28     | 14                   | 2      | 0      | 2                | 866    | 24     | 17               | 341    | 3      |
| Base Volume Adjustment Factor           | 1.0000 | 1.0000 | 1.0000 | 1.0000               | 1.0000 | 1.0000 | 1.0000           | 1.0000 | 1.0000 | 1.0000           | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%]           | 0.00   | 0.00   | 4.00   | 0.00                 | 0.00   | 0.00   | 0.00             | 1.00   | 0.00   | 0.00             | 1.00   | 0.00   |
| Growth Factor                           | 1.0000 | 1.0000 | 1.0000 | 1.0000               | 1.0000 | 1.0000 | 1.0000           | 1.0000 | 1.0000 | 1.0000           | 1.0000 | 1.0000 |
| In-Process Volume [veh/h]               | 0      | 0      | 0      | 0                    | 0      | 0      | 0                | 0      | 0      | 0                | 0      | 0      |
| Site-Generated Trips [veh/h]            | 0      | 0      | 0      | 0                    | 0      | 0      | 0                | 0      | 0      | 0                | 0      | 0      |
| Diverted Trips [veh/h]                  | 0      | 0      | 0      | 0                    | 0      | 0      | 0                | 0      | 0      | 0                | 0      | 0      |
| Pass-by Trips [veh/h]                   | 0      | 0      | 0      | 0                    | 0      | 0      | 0                | 0      | 0      | 0                | 0      | 0      |
| Existing Site Adjustment Volume [veh/h] | 0      | 0      | 0      | 0                    | 0      | 0      | 0                | 0      | 0      | 0                | 0      | 0      |
| Other Volume [veh/h]                    | 0      | 0      | 0      | 0                    | 0      | 0      | 0                | 0      | 0      | 0                | 0      | 0      |
| Total Hourly Volume [veh/h]             | 15     | 2      | 28     | 14                   | 2      | 0      | 2                | 866    | 24     | 17               | 341    | 3      |
| Peak Hour Factor                        | 0.9300 | 0.9300 | 0.9300 | 0.9300               | 0.9300 | 0.9300 | 0.9300           | 0.9300 | 0.9300 | 0.9300           | 0.9300 | 0.9300 |
| Other Adjustment Factor                 | 1.0000 | 1.0000 | 1.0000 | 1.0000               | 1.0000 | 1.0000 | 1.0000           | 1.0000 | 1.0000 | 1.0000           | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h]          | 4      | 1      | 8      | 4                    | 1      | 0      | 1                | 233    | 6      | 5                | 92     | 1      |
| Total Analysis Volume [veh/h]           | 16     | 2      | 30     | 15                   | 2      | 0      | 2                | 931    | 26     | 18               | 367    | 3      |
| Pedestrian Volume [ped/h]               | 6      |        |        | 0                    |        |        | 0                |        |        | 0                |        |        |

**Intersection Settings**

|                                    |      |      |      |      |
|------------------------------------|------|------|------|------|
| Priority Scheme                    | Stop | Stop | Free | Free |
| Flared Lane                        | No   | No   |      |      |
| Storage Area [veh]                 | 0    | 0    | 0    | 0    |
| Two-Stage Gap Acceptance           | No   | No   |      |      |
| Number of Storage Spaces in Median | 0    | 0    | 0    | 0    |

**Movement, Approach, & Intersection Results**

|                                       |        |       |       |       |       |       |      |      |      |       |      |      |
|---------------------------------------|--------|-------|-------|-------|-------|-------|------|------|------|-------|------|------|
| V/C, Movement V/C Ratio               | 0.33   | 0.03  | 0.13  | 0.10  | 0.01  | 0.00  | 0.00 | 0.01 | 0.00 | 0.03  | 0.00 | 0.00 |
| d_M, Delay for Movement [s/veh]       | 109.63 | 97.92 | 52.31 | 31.95 | 25.10 | 12.88 | 8.01 | 0.00 | 0.00 | 10.14 | 0.00 | 0.00 |
| Movement LOS                          | F      | F     | F     | D     | D     | B     | A    | A    | A    | B     | A    | A    |
| 95th-Percentile Queue Length [veh/ln] | 2.16   | 2.16  | 2.16  | 0.36  | 0.36  | 0.36  | 0.01 | 0.00 | 0.00 | 0.08  | 0.00 | 0.00 |
| 95th-Percentile Queue Length [ft/ln]  | 53.89  | 53.89 | 53.89 | 9.08  | 9.08  | 9.08  | 0.13 | 0.00 | 0.00 | 1.92  | 0.00 | 0.00 |
| d_A, Approach Delay [s/veh]           | 73.32  |       |       | 31.15 |       |       | 0.02 |      |      | 0.47  |      |      |
| Approach LOS                          | F      |       |       | D     |       |       | A    |      |      | A     |      |      |
| d_I, Intersection Delay [s/veh]       | 3.01   |       |       |       |       |       |      |      |      |       |      |      |
| Intersection LOS                      | F      |       |       |       |       |       |      |      |      |       |      |      |

### Intersection Level Of Service Report

#### Intersection 2: Blankenship Road/Tannler Drive

|                  |                 |                           |       |
|------------------|-----------------|---------------------------|-------|
| Control Type:    | Two-way stop    | Delay (sec / veh):        | 162.7 |
| Analysis Method: | HCM 7th Edition | Level Of Service:         | F     |
| Analysis Period: | 15 minutes      | Volume to Capacity (v/c): | 0.968 |

#### Intersection Setup

| Name                         | Dutch Bros Driveway                                                               |        |       | Tannler Drive                                                                     |        |        | Blankenship Road                                                                    |        |        | Blankenship Road                                                                    |        |        |
|------------------------------|-----------------------------------------------------------------------------------|--------|-------|-----------------------------------------------------------------------------------|--------|--------|-------------------------------------------------------------------------------------|--------|--------|-------------------------------------------------------------------------------------|--------|--------|
| Approach                     | Northbound                                                                        |        |       | Southbound                                                                        |        |        | Eastbound                                                                           |        |        | Westbound                                                                           |        |        |
| Lane Configuration           |  |        |       |  |        |        |  |        |        |  |        |        |
| Turning Movement             | Left                                                                              | Thru   | Right | Left                                                                              | Thru   | Right  | Left                                                                                | Thru   | Right  | Left                                                                                | Thru   | Right  |
| Lane Width [ft]              | 12.00                                                                             | 12.00  | 12.00 | 12.00                                                                             | 12.00  | 12.00  | 12.00                                                                               | 12.00  | 12.00  | 12.00                                                                               | 12.00  | 12.00  |
| No. of Lanes in Entry Pocket | 0                                                                                 | 0      | 1     | 0                                                                                 | 0      | 1      | 1                                                                                   | 0      | 0      | 1                                                                                   | 0      | 0      |
| Entry Pocket Length [ft]     | 100.00                                                                            | 100.00 | 90.00 | 100.00                                                                            | 100.00 | 100.00 | 150.00                                                                              | 100.00 | 100.00 | 100.00                                                                              | 100.00 | 100.00 |
| No. of Lanes in Exit Pocket  | 0                                                                                 | 0      | 0     | 0                                                                                 | 0      | 0      | 0                                                                                   | 0      | 0      | 0                                                                                   | 0      | 0      |
| Exit Pocket Length [ft]      | 0.00                                                                              | 0.00   | 0.00  | 0.00                                                                              | 0.00   | 0.00   | 0.00                                                                                | 0.00   | 0.00   | 0.00                                                                                | 0.00   | 0.00   |
| Speed [mph]                  | 25.00                                                                             |        |       | 25.00                                                                             |        |        | 25.00                                                                               |        |        | 25.00                                                                               |        |        |
| Grade [%]                    | 7.00                                                                              |        |       | -7.00                                                                             |        |        | 0.00                                                                                |        |        | 0.00                                                                                |        |        |
| Crosswalk                    | Yes                                                                               |        |       | No                                                                                |        |        | No                                                                                  |        |        | No                                                                                  |        |        |

#### Volumes

| Name                                    | Dutch Bros Driveway |        |        | Tannler Drive |        |        | Blankenship Road |        |        | Blankenship Road |        |        |
|-----------------------------------------|---------------------|--------|--------|---------------|--------|--------|------------------|--------|--------|------------------|--------|--------|
| Base Volume Input [veh/h]               | 0                   | 2      | 64     | 88            | 2      | 77     | 137              | 766    | 5      | 43               | 284    | 44     |
| Base Volume Adjustment Factor           | 1.0000              | 1.0000 | 1.0000 | 1.0000        | 1.0000 | 1.0000 | 1.0000           | 1.0000 | 1.0000 | 1.0000           | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%]           | 0.00                | 0.00   | 3.00   | 1.00          | 0.00   | 1.00   | 1.00             | 1.00   | 0.00   | 2.00             | 0.00   | 2.00   |
| Growth Factor                           | 1.0000              | 1.0000 | 1.0000 | 1.0000        | 1.0000 | 1.0000 | 1.0000           | 1.0000 | 1.0000 | 1.0000           | 1.0000 | 1.0000 |
| In-Process Volume [veh/h]               | 0                   | 0      | 0      | 0             | 0      | 0      | 0                | 0      | 0      | 0                | 0      | 0      |
| Site-Generated Trips [veh/h]            | 0                   | 0      | 0      | 0             | 0      | 0      | 0                | 0      | 0      | 0                | 0      | 0      |
| Diverted Trips [veh/h]                  | 0                   | 0      | 0      | 0             | 0      | 0      | 0                | 0      | 0      | 0                | 0      | 0      |
| Pass-by Trips [veh/h]                   | 0                   | 0      | 0      | 0             | 0      | 0      | 0                | 0      | 0      | 0                | 0      | 0      |
| Existing Site Adjustment Volume [veh/h] | 0                   | 0      | 0      | 0             | 0      | 0      | 0                | 0      | 0      | 0                | 0      | 0      |
| Other Volume [veh/h]                    | 0                   | 0      | 0      | 0             | 0      | 0      | 0                | 0      | 0      | 0                | 0      | 0      |
| Total Hourly Volume [veh/h]             | 0                   | 2      | 64     | 88            | 2      | 77     | 137              | 766    | 5      | 43               | 284    | 44     |
| Peak Hour Factor                        | 0.9200              | 0.9200 | 0.9200 | 0.9200        | 0.9200 | 0.9200 | 0.9200           | 0.9200 | 0.9200 | 0.9200           | 0.9200 | 0.9200 |
| Other Adjustment Factor                 | 1.0000              | 1.0000 | 1.0000 | 1.0000        | 1.0000 | 1.0000 | 1.0000           | 1.0000 | 1.0000 | 1.0000           | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h]          | 0                   | 1      | 17     | 24            | 1      | 21     | 37               | 208    | 1      | 12               | 77     | 12     |
| Total Analysis Volume [veh/h]           | 0                   | 2      | 70     | 96            | 2      | 84     | 149              | 833    | 5      | 47               | 309    | 48     |
| Pedestrian Volume [ped/h]               | 1                   |        |        | 0             |        |        | 0                |        |        | 0                |        |        |

**Intersection Settings**

|                                    |      |      |      |      |
|------------------------------------|------|------|------|------|
| Priority Scheme                    | Stop | Stop | Free | Free |
| Flared Lane                        |      |      |      |      |
| Storage Area [veh]                 | 0    | 2    | 0    | 0    |
| Two-Stage Gap Acceptance           | No   | No   |      |      |
| Number of Storage Spaces in Median | 0    | 0    | 0    | 0    |

**Movement, Approach, & Intersection Results**

|                                       |        |       |       |        |        |       |       |      |      |      |      |      |
|---------------------------------------|--------|-------|-------|--------|--------|-------|-------|------|------|------|------|------|
| V/C, Movement V/C Ratio               | 0.00   | 0.04  | 0.23  | 0.97   | 0.01   | 0.11  | 0.12  | 0.01 | 0.00 | 0.06 | 0.00 | 0.00 |
| d_M, Delay for Movement [s/veh]       | 116.07 | 82.19 | 19.96 | 162.73 | 147.54 | 10.34 | 8.40  | 0.00 | 0.00 | 9.81 | 0.00 | 0.00 |
| Movement LOS                          | F      | F     | C     | F      | F      | B     | A     | A    | A    | A    | A    | A    |
| 95th-Percentile Queue Length [veh/ln] | 0.13   | 0.13  | 0.85  | 5.94   | 5.94   | 0.37  | 0.42  | 0.00 | 0.00 | 0.19 | 0.00 | 0.00 |
| 95th-Percentile Queue Length [ft/ln]  | 3.15   | 3.15  | 21.26 | 148.40 | 148.40 | 9.30  | 10.53 | 0.00 | 0.00 | 4.70 | 0.00 | 0.00 |
| d_A, Approach Delay [s/veh]           | 21.69  |       |       | 92.23  |        |       | 1.27  |      |      | 1.14 |      |      |
| Approach LOS                          | C      |       |       | F      |        |       | A     |      |      | A    |      |      |
| d_I, Intersection Delay [s/veh]       | 12.19  |       |       |        |        |       |       |      |      |      |      |      |
| Intersection LOS                      | F      |       |       |        |        |       |       |      |      |      |      |      |

**Intersection Level Of Service Report****Intersection 3: Blankenship Road/Salamo Road/10th Street**

|                  |                 |                           |       |
|------------------|-----------------|---------------------------|-------|
| Control Type:    | Signalized      | Delay (sec / veh):        | 32.9  |
| Analysis Method: | HCM 7th Edition | Level Of Service:         | C     |
| Analysis Period: | 15 minutes      | Volume to Capacity (v/c): | 0.485 |

**Intersection Setup**

| Name                         | 10th Street                                                                       |        | Blankenship Road                                                                    |        | Salamo Road                                                                         |        |
|------------------------------|-----------------------------------------------------------------------------------|--------|-------------------------------------------------------------------------------------|--------|-------------------------------------------------------------------------------------|--------|
| Approach                     | Northbound                                                                        |        | Eastbound                                                                           |        | Westbound                                                                           |        |
| Lane Configuration           |  |        |  |        |  |        |
| Turning Movement             | Left                                                                              | Right  | Thru                                                                                | Right  | Left                                                                                | Thru   |
| Lane Width [ft]              | 12.00                                                                             | 12.00  | 12.00                                                                               | 12.00  | 12.00                                                                               | 12.00  |
| No. of Lanes in Entry Pocket | 0                                                                                 | 1      | 0                                                                                   | 1      | 1                                                                                   | 0      |
| Entry Pocket Length [ft]     | 100.00                                                                            | 100.00 | 100.00                                                                              | 100.00 | 250.00                                                                              | 100.00 |
| No. of Lanes in Exit Pocket  | 0                                                                                 | 0      | 0                                                                                   | 0      | 0                                                                                   | 0      |
| Exit Pocket Length [ft]      | 0.00                                                                              | 0.00   | 0.00                                                                                | 0.00   | 0.00                                                                                | 0.00   |
| Speed [mph]                  | 25.00                                                                             |        | 25.00                                                                               |        | 35.00                                                                               |        |
| Grade [%]                    | 7.00                                                                              |        | 0.00                                                                                |        | -3.00                                                                               |        |
| Curb Present                 | No                                                                                |        | No                                                                                  |        | No                                                                                  |        |
| Crosswalk                    | Yes                                                                               |        | No                                                                                  |        | No                                                                                  |        |

**Volumes**

| Name                                        | 10th Street |        | Blankenship Road |        | Salamo Road |        |
|---------------------------------------------|-------------|--------|------------------|--------|-------------|--------|
| Base Volume Input [veh/h]                   | 263         | 313    | 160              | 759    | 399         | 108    |
| Base Volume Adjustment Factor               | 1.0000      | 1.0000 | 1.0000           | 1.0000 | 1.0000      | 1.0000 |
| Heavy Vehicles Percentage [%]               | 1.00        | 1.00   | 1.00             | 2.00   | 3.00        | 1.00   |
| Proportion of CAVs [%]                      | 0.00        |        |                  |        |             |        |
| Growth Factor                               | 1.0000      | 1.0000 | 1.0000           | 1.0000 | 1.0000      | 1.0000 |
| In-Process Volume [veh/h]                   | 0           | 0      | 0                | 0      | 0           | 0      |
| Site-Generated Trips [veh/h]                | 0           | 0      | 0                | 0      | 0           | 0      |
| Diverted Trips [veh/h]                      | 0           | 0      | 0                | 0      | 0           | 0      |
| Pass-by Trips [veh/h]                       | 0           | 0      | 0                | 0      | 0           | 0      |
| Existing Site Adjustment Volume [veh/h]     | 0           | 0      | 0                | 0      | 0           | 0      |
| Other Volume [veh/h]                        | 0           | 0      | 0                | 0      | 0           | 0      |
| Right Turn on Red Volume [veh/h]            | 0           | 17     | 0                | 18     | 0           | 0      |
| Total Hourly Volume [veh/h]                 | 263         | 296    | 160              | 741    | 399         | 108    |
| Peak Hour Factor                            | 0.9400      | 0.9400 | 0.9400           | 0.9400 | 0.9400      | 0.9400 |
| Other Adjustment Factor                     | 1.0000      | 1.0000 | 1.0000           | 1.0000 | 1.0000      | 1.0000 |
| Total 15-Minute Volume [veh/h]              | 70          | 79     | 43               | 197    | 106         | 29     |
| Total Analysis Volume [veh/h]               | 280         | 315    | 170              | 788    | 424         | 115    |
| Presence of On-Street Parking               | No          | No     | No               | No     | No          | No     |
| On-Street Parking Maneuver Rate [/h]        | 0           | 0      | 0                | 0      | 0           | 0      |
| Local Bus Stopping Rate [/h]                | 0           | 0      | 0                | 0      | 0           | 0      |
| v_do, Outbound Pedestrian Volume crossing   | 0           |        | 0                |        | 0           |        |
| v_di, Inbound Pedestrian Volume crossing m  | 0           |        | 0                |        | 0           |        |
| v_co, Outbound Pedestrian Volume crossing   | 0           |        | 0                |        | 0           |        |
| v_ci, Inbound Pedestrian Volume crossing mi | 0           |        | 0                |        | 0           |        |
| v_ab, Corner Pedestrian Volume [ped/h]      | 0           |        | 0                |        | 0           |        |
| Bicycle Volume [bicycles/h]                 | 1           |        | 1                |        | 0           |        |

**Intersection Settings**

|                           |                                       |
|---------------------------|---------------------------------------|
| Located in CBD            | No                                    |
| Signal Coordination Group | -                                     |
| Cycle Length [s]          | 90                                    |
| Active Pattern            | Free Running (No Pattern)             |
| Coordination Type         | <i>Free Running</i>                   |
| Actuation Type            | <i>Fully actuated</i>                 |
| Offset [s]                | 0.0                                   |
| Offset Reference          | Lead Green - Beginning of First Green |
| Permissive Mode           | SingleBand                            |
| Lost time [s]             | 12.00                                 |

**Phasing & Timing (Basic)**

| Control Type                    | Overlap | Overlap | Permissive | Overlap | Protected | Permissive |
|---------------------------------|---------|---------|------------|---------|-----------|------------|
| Flashing Yellow Arrow           |         |         |            |         |           |            |
| Signal Group                    | 6       | 6       | 4          | 5       | 3         | 8          |
| Auxiliary Signal Groups         | 5,6,7   | 3,5,6,7 |            | 4,5,7   |           |            |
| Maximum Green [s]               | 6       | 6       | 16         | 40      | 35        | 32         |
| Amber [s]                       | 4.0     | 4.0     | 4.0        | 4.0     | 4.0       | 5.0        |
| All red [s]                     | 1.5     | 1.5     | 1.5        | 1.5     | 1.5       | 1.0        |
| Walk [s]                        | 0.0     | 0.0     | 8.0        | 7.0     | 7.0       | 0.0        |
| Pedestrian Clearance [s]        | 0.0     | 0.0     | 27.0       | 15.0    | 10.0      | 0.0        |
| Delayed Vehicle Green [s]       | 0.0     | 0.0     | 0.0        | 0.0     | 0.0       | 0.0        |
| Rest In Walk                    | No      |         | No         |         |           | No         |
| I1, Start-Up Lost Time [s]      | 2.0     | 2.0     | 2.0        | 2.0     | 2.0       | 2.0        |
| I2, Clearance Lost Time [s]     | 2.0     | 2.0     | 2.0        | 2.0     | 2.0       | 2.0        |
| Detector Location [ft]          | 0.0     | 0.0     | 0.0        | 0.0     | 0.0       | 0.0        |
| Detector Length [ft]            | 0.0     | 0.0     | 0.0        | 0.0     | 0.0       | 0.0        |
| Advanced Detector Location [ft] | 0.0     | 0.0     | 0.0        | 0.0     | 0.0       | 0.0        |
| Advanced Detector Length [ft]   | 0.0     | 0.0     | 0.0        | 0.0     | 0.0       | 0.0        |
| I, Upstream Filtering Factor    | 1.00    | 1.00    | 1.00       | 1.00    | 1.00      | 1.00       |

**Phasing & Timing: Free Running (No Pattern)**

|                       |     |     |      |      |      |      |
|-----------------------|-----|-----|------|------|------|------|
| Split [s]             | 9.0 | 9.0 | 14.0 | 14.0 | 9.0  | 14.0 |
| Lead / Lag            | Lag | -   | -    | -    | Lead | -    |
| Minimum Green [s]     | 2   | 2   | 6    | 10   | 4    | 6    |
| Vehicle Extension [s] | 0.5 | 0.5 | 2.3  | 5.2  | 2.3  | 2.3  |
| Minimum Recall        | No  | No  | No   | Yes  | No   | No   |
| Maximum Recall        | No  | No  | No   | No   | No   | No   |
| Pedestrian Recall     | No  | No  | No   | No   | No   | No   |

**Exclusive Pedestrian Phase**

|                          |   |
|--------------------------|---|
| Pedestrian Signal Group  | 0 |
| Pedestrian Walk [s]      | 0 |
| Pedestrian Clearance [s] | 0 |

**Lane Group Calculations**

| Lane Group                              | L     | R    | C     | R     | L     | C     |
|-----------------------------------------|-------|------|-------|-------|-------|-------|
| C, Calculated Cycle Length [s]          | 131   | 131  | 131   | 131   | 131   | 131   |
| L, Total Lost Time per Cycle [s]        | 4.00  | 4.00 | 4.00  | 4.00  | 4.00  | 4.00  |
| l1_p, Permitted Start-Up Lost Time [s]  | 0.00  | 0.00 | 0.00  | 0.00  | 0.00  | 0.00  |
| l2, Clearance Lost Time [s]             | 0.00  | 2.00 | 2.00  | 0.00  | 2.00  | 2.00  |
| g_i, Effective Green Time [s]           | 63.0  | 97.5 | 17.5  | 76.0  | 34.5  | 56.0  |
| g / C, Green / Cycle                    | 0.48  | 0.74 | 0.13  | 0.58  | 0.26  | 0.43  |
| (v / s)_i Volume / Saturation Flow Rate | 0.18  | 0.23 | 0.09  | 0.50  | 0.24  | 0.06  |
| s, saturation flow rate [veh/h]         | 1533  | 1351 | 1885  | 1577  | 1767  | 1885  |
| c, Capacity [veh/h]                     | 702   | 959  | 252   | 878   | 466   | 806   |
| d1, Uniform Delay [s]                   | 13.33 | 0.09 | 54.12 | 16.20 | 46.75 | 22.86 |
| k, delay calibration                    | 0.29  | 0.35 | 0.20  | 0.50  | 0.37  | 0.07  |
| l, Upstream Filtering Factor            | 1.00  | 1.00 | 1.00  | 1.00  | 1.00  | 1.00  |
| d2, Incremental Delay [s]               | 0.98  | 0.64 | 5.81  | 13.87 | 19.46 | 0.05  |
| d3, Initial Queue Delay [s]             | 0.00  | 0.00 | 0.00  | 0.00  | 0.00  | 0.00  |
| Rp, platoon ratio                       | 1.33  | 1.33 | 1.00  | 1.00  | 1.00  | 1.00  |
| PF, progression factor                  | 1.00  | 1.00 | 1.00  | 1.00  | 1.00  | 1.00  |

**Lane Group Results**

|                                       |        |      |        |        |        |       |
|---------------------------------------|--------|------|--------|--------|--------|-------|
| X, volume / capacity                  | 0.40   | 0.33 | 0.68   | 0.90   | 0.91   | 0.14  |
| d, Delay for Lane Group [s/veh]       | 14.32  | 0.73 | 59.92  | 30.06  | 66.21  | 22.91 |
| Lane Group LOS                        | B      | A    | E      | C      | E      | C     |
| Critical Lane Group                   | Yes    | No   | No     | Yes    | Yes    | No    |
| 50th-Percentile Queue Length [veh/ln] | 3.63   | 0.22 | 5.80   | 18.33  | 15.74  | 2.18  |
| 50th-Percentile Queue Length [ft/ln]  | 90.87  | 5.41 | 145.02 | 458.37 | 393.45 | 54.53 |
| 95th-Percentile Queue Length [veh/ln] | 6.54   | 0.39 | 9.75   | 25.36  | 22.24  | 3.93  |
| 95th-Percentile Queue Length [ft/ln]  | 163.56 | 9.73 | 243.76 | 633.93 | 556.10 | 98.16 |

**Movement, Approach, & Intersection Results**

|                                 |       |      |       |       |       |       |
|---------------------------------|-------|------|-------|-------|-------|-------|
| d_M, Delay for Movement [s/veh] | 14.32 | 0.73 | 59.92 | 30.06 | 66.21 | 22.91 |
| Movement LOS                    | B     | A    | E     | C     | E     | C     |
| d_A, Approach Delay [s/veh]     | 7.12  |      | 35.36 |       | 56.98 |       |
| Approach LOS                    | A     |      | D     |       | E     |       |
| d_I, Intersection Delay [s/veh] | 32.90 |      |       |       |       |       |
| Intersection LOS                | C     |      |       |       |       |       |
| Intersection V/C                | 0.485 |      |       |       |       |       |

**Emissions**

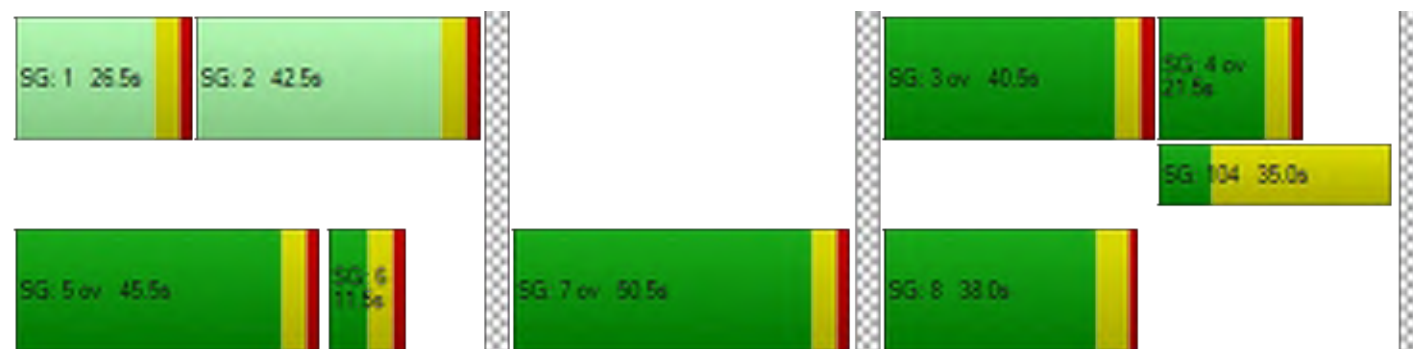
|                              |        |       |        |        |        |        |
|------------------------------|--------|-------|--------|--------|--------|--------|
| Vehicle Miles Traveled [mph] | 13.95  | 15.69 | 8.97   | 41.58  | 58.75  | 15.93  |
| Stops [stops/h]              | 99.87  | 5.94  | 159.39 | 503.81 | 432.45 | 59.94  |
| Fuel consumption [US gal/h]  | 1.83   | 0.78  | 3.09   | 8.62   | 11.20  | 1.59   |
| CO [g/h]                     | 127.65 | 54.19 | 215.82 | 602.76 | 783.17 | 111.44 |
| NOx [g/h]                    | 24.84  | 10.54 | 41.99  | 117.27 | 152.38 | 21.68  |
| VOC [g/h]                    | 29.58  | 12.56 | 50.02  | 139.69 | 181.51 | 25.83  |

**Other Modes**

|                                                          |       |       |       |
|----------------------------------------------------------|-------|-------|-------|
| g_Walk,mi, Effective Walk Time [s]                       | 12.0  | 0.0   | 0.0   |
| M_corner, Corner Circulation Area [ft <sup>2</sup> /ped] | 0.00  | 0.00  | 0.00  |
| M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]  | 0.00  | 0.00  | 0.00  |
| d_p, Pedestrian Delay [s]                                | 54.06 | 0.00  | 0.00  |
| I_p,int, Pedestrian LOS Score for Intersectio            | 2.547 | 0.000 | 0.000 |
| Crosswalk LOS                                            | B     | F     | F     |
| s_b, Saturation Flow Rate of the bicycle lane            | 2000  | 2000  | 2000  |
| c_b, Capacity of the bicycle lane [bicycles/h]           | 366   | 244   | 489   |
| d_b, Bicycle Delay [s]                                   | 43.73 | 50.51 | 37.41 |
| I_b,int, Bicycle LOS Score for Intersection              | 1.560 | 3.170 | 2.449 |
| Bicycle LOS                                              | A     | C     | B     |

**Sequence**

|        |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|--------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | 1 | 2 | - | 3 | 4 | - | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | 5 | 6 | 7 | 8 | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |



**Intersection Level Of Service Report**  
**Intersection 4: 10th Street/I-205 SB Ramp**

|                  |                 |                           |       |
|------------------|-----------------|---------------------------|-------|
| Control Type:    | Signalized      | Delay (sec / veh):        | 23.6  |
| Analysis Method: | HCM 7th Edition | Level Of Service:         | C     |
| Analysis Period: | 15 minutes      | Volume to Capacity (v/c): | 0.549 |

**Intersection Setup**

| Name                         | 10th Street                                                                       |        |        | 10th Street                                                                       |        |        | I-205 SB Entry Ramp |        |        | I-205 SB Exit Ramp                                                                  |        |        |
|------------------------------|-----------------------------------------------------------------------------------|--------|--------|-----------------------------------------------------------------------------------|--------|--------|---------------------|--------|--------|-------------------------------------------------------------------------------------|--------|--------|
| Approach                     | Northbound                                                                        |        |        | Southbound                                                                        |        |        | Eastbound           |        |        | Westbound                                                                           |        |        |
| Lane Configuration           |  |        |        |  |        |        |                     |        |        |  |        |        |
| Turning Movement             | Left                                                                              | Thru   | Right  | Left                                                                              | Thru   | Right  | Left                | Thru   | Right  | Left                                                                                | Thru   | Right  |
| Lane Width [ft]              | 12.00                                                                             | 12.00  | 12.00  | 12.00                                                                             | 12.00  | 12.00  | 12.00               | 12.00  | 12.00  | 12.00                                                                               | 12.00  | 12.00  |
| No. of Lanes in Entry Pocket | 1                                                                                 | 0      | 0      | 0                                                                                 | 0      | 0      | 0                   | 0      | 0      | 0                                                                                   | 0      | 1      |
| Entry Pocket Length [ft]     | 200.00                                                                            | 100.00 | 100.00 | 100.00                                                                            | 100.00 | 100.00 | 100.00              | 100.00 | 100.00 | 100.00                                                                              | 100.00 | 200.00 |
| No. of Lanes in Exit Pocket  | 0                                                                                 | 0      | 1      | 0                                                                                 | 0      | 0      | 0                   | 0      | 0      | 0                                                                                   | 0      | 0      |
| Exit Pocket Length [ft]      | 0.00                                                                              | 0.00   | 100.00 | 0.00                                                                              | 0.00   | 0.00   | 0.00                | 0.00   | 0.00   | 0.00                                                                                | 0.00   | 0.00   |
| Speed [mph]                  | 25.00                                                                             |        |        | 25.00                                                                             |        |        | 30.00               |        |        | 45.00                                                                               |        |        |
| Grade [%]                    | 9.00                                                                              |        |        | -4.00                                                                             |        |        | 0.00                |        |        | 0.00                                                                                |        |        |
| Curb Present                 | No                                                                                |        |        | No                                                                                |        |        |                     |        |        | No                                                                                  |        |        |
| Crosswalk                    | Yes                                                                               |        |        | No                                                                                |        |        | Yes                 |        |        | Yes                                                                                 |        |        |

**Volumes**

| Name                                        | 10th Street |        |        | 10th Street |        |        | I-205 SB Entry Ramp |        |        | I-205 SB Exit Ramp |        |        |
|---------------------------------------------|-------------|--------|--------|-------------|--------|--------|---------------------|--------|--------|--------------------|--------|--------|
| Base Volume Input [veh/h]                   | 102         | 287    | 0      | 0           | 843    | 315    | 0                   | 0      | 0      | 193                | 3      | 289    |
| Base Volume Adjustment Factor               | 1.0000      | 1.0000 | 1.0000 | 1.0000      | 1.0000 | 1.0000 | 1.0000              | 1.0000 | 1.0000 | 1.0000             | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%]               | 5.00        | 1.00   | 2.00   | 2.00        | 2.00   | 2.00   | 2.00                | 2.00   | 2.00   | 0.00               | 0.00   | 0.00   |
| Proportion of CAVs [%]                      | 0.00        |        |        |             |        |        |                     |        |        |                    |        |        |
| Growth Factor                               | 1.0000      | 1.0000 | 1.0000 | 1.0000      | 1.0000 | 1.0000 | 1.0000              | 1.0000 | 1.0000 | 1.0000             | 1.0000 | 1.0000 |
| In-Process Volume [veh/h]                   | 0           | 0      | 0      | 0           | 0      | 0      | 0                   | 0      | 0      | 0                  | 0      | 0      |
| Site-Generated Trips [veh/h]                | 0           | 0      | 0      | 0           | 0      | 0      | 0                   | 0      | 0      | 0                  | 0      | 0      |
| Diverted Trips [veh/h]                      | 0           | 0      | 0      | 0           | 0      | 0      | 0                   | 0      | 0      | 0                  | 0      | 0      |
| Pass-by Trips [veh/h]                       | 0           | 0      | 0      | 0           | 0      | 0      | 0                   | 0      | 0      | 0                  | 0      | 0      |
| Existing Site Adjustment Volume [veh/h]     | 0           | 0      | 0      | 0           | 0      | 0      | 0                   | 0      | 0      | 0                  | 0      | 0      |
| Other Volume [veh/h]                        | 0           | 0      | 0      | 0           | 0      | 0      | 0                   | 0      | 0      | 0                  | 0      | 0      |
| Right Turn on Red Volume [veh/h]            | 0           | 0      | 0      | 0           | 0      | 88     | 0                   | 0      | 0      | 0                  | 0      | 195    |
| Total Hourly Volume [veh/h]                 | 102         | 287    | 0      | 0           | 843    | 227    | 0                   | 0      | 0      | 193                | 3      | 94     |
| Peak Hour Factor                            | 0.9500      | 0.9500 | 1.0000 | 1.0000      | 0.9500 | 0.9500 | 1.0000              | 1.0000 | 1.0000 | 0.9500             | 0.9500 | 0.9500 |
| Other Adjustment Factor                     | 1.0000      | 1.0000 | 1.0000 | 1.0000      | 1.0000 | 1.0000 | 1.0000              | 1.0000 | 1.0000 | 1.0000             | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h]              | 27          | 76     | 0      | 0           | 222    | 60     | 0                   | 0      | 0      | 51                 | 1      | 25     |
| Total Analysis Volume [veh/h]               | 107         | 302    | 0      | 0           | 887    | 239    | 0                   | 0      | 0      | 203                | 3      | 99     |
| Presence of On-Street Parking               | No          |        | No     | No          |        | No     |                     |        |        | No                 |        | No     |
| On-Street Parking Maneuver Rate [/h]        | 0           | 0      | 0      | 0           | 0      | 0      | 0                   | 0      | 0      | 0                  | 0      | 0      |
| Local Bus Stopping Rate [/h]                | 0           | 0      | 0      | 0           | 0      | 0      | 0                   | 0      | 0      | 0                  | 0      | 0      |
| v_do, Outbound Pedestrian Volume crossing   | 0           |        |        | 0           |        |        | 0                   |        |        | 0                  |        |        |
| v_di, Inbound Pedestrian Volume crossing m  | 0           |        |        | 0           |        |        | 0                   |        |        | 0                  |        |        |
| v_co, Outbound Pedestrian Volume crossing   | 0           |        |        | 2           |        |        | 2                   |        |        | 0                  |        |        |
| v_ci, Inbound Pedestrian Volume crossing mi | 0           |        |        | 2           |        |        | 2                   |        |        | 0                  |        |        |
| v_ab, Corner Pedestrian Volume [ped/h]      | 0           |        |        | 0           |        |        | 0                   |        |        | 0                  |        |        |
| Bicycle Volume [bicycles/h]                 | 0           |        |        | 0           |        |        | 0                   |        |        | 0                  |        |        |

**Intersection Settings**

|                           |                                       |
|---------------------------|---------------------------------------|
| Located in CBD            | No                                    |
| Signal Coordination Group | -                                     |
| Cycle Length [s]          | 131                                   |
| Active Pattern            | Pattern 1                             |
| Coordination Type         | Time of Day Pattern Isolated          |
| Actuation Type            | Fixed time                            |
| Offset [s]                | 0.0                                   |
| Offset Reference          | Lead Green - Beginning of First Green |
| Permissive Mode           | SingleBand                            |
| Lost time [s]             | 12.00                                 |

**Phasing & Timing (Basic)**

| Control Type                    | ProtPer | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss |
|---------------------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| Flashing Yellow Arrow           | Yes     |         |         |         |         |         |         |         |         |         |         |         |
| Signal Group                    | 1       | 5       | 0       | 0       | 2       | 2       | 0       | 0       | 0       | 0       | 7       | 0       |
| Auxiliary Signal Groups         |         |         |         |         |         |         |         |         |         |         |         |         |
| Maximum Green [s]               | 11      | 56      | 0       | 0       | 86      | 86      | 0       | 0       | 0       | 0       | 18      | 0       |
| Amber [s]                       | 4.0     | 4.0     | 0.0     | 0.0     | 4.0     | 4.0     | 0.0     | 0.0     | 0.0     | 0.0     | 4.0     | 0.0     |
| All red [s]                     | 1.5     | 1.5     | 0.0     | 0.0     | 1.5     | 1.5     | 0.0     | 0.0     | 0.0     | 0.0     | 1.5     | 0.0     |
| Walk [s]                        | 0.0     | 7.0     | 0.0     | 0.0     | 7.0     | 7.0     | 0.0     | 0.0     | 0.0     | 0.0     | 7.0     | 0.0     |
| Pedestrian Clearance [s]        | 0.0     | 15.0    | 0.0     | 0.0     | 12.0    | 12.0    | 0.0     | 0.0     | 0.0     | 0.0     | 16.0    | 0.0     |
| Delayed Vehicle Green [s]       | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     |
| Rest In Walk                    |         | No      |         |         | No      |         |         |         |         |         | No      |         |
| I1, Start-Up Lost Time [s]      | 2.0     | 2.0     | 0.0     | 0.0     | 2.0     | 2.0     | 0.0     | 0.0     | 0.0     | 0.0     | 2.0     | 0.0     |
| I2, Clearance Lost Time [s]     | 2.0     | 2.0     | 0.0     | 0.0     | 2.0     | 2.0     | 0.0     | 0.0     | 0.0     | 0.0     | 2.0     | 0.0     |
| Detector Location [ft]          | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     |
| Detector Length [ft]            | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     |
| Advanced Detector Location [ft] | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     |
| Advanced Detector Length [ft]   | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     |
| I, Upstream Filtering Factor    | 1.00    | 1.00    | 1.00    | 1.00    | 1.00    | 1.00    | 1.00    | 1.00    | 1.00    | 1.00    | 1.00    | 1.00    |

**Phasing & Timing: Pattern 1**

|                       |      |      |     |     |      |      |     |     |     |     |      |     |
|-----------------------|------|------|-----|-----|------|------|-----|-----|-----|-----|------|-----|
| Split [s]             | 22.0 | 60.0 | 0.0 | 0.0 | 86.0 | 86.0 | 0.0 | 0.0 | 0.0 | 0.0 | 23.0 | 0.0 |
| Lead / Lag            | Lead | -    | -   | -   | -    | -    | -   | -   | -   | -   | -    | -   |
| Minimum Green [s]     | 5    | 5    | 0   | 0   | 10   | 10   | 0   | 0   | 0   | 0   | 10   | 0   |
| Vehicle Extension [s] | 3.0  | 3.0  | 0.0 | 0.0 | 3.0  | 3.0  | 0.0 | 0.0 | 0.0 | 0.0 | 3.0  | 0.0 |
| Minimum Recall        | No   | No   |     |     | No   |      |     |     |     |     | No   |     |
| Maximum Recall        | No   | No   |     |     | No   |      |     |     |     |     | No   |     |
| Pedestrian Recall     | No   | No   |     |     | No   |      |     |     |     |     | No   |     |

**Exclusive Pedestrian Phase**

|                          |   |
|--------------------------|---|
| Pedestrian Signal Group  | 0 |
| Pedestrian Walk [s]      | 0 |
| Pedestrian Clearance [s] | 0 |

**Lane Group Calculations**

| Lane Group                              | L     | C     | C    | C    |  | C     | R     |
|-----------------------------------------|-------|-------|------|------|--|-------|-------|
| C, Calculated Cycle Length [s]          | 131   | 131   | 131  | 131  |  | 131   | 131   |
| L, Total Lost Time per Cycle [s]        | 4.00  | 4.00  | 4.00 | 4.00 |  | 4.00  | 4.00  |
| l1_p, Permitted Start-Up Lost Time [s]  | 0.00  | 0.00  | 0.00 | 0.00 |  | 0.00  | 0.00  |
| l2, Clearance Lost Time [s]             | 0.00  | 2.00  | 2.00 | 2.00 |  | 2.00  | 2.00  |
| g_i, Effective Green Time [s]           | 102.5 | 56.0  | 82.0 | 82.0 |  | 19.0  | 19.0  |
| g / C, Green / Cycle                    | 0.78  | 0.43  | 0.63 | 0.63 |  | 0.15  | 0.15  |
| (v / s)_i Volume / Saturation Flow Rate | 0.18  | 0.20  | 0.30 | 0.32 |  | 0.11  | 0.06  |
| s, saturation flow rate [veh/h]         | 590   | 1531  | 1869 | 1737 |  | 1811  | 1615  |
| c, Capacity [veh/h]                     | 501   | 654   | 1170 | 1087 |  | 263   | 234   |
| d1, Uniform Delay [s]                   | 13.55 | 42.33 | 4.95 | 5.08 |  | 54.02 | 51.00 |
| k, delay calibration                    | 0.50  | 0.50  | 0.50 | 0.50 |  | 0.50  | 0.50  |
| l, Upstream Filtering Factor            | 1.00  | 1.00  | 1.00 | 1.00 |  | 1.00  | 1.00  |
| d2, Incremental Delay [s]               | 0.97  | 2.33  | 1.42 | 1.76 |  | 20.57 | 5.51  |
| d3, Initial Queue Delay [s]             | 0.00  | 0.00  | 0.00 | 0.00 |  | 0.00  | 0.00  |
| Rp, platoon ratio                       | 0.33  | 0.33  | 1.33 | 1.33 |  | 1.00  | 1.00  |
| PF, progression factor                  | 1.00  | 1.00  | 1.00 | 1.00 |  | 1.00  | 1.00  |

**Lane Group Results**

|                                       |        |        |        |        |  |        |        |
|---------------------------------------|--------|--------|--------|--------|--|--------|--------|
| X, volume / capacity                  | 0.21   | 0.46   | 0.48   | 0.52   |  | 0.78   | 0.42   |
| d, Delay for Lane Group [s/veh]       | 14.53  | 44.66  | 6.37   | 6.84   |  | 74.59  | 56.51  |
| Lane Group LOS                        | B      | D      | A      | A      |  | E      | E      |
| Critical Lane Group                   | Yes    | No     | No     | Yes    |  | Yes    | No     |
| 50th-Percentile Queue Length [veh/ln] | 2.72   | 10.22  | 3.61   | 3.72   |  | 7.90   | 3.26   |
| 50th-Percentile Queue Length [ft/ln]  | 67.93  | 255.62 | 90.16  | 92.90  |  | 197.59 | 81.59  |
| 95th-Percentile Queue Length [veh/ln] | 4.89   | 15.47  | 6.49   | 6.69   |  | 12.51  | 5.87   |
| 95th-Percentile Queue Length [ft/ln]  | 122.27 | 386.72 | 162.29 | 167.21 |  | 312.85 | 146.86 |

**Movement, Approach, & Intersection Results**

|                                 |       |       |      |      |      |      |      |      |      |       |       |       |
|---------------------------------|-------|-------|------|------|------|------|------|------|------|-------|-------|-------|
| d_M, Delay for Movement [s/veh] | 14.53 | 44.66 | 0.00 | 0.00 | 6.54 | 6.84 | 0.00 | 0.00 | 0.00 | 74.59 | 74.59 | 56.51 |
| Movement LOS                    | B     | D     |      |      | A    | A    |      |      |      | E     | E     | E     |
| d_A, Approach Delay [s/veh]     | 36.78 |       |      | 6.61 |      |      | 0.00 |      |      | 68.72 |       |       |
| Approach LOS                    | D     |       |      | A    |      |      | A    |      |      | E     |       |       |
| d_I, Intersection Delay [s/veh] | 23.61 |       |      |      |      |      |      |      |      |       |       |       |
| Intersection LOS                | C     |       |      |      |      |      |      |      |      |       |       |       |
| Intersection V/C                | 0.549 |       |      |      |      |      |      |      |      |       |       |       |

**Emissions**

|                              |       |        |        |        |  |        |        |
|------------------------------|-------|--------|--------|--------|--|--------|--------|
| Vehicle Miles Traveled [mph] | 11.35 | 32.03  | 28.05  | 28.05  |  | 20.67  | 9.93   |
| Stops [stops/h]              | 74.67 | 280.98 | 99.11  | 102.12 |  | 217.20 | 89.69  |
| Fuel consumption [US gal/h]  | 1.11  | 5.26   | 2.37   | 2.44   |  | 6.54   | 2.59   |
| CO [g/h]                     | 77.81 | 367.85 | 165.78 | 170.34 |  | 456.84 | 181.32 |
| NOx [g/h]                    | 15.14 | 71.57  | 32.25  | 33.14  |  | 88.88  | 35.28  |
| VOC [g/h]                    | 18.03 | 85.25  | 38.42  | 39.48  |  | 105.88 | 42.02  |

**Other Modes**

|                                                          |       |        |        |       |
|----------------------------------------------------------|-------|--------|--------|-------|
| g_Walk,mi, Effective Walk Time [s]                       | 11.0  | 0.0    | 11.0   | 11.0  |
| M_corner, Corner Circulation Area [ft <sup>2</sup> /ped] | 0.00  | 753.15 | 753.15 | 0.00  |
| M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]  | 0.00  | 0.00   | 0.00   | 0.00  |
| d_p, Pedestrian Delay [s]                                | 54.96 | 0.00   | 54.96  | 54.96 |
| I_p,int, Pedestrian LOS Score for Intersectio            | 2.454 | 0.000  | 1.899  | 2.376 |
| Crosswalk LOS                                            | B     | F      | A      | B     |
| s_b, Saturation Flow Rate of the bicycle lane            | 2000  | 2000   | 2000   | 2000  |
| c_b, Capacity of the bicycle lane [bicycles/h]           | 832   | 1229   | 0      | 267   |
| d_b, Bicycle Delay [s]                                   | 22.34 | 9.73   | 65.50  | 49.17 |
| I_b,int, Bicycle LOS Score for Intersection              | 2.234 | 2.561  | 4.132  | 2.385 |
| Bicycle LOS                                              | B     | B      | D      | B     |

**Sequence**

|        |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|--------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | 1 | 2 | 7 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | 5 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |



**Intersection Level Of Service Report**  
**Intersection 5: 10th Street/I-205 NB Ramp**

|                  |                 |                           |       |
|------------------|-----------------|---------------------------|-------|
| Control Type:    | Signalized      | Delay (sec / veh):        | 20.3  |
| Analysis Method: | HCM 7th Edition | Level Of Service:         | C     |
| Analysis Period: | 15 minutes      | Volume to Capacity (v/c): | 0.637 |

**Intersection Setup**

| Name                         | 10th Street                                                                       |        |       | 10th Street                                                                       |        |        | I-205 NB Exit Ramp                                                                  |        |        | I-205 NB Entry Ramp |        |        |
|------------------------------|-----------------------------------------------------------------------------------|--------|-------|-----------------------------------------------------------------------------------|--------|--------|-------------------------------------------------------------------------------------|--------|--------|---------------------|--------|--------|
| Approach                     | Northbound                                                                        |        |       | Southbound                                                                        |        |        | Eastbound                                                                           |        |        | Westbound           |        |        |
| Lane Configuration           |  |        |       |  |        |        |  |        |        |                     |        |        |
| Turning Movement             | Left                                                                              | Thru   | Right | Left                                                                              | Thru   | Right  | Left                                                                                | Thru   | Right  | Left                | Thru   | Right  |
| Lane Width [ft]              | 12.00                                                                             | 12.00  | 12.00 | 12.00                                                                             | 12.00  | 12.00  | 12.00                                                                               | 12.00  | 12.00  | 12.00               | 12.00  | 12.00  |
| No. of Lanes in Entry Pocket | 0                                                                                 | 0      | 1     | 1                                                                                 | 0      | 0      | 0                                                                                   | 0      | 1      | 0                   | 0      | 0      |
| Entry Pocket Length [ft]     | 100.00                                                                            | 100.00 | 60.00 | 100.00                                                                            | 100.00 | 100.00 | 100.00                                                                              | 100.00 | 100.00 | 100.00              | 100.00 | 100.00 |
| No. of Lanes in Exit Pocket  | 0                                                                                 | 0      | 0     | 0                                                                                 | 0      | 0      | 0                                                                                   | 0      | 0      | 0                   | 0      | 0      |
| Exit Pocket Length [ft]      | 0.00                                                                              | 0.00   | 0.00  | 0.00                                                                              | 0.00   | 0.00   | 0.00                                                                                | 0.00   | 0.00   | 0.00                | 0.00   | 0.00   |
| Speed [mph]                  | 25.00                                                                             |        |       | 25.00                                                                             |        |        | 45.00                                                                               |        |        | 30.00               |        |        |
| Grade [%]                    | 0.00                                                                              |        |       | 0.00                                                                              |        |        | -4.00                                                                               |        |        | 0.00                |        |        |
| Curb Present                 | No                                                                                |        |       | No                                                                                |        |        | No                                                                                  |        |        |                     |        |        |
| Crosswalk                    | Yes                                                                               |        |       | No                                                                                |        |        | Yes                                                                                 |        |        | Yes                 |        |        |

**Volumes**

| Name                                        | 10th Street |        |        | 10th Street |        |        | I-205 NB Exit Ramp |        |        | I-205 NB Entry Ramp |        |        |
|---------------------------------------------|-------------|--------|--------|-------------|--------|--------|--------------------|--------|--------|---------------------|--------|--------|
| Base Volume Input [veh/h]                   | 0           | 329    | 514    | 561         | 475    | 0      | 60                 | 2      | 49     | 0                   | 0      | 0      |
| Base Volume Adjustment Factor               | 1.0000      | 1.0000 | 1.0000 | 1.0000      | 1.0000 | 1.0000 | 1.0000             | 1.0000 | 1.0000 | 1.0000              | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%]               | 2.00        | 3.00   | 2.00   | 3.00        | 0.00   | 2.00   | 0.00               | 50.00  | 2.00   | 2.00                | 2.00   | 2.00   |
| Proportion of CAVs [%]                      | 0.00        |        |        |             |        |        |                    |        |        |                     |        |        |
| Growth Factor                               | 1.0000      | 1.0000 | 1.0000 | 1.0000      | 1.0000 | 1.0000 | 1.0000             | 1.0000 | 1.0000 | 1.0000              | 1.0000 | 1.0000 |
| In-Process Volume [veh/h]                   | 0           | 0      | 0      | 0           | 0      | 0      | 0                  | 0      | 0      | 0                   | 0      | 0      |
| Site-Generated Trips [veh/h]                | 0           | 0      | 0      | 0           | 0      | 0      | 0                  | 0      | 0      | 0                   | 0      | 0      |
| Diverted Trips [veh/h]                      | 0           | 0      | 0      | 0           | 0      | 0      | 0                  | 0      | 0      | 0                   | 0      | 0      |
| Pass-by Trips [veh/h]                       | 0           | 0      | 0      | 0           | 0      | 0      | 0                  | 0      | 0      | 0                   | 0      | 0      |
| Existing Site Adjustment Volume [veh/h]     | 0           | 0      | 0      | 0           | 0      | 0      | 0                  | 0      | 0      | 0                   | 0      | 0      |
| Other Volume [veh/h]                        | 0           | 0      | 0      | 0           | 0      | 0      | 0                  | 0      | 0      | 0                   | 0      | 0      |
| Right Turn on Red Volume [veh/h]            | 0           | 0      | 63     | 0           | 0      | 0      | 0                  | 0      | 35     | 0                   | 0      | 0      |
| Total Hourly Volume [veh/h]                 | 0           | 329    | 451    | 561         | 475    | 0      | 60                 | 2      | 14     | 0                   | 0      | 0      |
| Peak Hour Factor                            | 1.0000      | 0.9700 | 0.9700 | 0.9700      | 0.9700 | 1.0000 | 0.9700             | 0.9700 | 0.9700 | 1.0000              | 1.0000 | 1.0000 |
| Other Adjustment Factor                     | 1.0000      | 1.0000 | 1.0000 | 1.0000      | 1.0000 | 1.0000 | 1.0000             | 1.0000 | 1.0000 | 1.0000              | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h]              | 0           | 85     | 116    | 145         | 122    | 0      | 15                 | 1      | 4      | 0                   | 0      | 0      |
| Total Analysis Volume [veh/h]               | 0           | 339    | 465    | 578         | 490    | 0      | 62                 | 2      | 14     | 0                   | 0      | 0      |
| Presence of On-Street Parking               | No          |        | No     | No          |        | No     | No                 |        | No     |                     |        |        |
| On-Street Parking Maneuver Rate [/h]        | 0           | 0      | 0      | 0           | 0      | 0      | 0                  | 0      | 0      | 0                   | 0      | 0      |
| Local Bus Stopping Rate [/h]                | 0           | 0      | 0      | 0           | 0      | 0      | 0                  | 0      | 0      | 0                   | 0      | 0      |
| v_do, Outbound Pedestrian Volume crossing   | 0           |        |        | 0           |        |        | 0                  |        |        | 0                   |        |        |
| v_di, Inbound Pedestrian Volume crossing m  | 0           |        |        | 0           |        |        | 0                  |        |        | 0                   |        |        |
| v_co, Outbound Pedestrian Volume crossing   | 0           |        |        | 3           |        |        | 4                  |        |        | 0                   |        |        |
| v_ci, Inbound Pedestrian Volume crossing mi | 0           |        |        | 4           |        |        | 3                  |        |        | 0                   |        |        |
| v_ab, Corner Pedestrian Volume [ped/h]      | 0           |        |        | 0           |        |        | 0                  |        |        | 0                   |        |        |
| Bicycle Volume [bicycles/h]                 | 0           |        |        | 0           |        |        | 0                  |        |        | 0                   |        |        |

**Intersection Settings**

|                           |                                       |
|---------------------------|---------------------------------------|
| Located in CBD            | No                                    |
| Signal Coordination Group | -                                     |
| Cycle Length [s]          | 90                                    |
| Active Pattern            | Free Running (No Pattern)             |
| Coordination Type         | <i>Free Running</i>                   |
| Actuation Type            | <i>Fully actuated</i>                 |
| Offset [s]                | 0.0                                   |
| Offset Reference          | Lead Green - Beginning of First Green |
| Permissive Mode           | SingleBand                            |
| Lost time [s]             | 12.00                                 |

**Phasing & Timing (Basic)**

| Control Type                    | Permiss | Permiss | Permiss | ProtPer | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss |
|---------------------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| Flashing Yellow Arrow           |         |         |         | No      |         |         |         |         |         |         |         |         |
| Signal Group                    | 0       | 6       | 0       | 5       | 2       | 0       | 5       | 8       | 0       | 0       | 0       | 0       |
| Auxiliary Signal Groups         |         |         |         |         |         |         |         |         |         |         |         |         |
| Maximum Green [s]               | 0       | 50      | 0       | 45      | 30      | 0       | 45      | 20      | 0       | 0       | 0       | 0       |
| Amber [s]                       | 0.0     | 4.0     | 0.0     | 4.0     | 4.0     | 0.0     | 4.0     | 4.0     | 0.0     | 0.0     | 0.0     | 0.0     |
| All red [s]                     | 0.0     | 1.0     | 0.0     | 1.0     | 1.0     | 0.0     | 1.0     | 1.0     | 0.0     | 0.0     | 0.0     | 0.0     |
| Walk [s]                        | 0.0     | 7.0     | 0.0     | 0.0     | 7.0     | 0.0     | 0.0     | 7.0     | 0.0     | 0.0     | 0.0     | 0.0     |
| Pedestrian Clearance [s]        | 0.0     | 10.0    | 0.0     | 0.0     | 15.0    | 0.0     | 0.0     | 17.0    | 0.0     | 0.0     | 0.0     | 0.0     |
| Delayed Vehicle Green [s]       | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     |
| Rest In Walk                    |         | No      |         |         | No      |         |         | No      |         |         |         |         |
| I1, Start-Up Lost Time [s]      | 0.0     | 2.0     | 0.0     | 2.0     | 2.0     | 0.0     | 2.0     | 2.0     | 0.0     | 0.0     | 0.0     | 0.0     |
| I2, Clearance Lost Time [s]     | 0.0     | 3.0     | 0.0     | 3.0     | 3.0     | 0.0     | 3.0     | 3.0     | 0.0     | 0.0     | 0.0     | 0.0     |
| Detector Location [ft]          | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     |
| Detector Length [ft]            | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     |
| Advanced Detector Location [ft] | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     |
| Advanced Detector Length [ft]   | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     |
| I, Upstream Filtering Factor    | 1.00    | 1.00    | 1.00    | 1.00    | 1.00    | 1.00    | 1.00    | 1.00    | 1.00    | 1.00    | 1.00    | 1.00    |

**Phasing & Timing: Free Running (No Pattern)**

|                       |     |      |     |      |      |     |      |      |     |     |     |     |
|-----------------------|-----|------|-----|------|------|-----|------|------|-----|-----|-----|-----|
| Split [s]             | 0.0 | 14.0 | 0.0 | 9.0  | 14.0 | 0.0 | 9.0  | 14.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Lead / Lag            | -   | -    | -   | Lead | -    | -   | Lead | -    | -   | -   | -   | -   |
| Minimum Green [s]     | 0   | 10   | 0   | 4    | 10   | 0   | 4    | 6    | 0   | 0   | 0   | 0   |
| Vehicle Extension [s] | 0.0 | 6.9  | 0.0 | 2.3  | 6.9  | 0.0 | 2.3  | 2.3  | 0.0 | 0.0 | 0.0 | 0.0 |
| Minimum Recall        |     | Yes  |     | No   | Yes  |     |      | No   |     |     |     |     |
| Maximum Recall        |     | Yes  |     | Yes  | Yes  |     |      | No   |     |     |     |     |
| Pedestrian Recall     |     | No   |     | No   | No   |     |      | No   |     |     |     |     |

**Exclusive Pedestrian Phase**

|                          |   |
|--------------------------|---|
| Pedestrian Signal Group  | 0 |
| Pedestrian Walk [s]      | 0 |
| Pedestrian Clearance [s] | 0 |

**Lane Group Calculations**

| Lane Group                              | C     | R     | L     | C     | C     | R     |  |
|-----------------------------------------|-------|-------|-------|-------|-------|-------|--|
| C, Calculated Cycle Length [s]          | 118   | 118   | 118   | 118   | 118   | 118   |  |
| L, Total Lost Time per Cycle [s]        | 5.00  | 5.00  | 5.00  | 5.00  | 5.00  | 5.00  |  |
| l1_p, Permitted Start-Up Lost Time [s]  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  |  |
| l2, Clearance Lost Time [s]             | 3.00  | 3.00  | 0.00  | 3.00  | 3.00  | 3.00  |  |
| g_i, Effective Green Time [s]           | 50.0  | 50.0  | 100.0 | 100.0 | 8.2   | 8.2   |  |
| g / C, Green / Cycle                    | 0.42  | 0.42  | 0.85  | 0.85  | 0.07  | 0.07  |  |
| (v / s)_i Volume / Saturation Flow Rate | 0.18  | 0.29  | 0.48  | 0.26  | 0.06  | 0.01  |  |
| s, saturation flow rate [veh/h]         | 1855  | 1589  | 1192  | 1900  | 1105  | 1589  |  |
| c, Capacity [veh/h]                     | 785   | 673   | 1014  | 1608  | 76    | 110   |  |
| d1, Uniform Delay [s]                   | 24.06 | 27.79 | 8.66  | 7.45  | 54.35 | 51.65 |  |
| k, delay calibration                    | 0.50  | 0.50  | 0.50  | 0.50  | 0.07  | 0.07  |  |
| l, Upstream Filtering Factor            | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  |  |
| d2, Incremental Delay [s]               | 1.73  | 5.76  | 2.33  | 0.49  | 13.59 | 0.32  |  |
| d3, Initial Queue Delay [s]             | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  |  |
| Rp, platoon ratio                       | 1.00  | 1.00  | 0.67  | 0.67  | 1.00  | 1.00  |  |
| PF, progression factor                  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  |  |

**Lane Group Results**

|                                       |        |        |        |        |       |       |  |
|---------------------------------------|--------|--------|--------|--------|-------|-------|--|
| X, volume / capacity                  | 0.43   | 0.69   | 0.57   | 0.30   | 0.84  | 0.13  |  |
| d, Delay for Lane Group [s/veh]       | 25.79  | 33.55  | 10.98  | 7.94   | 67.94 | 51.97 |  |
| Lane Group LOS                        | C      | C      | B      | A      | E     | D     |  |
| Critical Lane Group                   | No     | Yes    | Yes    | No     | Yes   | No    |  |
| 50th-Percentile Queue Length [veh/ln] | 7.13   | 11.77  | 9.92   | 7.63   | 2.12  | 0.39  |  |
| 50th-Percentile Queue Length [ft/ln]  | 178.20 | 294.30 | 247.95 | 190.83 | 53.05 | 9.77  |  |
| 95th-Percentile Queue Length [veh/ln] | 11.51  | 17.40  | 15.08  | 12.16  | 3.82  | 0.70  |  |
| 95th-Percentile Queue Length [ft/ln]  | 287.66 | 434.97 | 377.07 | 304.11 | 95.48 | 17.59 |  |

**Movement, Approach, & Intersection Results**

|                                 |       |       |       |       |      |      |       |       |       |      |      |      |
|---------------------------------|-------|-------|-------|-------|------|------|-------|-------|-------|------|------|------|
| d_M, Delay for Movement [s/veh] | 0.00  | 25.79 | 33.55 | 10.98 | 7.94 | 0.00 | 67.94 | 67.94 | 51.97 | 0.00 | 0.00 | 0.00 |
| Movement LOS                    |       | C     | C     | B     | A    |      | E     | E     | D     |      |      |      |
| d_A, Approach Delay [s/veh]     | 30.28 |       |       | 9.59  |      |      | 65.07 |       |       | 0.00 |      |      |
| Approach LOS                    | C     |       |       | A     |      |      | E     |       |       | A    |      |      |
| d_I, Intersection Delay [s/veh] | 20.34 |       |       |       |      |      |       |       |       |      |      |      |
| Intersection LOS                | C     |       |       |       |      |      |       |       |       |      |      |      |
| Intersection V/C                | 0.637 |       |       |       |      |      |       |       |       |      |      |      |

**Emissions**

|                              |        |        |        |        |        |       |  |
|------------------------------|--------|--------|--------|--------|--------|-------|--|
| Vehicle Miles Traveled [mph] | 20.04  | 27.49  | 61.30  | 51.97  | 4.91   | 1.07  |  |
| Stops [stops/h]              | 217.18 | 358.68 | 302.19 | 232.58 | 64.65  | 11.91 |  |
| Fuel consumption [US gal/h]  | 3.51   | 5.79   | 5.21   | 4.02   | 1.86   | 0.33  |  |
| CO [g/h]                     | 245.59 | 404.48 | 364.03 | 281.10 | 129.80 | 23.27 |  |
| NOx [g/h]                    | 47.78  | 78.70  | 70.83  | 54.69  | 25.25  | 4.53  |  |
| VOC [g/h]                    | 56.92  | 93.74  | 84.37  | 65.15  | 30.08  | 5.39  |  |

**Other Modes**

|                                                          |       |  |        |  |        |  |       |
|----------------------------------------------------------|-------|--|--------|--|--------|--|-------|
| g_Walk,mi, Effective Walk Time [s]                       | 11.0  |  | 0.0    |  | 11.0   |  | 11.0  |
| M_corner, Corner Circulation Area [ft <sup>2</sup> /ped] | 0.00  |  | 423.97 |  | 415.29 |  | 0.00  |
| M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]  | 0.00  |  | 0.00   |  | 911.46 |  | 0.00  |
| d_p, Pedestrian Delay [s]                                | 48.59 |  | 0.00   |  | 48.59  |  | 48.59 |
| I_p,int, Pedestrian LOS Score for Intersectio            | 2.424 |  | 0.000  |  | 1.860  |  | 2.758 |
| Crosswalk LOS                                            | B     |  | F      |  | A      |  | C     |
| s_b, Saturation Flow Rate of the bicycle lane            | 2000  |  | 2000   |  | 2000   |  | 2000  |
| c_b, Capacity of the bicycle lane [bicycles/h]           | 846   |  | 508    |  | 339    |  | 0     |
| d_b, Bicycle Delay [s]                                   | 19.66 |  | 32.89  |  | 40.77  |  | 59.08 |
| I_b,int, Bicycle LOS Score for Intersection              | 2.990 |  | 3.322  |  | 1.746  |  | 4.132 |
| Bicycle LOS                                              | C     |  | C      |  | A      |  | D     |

**Sequence**

|        |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|--------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | 2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | 5 | 6 | 8 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |



**Intersection Level Of Service Report**  
**Intersection 6: 10th Street/8th Avenue/8th Court**

|                  |                 |                           |       |
|------------------|-----------------|---------------------------|-------|
| Control Type:    | Two-way stop    | Delay (sec / veh):        | 115.8 |
| Analysis Method: | HCM 7th Edition | Level Of Service:         | F     |
| Analysis Period: | 15 minutes      | Volume to Capacity (v/c): | 0.495 |

**Intersection Setup**

| Name                         | 10th Street |        |        | 10th Street |        |        | 8th Avenue |        |        | 8th Court |        |       |
|------------------------------|-------------|--------|--------|-------------|--------|--------|------------|--------|--------|-----------|--------|-------|
| Approach                     | Northbound  |        |        | Southbound  |        |        | Eastbound  |        |        | Westbound |        |       |
| Lane Configuration           |             |        |        |             |        |        |            |        |        |           |        |       |
| Turning Movement             | Left        | Thru   | Right  | Left        | Thru   | Right  | Left       | Thru   | Right  | Left      | Thru   | Right |
| Lane Width [ft]              | 12.00       | 12.00  | 12.00  | 12.00       | 12.00  | 12.00  | 12.00      | 12.00  | 12.00  | 12.00     | 12.00  | 12.00 |
| No. of Lanes in Entry Pocket | 0           | 0      | 0      | 1           | 0      | 0      | 0          | 0      | 0      | 0         | 0      | 1     |
| Entry Pocket Length [ft]     | 100.00      | 100.00 | 100.00 | 90.00       | 100.00 | 100.00 | 100.00     | 100.00 | 100.00 | 100.00    | 100.00 | 60.00 |
| No. of Lanes in Exit Pocket  | 0           | 0      | 0      | 0           | 0      | 0      | 0          | 0      | 0      | 0         | 0      | 0     |
| Exit Pocket Length [ft]      | 0.00        | 0.00   | 0.00   | 0.00        | 0.00   | 0.00   | 0.00       | 0.00   | 0.00   | 0.00      | 0.00   | 0.00  |
| Speed [mph]                  | 25.00       |        |        | 25.00       |        |        | 25.00      |        |        | 25.00     |        |       |
| Grade [%]                    | 0.00        |        |        | 0.00        |        |        | 0.00       |        |        | 0.00      |        |       |
| Crosswalk                    | Yes         |        |        | Yes         |        |        | Yes        |        |        | Yes       |        |       |

**Volumes**

| Name                                    | 10th Street |        |        | 10th Street |        |        | 8th Avenue |        |        | 8th Court |        |        |
|-----------------------------------------|-------------|--------|--------|-------------|--------|--------|------------|--------|--------|-----------|--------|--------|
| Base Volume Input [veh/h]               | 0           | 707    | 51     | 91          | 286    | 147    | 10         | 4      | 239    | 28        | 0      | 126    |
| Base Volume Adjustment Factor           | 1.0000      | 1.0000 | 1.0000 | 1.0000      | 1.0000 | 1.0000 | 1.0000     | 1.0000 | 1.0000 | 1.0000    | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%]           | 0.00        | 2.00   | 2.00   | 0.00        | 1.00   | 0.00   | 0.00       | 0.00   | 1.00   | 0.00      | 2.00   | 1.00   |
| Growth Factor                           | 1.0000      | 1.0000 | 1.0000 | 1.0000      | 1.0000 | 1.0000 | 1.0000     | 1.0000 | 1.0000 | 1.0000    | 1.0000 | 1.0000 |
| In-Process Volume [veh/h]               | 0           | 0      | 0      | 0           | 0      | 0      | 0          | 0      | 0      | 0         | 0      | 0      |
| Site-Generated Trips [veh/h]            | 0           | 0      | 0      | 0           | 0      | 0      | 0          | 0      | 0      | 0         | 0      | 0      |
| Diverted Trips [veh/h]                  | 0           | 0      | 0      | 0           | 0      | 0      | 0          | 0      | 0      | 0         | 0      | 0      |
| Pass-by Trips [veh/h]                   | 0           | 0      | 0      | 0           | 0      | 0      | 0          | 0      | 0      | 0         | 0      | 0      |
| Existing Site Adjustment Volume [veh/h] | 0           | 0      | 0      | 0           | 0      | 0      | 0          | 0      | 0      | 0         | 0      | 0      |
| Other Volume [veh/h]                    | 0           | 0      | 0      | 0           | 0      | 0      | 0          | 0      | 0      | 0         | 0      | 0      |
| Total Hourly Volume [veh/h]             | 0           | 707    | 51     | 91          | 286    | 147    | 10         | 4      | 239    | 28        | 0      | 126    |
| Peak Hour Factor                        | 0.9600      | 0.9600 | 0.9600 | 0.9600      | 0.9600 | 0.9600 | 0.9600     | 0.9600 | 0.9600 | 0.9600    | 1.0000 | 0.9600 |
| Other Adjustment Factor                 | 1.0000      | 1.0000 | 1.0000 | 1.0000      | 1.0000 | 1.0000 | 1.0000     | 1.0000 | 1.0000 | 1.0000    | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h]          | 0           | 184    | 13     | 24          | 74     | 38     | 3          | 1      | 62     | 7         | 0      | 33     |
| Total Analysis Volume [veh/h]           | 0           | 736    | 53     | 95          | 298    | 153    | 10         | 4      | 249    | 29        | 0      | 131    |
| Pedestrian Volume [ped/h]               | 2           |        |        | 0           |        |        | 5          |        |        | 0         |        |        |

**Intersection Settings**

|                                    |      |      |      |      |
|------------------------------------|------|------|------|------|
| Priority Scheme                    | Free | Free | Stop | Stop |
| Flared Lane                        |      |      | No   |      |
| Storage Area [veh]                 | 0    | 0    | 0    | 0    |
| Two-Stage Gap Acceptance           |      |      | No   | No   |
| Number of Storage Spaces in Median | 0    | 0    | 0    | 0    |

**Movement, Approach, & Intersection Results**

|                                       |      |      |      |      |      |      |       |       |       |        |      |       |
|---------------------------------------|------|------|------|------|------|------|-------|-------|-------|--------|------|-------|
| V/C, Movement V/C Ratio               | 0.00 | 0.01 | 0.00 | 0.11 | 0.00 | 0.00 | 0.14  | 0.03  | 0.38  | 0.49   | 0.00 | 0.32  |
| d_M, Delay for Movement [s/veh]       | 8.24 | 0.00 | 0.00 | 9.83 | 0.00 | 0.00 | 63.98 | 40.78 | 19.02 | 115.81 | 0.00 | 18.03 |
| Movement LOS                          | A    | A    | A    | A    | A    | A    | F     | E     | C     | F      |      | C     |
| 95th-Percentile Queue Length [veh/ln] | 0.00 | 0.00 | 0.00 | 0.38 | 0.00 | 0.00 | 3.22  | 3.22  | 3.22  | 1.93   | 0.00 | 1.37  |
| 95th-Percentile Queue Length [ft/ln]  | 0.00 | 0.00 | 0.00 | 9.53 | 0.00 | 0.00 | 80.53 | 80.53 | 80.53 | 48.26  | 0.00 | 34.33 |
| d_A, Approach Delay [s/veh]           | 0.00 |      |      | 1.71 |      |      | 21.06 |       |       | 35.75  |      |       |
| Approach LOS                          | A    |      |      | A    |      |      | C     |       |       | E      |      |       |
| d_I, Intersection Delay [s/veh]       | 6.94 |      |      |      |      |      |       |       |       |        |      |       |
| Intersection LOS                      | F    |      |      |      |      |      |       |       |       |        |      |       |

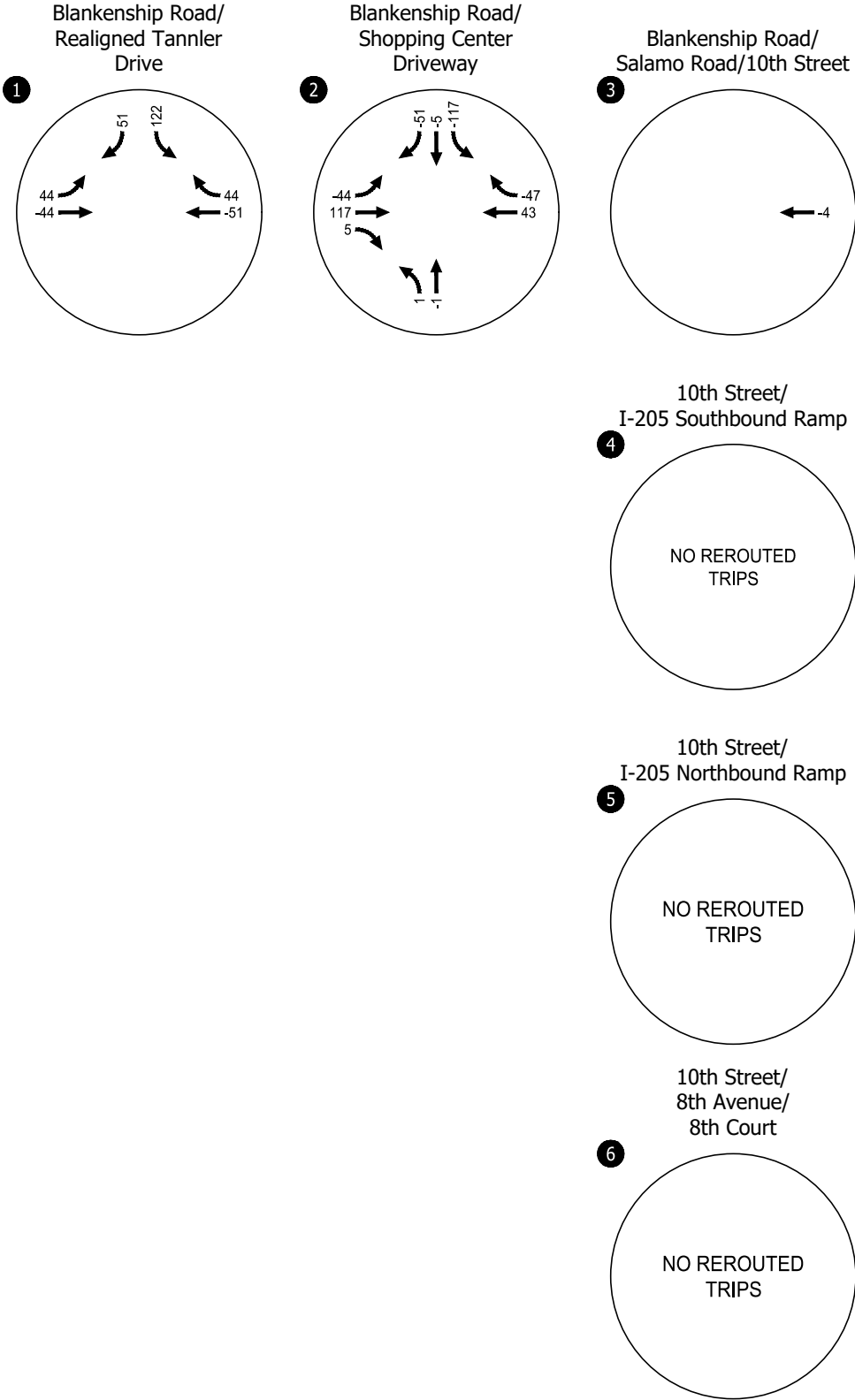
## Appendix F

### Existing Network Trip Reassignment

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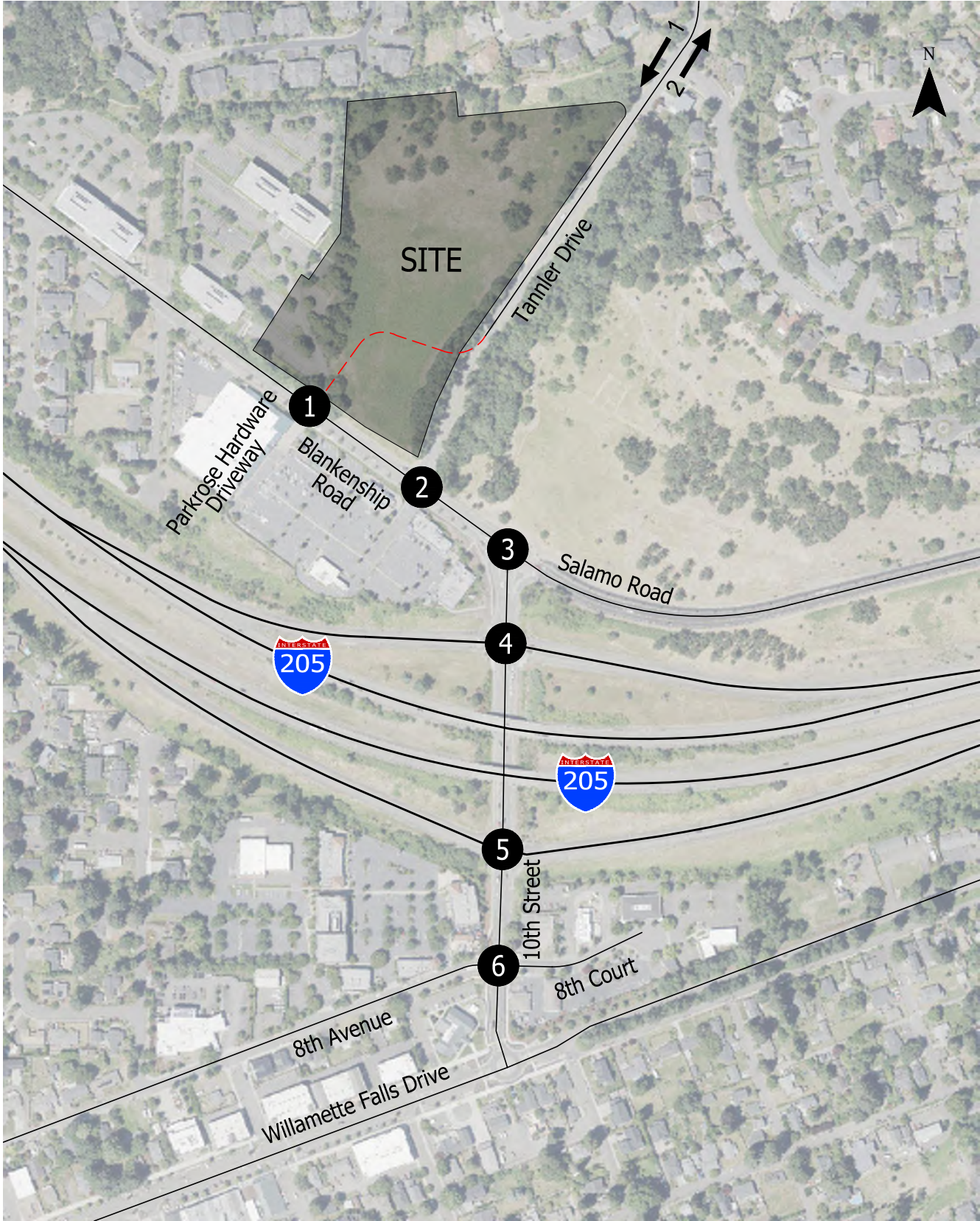
--- - FUTURE PROPOSED ROAD REALIGNMENT



Existing Network Trip Re-assignment  
Weekday AM Peak Hour  
West Linn, OR

Figure  
F-1

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--- - FUTURE PROPOSED ROAD REALIGNMENT



Existing Network Trip Re-assignment  
Weekday PM Peak Hour  
West Linn, OR

Figure  
F-2

Appendix G  
Year 2029 Full Buildout Traffic Conditions  
Analysis Worksheets

**Intersection Level Of Service Report****Intersection 1: Blankenship Road/Realigned Tannler Drive**

|                  |                 |                           |       |
|------------------|-----------------|---------------------------|-------|
| Control Type:    | Signalized      | Delay (sec / veh):        | 19.6  |
| Analysis Method: | HCM 7th Edition | Level Of Service:         | B     |
| Analysis Period: | 15 minutes      | Volume to Capacity (v/c): | 0.494 |

**Intersection Setup**

| Name                         | Pa Ha                                                                             |        |        | Realigned Tannler Drive                                                           |        |        | Blankenship Road                                                                    |        |        | Blankenship Road                                                                    |        |        |
|------------------------------|-----------------------------------------------------------------------------------|--------|--------|-----------------------------------------------------------------------------------|--------|--------|-------------------------------------------------------------------------------------|--------|--------|-------------------------------------------------------------------------------------|--------|--------|
| Approach                     | Northbound                                                                        |        |        | Southbound                                                                        |        |        | Eastbound                                                                           |        |        | Westbound                                                                           |        |        |
| Lane Configuration           |  |        |        |  |        |        |  |        |        |  |        |        |
| Turning Movement             | Left                                                                              | Thru   | Right  | Left                                                                              | Thru   | Right  | Left                                                                                | Thru   | Right  | Left                                                                                | Thru   | Right  |
| Lane Width [ft]              | 12.00                                                                             | 12.00  | 12.00  | 12.00                                                                             | 12.00  | 12.00  | 12.00                                                                               | 12.00  | 12.00  | 12.00                                                                               | 12.00  | 12.00  |
| No. of Lanes in Entry Pocket | 0                                                                                 | 0      | 0      | 0                                                                                 | 0      | 0      | 1                                                                                   | 0      | 0      | 1                                                                                   | 0      | 0      |
| Entry Pocket Length [ft]     | 100.00                                                                            | 100.00 | 100.00 | 100.00                                                                            | 100.00 | 100.00 | 100.00                                                                              | 100.00 | 100.00 | 150.00                                                                              | 100.00 | 100.00 |
| No. of Lanes in Exit Pocket  | 0                                                                                 | 0      | 0      | 0                                                                                 | 0      | 0      | 0                                                                                   | 0      | 0      | 0                                                                                   | 0      | 0      |
| Exit Pocket Length [ft]      | 0.00                                                                              | 0.00   | 0.00   | 0.00                                                                              | 0.00   | 0.00   | 0.00                                                                                | 0.00   | 0.00   | 0.00                                                                                | 0.00   | 0.00   |
| Speed [mph]                  | 25.00                                                                             |        |        | 25.00                                                                             |        |        | 25.00                                                                               |        |        | 25.00                                                                               |        |        |
| Grade [%]                    | 12.00                                                                             |        |        | 0.00                                                                              |        |        | 0.00                                                                                |        |        | 0.00                                                                                |        |        |
| Curb Present                 | No                                                                                |        |        | No                                                                                |        |        | No                                                                                  |        |        | No                                                                                  |        |        |
| Crosswalk                    | Yes                                                                               |        |        | Yes                                                                               |        |        | Yes                                                                                 |        |        | Yes                                                                                 |        |        |

**Volumes**

| Name                                        | Pa Ha  |        |        | Realigned Tannler Drive |        |        | Blankenship Road |        |        | Blankenship Road |        |        |
|---------------------------------------------|--------|--------|--------|-------------------------|--------|--------|------------------|--------|--------|------------------|--------|--------|
| Base Volume Input [veh/h]                   | 13     | 0      | 39     | 228                     | 1      | 52     | 44               | 354    | 8      | 18               | 206    | 118    |
| Base Volume Adjustment Factor               | 1.0000 | 1.0000 | 1.0000 | 1.0000                  | 1.0000 | 1.0000 | 1.0000           | 1.0000 | 1.0000 | 1.0000           | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%]               | 0.00   | 0.00   | 9.00   | 1.00                    | 0.00   | 0.00   | 5.00             | 2.00   | 0.00   | 0.00             | 5.00   | 5.00   |
| Proportion of CAVs [%]                      | 0.00   |        |        |                         |        |        |                  |        |        |                  |        |        |
| Growth Factor                               | 1.0000 | 1.0000 | 1.0000 | 1.0000                  | 1.0000 | 1.0000 | 1.0000           | 1.0000 | 1.0000 | 1.0000           | 1.0000 | 1.0000 |
| In-Process Volume [veh/h]                   | 0      | 0      | 0      | 0                       | 0      | 0      | 0                | 0      | 0      | 0                | 0      | 0      |
| Site-Generated Trips [veh/h]                | 0      | 0      | 0      | 0                       | 0      | 0      | 0                | 0      | 0      | 0                | 0      | 0      |
| Diverted Trips [veh/h]                      | 0      | 0      | 0      | 0                       | 0      | 0      | 0                | 0      | 0      | 0                | 0      | 0      |
| Pass-by Trips [veh/h]                       | 0      | 0      | 0      | 0                       | 0      | 0      | 0                | 0      | 0      | 0                | 0      | 0      |
| Existing Site Adjustment Volume [veh/h]     | 0      | 0      | 0      | 0                       | 0      | 0      | 0                | 0      | 0      | 0                | 0      | 0      |
| Other Volume [veh/h]                        | 0      | 0      | 0      | 0                       | 0      | 0      | 0                | 0      | 0      | 0                | 0      | 0      |
| Right Turn on Red Volume [veh/h]            | 0      | 0      | 0      | 0                       | 0      | 0      | 0                | 0      | 0      | 0                | 0      | 0      |
| Total Hourly Volume [veh/h]                 | 13     | 0      | 39     | 228                     | 1      | 52     | 44               | 354    | 8      | 18               | 206    | 118    |
| Peak Hour Factor                            | 0.8900 | 0.8900 | 0.8900 | 0.8900                  | 0.8900 | 0.8900 | 0.8900           | 0.8900 | 0.8900 | 0.8900           | 0.8900 | 0.8900 |
| Other Adjustment Factor                     | 1.0000 | 1.0000 | 1.0000 | 1.0000                  | 1.0000 | 1.0000 | 1.0000           | 1.0000 | 1.0000 | 1.0000           | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h]              | 4      | 0      | 11     | 64                      | 0      | 15     | 12               | 99     | 2      | 5                | 58     | 33     |
| Total Analysis Volume [veh/h]               | 15     | 0      | 44     | 256                     | 1      | 58     | 49               | 398    | 9      | 20               | 231    | 133    |
| Presence of On-Street Parking               | No     |        | No     | No                      |        | No     | No               |        | No     | No               |        | No     |
| On-Street Parking Maneuver Rate [/h]        | 0      | 0      | 0      | 0                       | 0      | 0      | 0                | 0      | 0      | 0                | 0      | 0      |
| Local Bus Stopping Rate [/h]                | 0      | 0      | 0      | 0                       | 0      | 0      | 0                | 0      | 0      | 0                | 0      | 0      |
| v_do, Outbound Pedestrian Volume crossing   | 5      |        |        | 5                       |        |        | 5                |        |        | 5                |        |        |
| v_di, Inbound Pedestrian Volume crossing m  | 5      |        |        | 5                       |        |        | 5                |        |        | 5                |        |        |
| v_co, Outbound Pedestrian Volume crossing   | 1      |        |        | 5                       |        |        | 1                |        |        | 5                |        |        |
| v_ci, Inbound Pedestrian Volume crossing mi | 1      |        |        | 5                       |        |        | 1                |        |        | 5                |        |        |
| v_ab, Corner Pedestrian Volume [ped/h]      | 0      |        |        | 0                       |        |        | 0                |        |        | 0                |        |        |
| Bicycle Volume [bicycles/h]                 | 3      |        |        | 0                       |        |        | 3                |        |        | 1                |        |        |

**Intersection Settings**

|                           |                                       |
|---------------------------|---------------------------------------|
| Located in CBD            | No                                    |
| Signal Coordination Group | -                                     |
| Cycle Length [s]          | 90                                    |
| Active Pattern            | Free Running (No Pattern)             |
| Coordination Type         | <i>Free Running</i>                   |
| Actuation Type            | <i>Fully actuated</i>                 |
| Offset [s]                | 0.0                                   |
| Offset Reference          | Lead Green - Beginning of First Green |
| Permissive Mode           | SingleBand                            |
| Lost time [s]             | 12.00                                 |

**Phasing & Timing (Basic)**

| Control Type                    | Split | Split | Split | Split | Split | Split | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss |
|---------------------------------|-------|-------|-------|-------|-------|-------|---------|---------|---------|---------|---------|---------|
| Flashing Yellow Arrow           |       |       |       |       |       |       | No      |         |         | No      |         |         |
| Signal Group                    | 0     | 8     | 0     | 0     | 4     | 0     | 0       | 2       | 0       | 0       | 6       | 0       |
| Auxiliary Signal Groups         |       |       |       |       |       |       |         |         |         |         |         |         |
| Maximum Green [s]               | 0     | 10    | 0     | 0     | 15    | 0     | 0       | 30      | 0       | 0       | 30      | 0       |
| Amber [s]                       | 0.0   | 4.0   | 0.0   | 0.0   | 4.0   | 0.0   | 0.0     | 4.0     | 0.0     | 0.0     | 4.0     | 0.0     |
| All red [s]                     | 0.0   | 1.5   | 0.0   | 0.0   | 1.5   | 0.0   | 0.0     | 1.5     | 0.0     | 0.0     | 1.5     | 0.0     |
| Walk [s]                        | 0.0   | 5.0   | 0.0   | 0.0   | 5.0   | 0.0   | 0.0     | 5.0     | 0.0     | 0.0     | 5.0     | 0.0     |
| Pedestrian Clearance [s]        | 0.0   | 17.0  | 0.0   | 0.0   | 17.0  | 0.0   | 0.0     | 17.0    | 0.0     | 0.0     | 17.0    | 0.0     |
| Delayed Vehicle Green [s]       | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     |
| Rest In Walk                    |       | No    |       |       | No    |       |         | No      |         |         | No      |         |
| I1, Start-Up Lost Time [s]      | 0.0   | 2.0   | 0.0   | 0.0   | 2.0   | 0.0   | 0.0     | 2.0     | 0.0     | 0.0     | 2.0     | 0.0     |
| I2, Clearance Lost Time [s]     | 0.0   | 3.5   | 0.0   | 0.0   | 3.5   | 0.0   | 0.0     | 3.5     | 0.0     | 0.0     | 3.5     | 0.0     |
| Detector Location [ft]          | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     |
| Detector Length [ft]            | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     |
| Advanced Detector Location [ft] | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     |
| Advanced Detector Length [ft]   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     |
| I, Upstream Filtering Factor    | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00    | 1.00    | 1.00    | 1.00    | 1.00    | 1.00    |

**Phasing & Timing: Free Running (No Pattern)**

|                       |     |      |     |     |      |     |     |      |     |     |      |     |
|-----------------------|-----|------|-----|-----|------|-----|-----|------|-----|-----|------|-----|
| Split [s]             | 0.0 | 14.0 | 0.0 | 0.0 | 14.0 | 0.0 | 0.0 | 14.0 | 0.0 | 0.0 | 14.0 | 0.0 |
| Lead / Lag            | -   | -    | -   | -   | -    | -   | -   | -    | -   | -   | -    | -   |
| Minimum Green [s]     | 0   | 10   | 0   | 0   | 10   | 0   | 0   | 10   | 0   | 0   | 10   | 0   |
| Vehicle Extension [s] | 0.0 | 3.0  | 0.0 | 0.0 | 3.0  | 0.0 | 0.0 | 3.0  | 0.0 | 0.0 | 3.0  | 0.0 |
| Minimum Recall        |     | No   |     |     | No   |     |     | No   |     |     | No   |     |
| Maximum Recall        |     | No   |     |     | No   |     |     | Yes  |     |     | Yes  |     |
| Pedestrian Recall     |     | No   |     |     | No   |     |     | No   |     |     | No   |     |

**Exclusive Pedestrian Phase**

|                          |   |
|--------------------------|---|
| Pedestrian Signal Group  | 0 |
| Pedestrian Walk [s]      | 0 |
| Pedestrian Clearance [s] | 0 |

**Lane Group Calculations**

| Lane Group                              | C     | C     | R     | L     | C     | L     | C     |
|-----------------------------------------|-------|-------|-------|-------|-------|-------|-------|
| C, Calculated Cycle Length [s]          | 67    | 67    | 67    | 67    | 67    | 67    | 67    |
| L, Total Lost Time per Cycle [s]        | 5.50  | 5.50  | 5.50  | 5.50  | 5.50  | 5.50  | 5.50  |
| l1_p, Permitted Start-Up Lost Time [s]  | 0.00  | 0.00  | 0.00  | 2.00  | 0.00  | 2.00  | 0.00  |
| l2, Clearance Lost Time [s]             | 3.50  | 3.50  | 3.50  | 3.50  | 3.50  | 3.50  | 3.50  |
| g_i, Effective Green Time [s]           | 8.1   | 12.3  | 12.3  | 30.0  | 30.0  | 30.0  | 30.0  |
| g / C, Green / Cycle                    | 0.12  | 0.18  | 0.18  | 0.45  | 0.45  | 0.45  | 0.45  |
| (v / s)_i Volume / Saturation Flow Rate | 0.04  | 0.14  | 0.04  | 0.05  | 0.22  | 0.02  | 0.22  |
| s, saturation flow rate [veh/h]         | 1317  | 1810  | 1571  | 989   | 1861  | 993   | 1692  |
| c, Capacity [veh/h]                     | 160   | 335   | 291   | 370   | 833   | 366   | 757   |
| d1, Uniform Delay [s]                   | 27.10 | 25.94 | 23.09 | 19.05 | 13.09 | 18.70 | 13.03 |
| k, delay calibration                    | 0.11  | 0.12  | 0.11  | 0.50  | 0.50  | 0.50  | 0.50  |
| l, Upstream Filtering Factor            | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  |
| d2, Incremental Delay [s]               | 1.42  | 4.07  | 0.33  | 0.74  | 2.04  | 0.28  | 2.18  |
| d3, Initial Queue Delay [s]             | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  |
| Rp, platoon ratio                       | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  |
| PF, progression factor                  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  |

**Lane Group Results**

|                                       |       |        |       |       |        |       |        |
|---------------------------------------|-------|--------|-------|-------|--------|-------|--------|
| X, volume / capacity                  | 0.37  | 0.77   | 0.20  | 0.13  | 0.49   | 0.05  | 0.48   |
| d, Delay for Lane Group [s/veh]       | 28.52 | 30.01  | 23.42 | 19.79 | 15.13  | 18.98 | 15.21  |
| Lane Group LOS                        | C     | C      | C     | B     | B      | B     | B      |
| Critical Lane Group                   | Yes   | Yes    | No    | No    | Yes    | No    | No     |
| 50th-Percentile Queue Length [veh/ln] | 0.91  | 4.12   | 0.78  | 0.64  | 4.43   | 0.26  | 3.98   |
| 50th-Percentile Queue Length [ft/ln]  | 22.71 | 103.12 | 19.48 | 16.09 | 110.81 | 6.38  | 99.59  |
| 95th-Percentile Queue Length [veh/ln] | 1.64  | 7.42   | 1.40  | 1.16  | 7.89   | 0.46  | 7.17   |
| 95th-Percentile Queue Length [ft/ln]  | 40.88 | 185.61 | 35.06 | 28.95 | 197.13 | 11.48 | 179.26 |

**Movement, Approach, & Intersection Results**

|                                 |       |       |       |       |       |       |       |       |       |       |       |       |
|---------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| d_M, Delay for Movement [s/veh] | 28.52 | 28.52 | 28.52 | 30.01 | 30.01 | 23.42 | 19.79 | 15.13 | 15.13 | 18.98 | 15.21 | 15.21 |
| Movement LOS                    | C     | C     | C     | C     | C     | C     | B     | B     | B     | B     | B     | B     |
| d_A, Approach Delay [s/veh]     | 28.52 |       |       | 28.80 |       |       | 15.63 |       |       | 15.40 |       |       |
| Approach LOS                    | C     |       |       | C     |       |       | B     |       |       | B     |       |       |
| d_I, Intersection Delay [s/veh] | 19.60 |       |       |       |       |       |       |       |       |       |       |       |
| Intersection LOS                | B     |       |       |       |       |       |       |       |       |       |       |       |
| Intersection V/C                | 0.494 |       |       |       |       |       |       |       |       |       |       |       |

**Emissions**

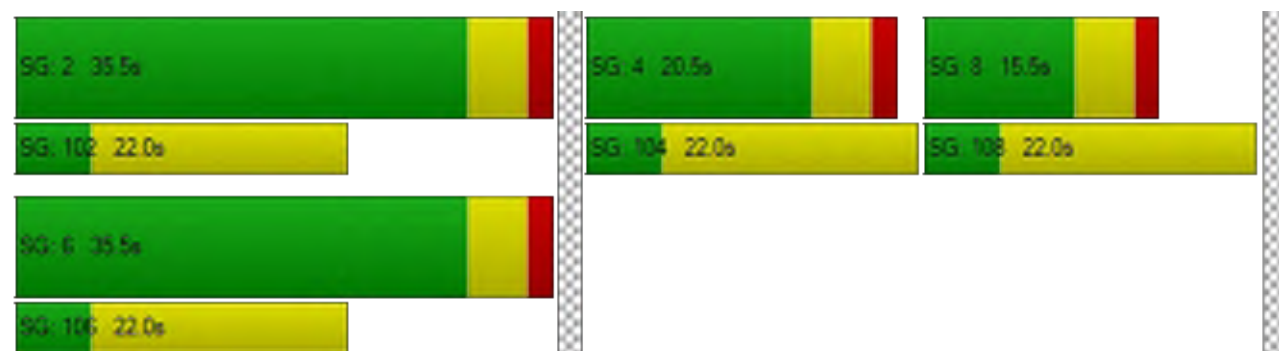
|                              |       |        |       |       |        |       |        |
|------------------------------|-------|--------|-------|-------|--------|-------|--------|
| Vehicle Miles Traveled [mph] | 1.93  | 8.76   | 1.98  | 1.79  | 14.88  | 1.41  | 25.67  |
| Stops [stops/h]              | 48.87 | 221.85 | 41.91 | 34.61 | 238.41 | 13.72 | 214.26 |
| Fuel consumption [US gal/h]  | 0.62  | 2.81   | 0.53  | 0.41  | 2.84   | 0.19  | 3.10   |
| CO [g/h]                     | 43.12 | 196.76 | 36.78 | 28.71 | 198.33 | 13.51 | 216.89 |
| NOx [g/h]                    | 8.39  | 38.28  | 7.16  | 5.59  | 38.59  | 2.63  | 42.20  |
| VOC [g/h]                    | 9.99  | 45.60  | 8.52  | 6.65  | 45.97  | 3.13  | 50.27  |

**Other Modes**

|                                                          |         |        |        |        |
|----------------------------------------------------------|---------|--------|--------|--------|
| g_Walk,mi, Effective Walk Time [s]                       | 9.0     | 9.0    | 9.0    | 9.0    |
| M_corner, Corner Circulation Area [ft <sup>2</sup> /ped] | 246.83  | 141.83 | 246.83 | 141.83 |
| M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]  | 4157.44 | 753.66 | 894.69 | 927.86 |
| d_p, Pedestrian Delay [s]                                | 25.07   | 25.07  | 25.07  | 25.07  |
| I_p,int, Pedestrian LOS Score for Intersectio            | 1.766   | 2.131  | 2.133  | 2.220  |
| Crosswalk LOS                                            | A       | B      | B      | B      |
| s_b, Saturation Flow Rate of the bicycle lane            | 2000    | 2000   | 2000   | 2000   |
| c_b, Capacity of the bicycle lane [bicycles/h]           | 299     | 448    | 896    | 896    |
| d_b, Bicycle Delay [s]                                   | 24.25   | 20.15  | 10.21  | 10.19  |
| I_b,int, Bicycle LOS Score for Intersection              | 1.657   | 2.079  | 2.312  | 2.193  |
| Bicycle LOS                                              | A       | B      | B      | B      |

**Sequence**

|        |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|--------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | 2 | - | 4 | 8 | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | 6 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |



**Intersection Level Of Service Report****Intersection 2: Blankenship Road/Shopping Center Driveway**

|                  |                 |                           |       |
|------------------|-----------------|---------------------------|-------|
| Control Type:    | Two-way stop    | Delay (sec / veh):        | 22.3  |
| Analysis Method: | HCM 7th Edition | Level Of Service:         | C     |
| Analysis Period: | 15 minutes      | Volume to Capacity (v/c): | 0.019 |

**Intersection Setup**

| Name                         | Dutch Bros Driveway                                                               |       | Blankenship Road                                                                    |        | Blankenship Road                                                                    |        |
|------------------------------|-----------------------------------------------------------------------------------|-------|-------------------------------------------------------------------------------------|--------|-------------------------------------------------------------------------------------|--------|
| Approach                     | Northbound                                                                        |       | Eastbound                                                                           |        | Westbound                                                                           |        |
| Lane Configuration           |  |       |  |        |  |        |
| Turning Movement             | Left                                                                              | Right | Thru                                                                                | Right  | Left                                                                                | Thru   |
| Lane Width [ft]              | 12.00                                                                             | 12.00 | 12.00                                                                               | 12.00  | 12.00                                                                               | 12.00  |
| No. of Lanes in Entry Pocket | 0                                                                                 | 1     | 0                                                                                   | 0      | 1                                                                                   | 0      |
| Entry Pocket Length [ft]     | 100.00                                                                            | 90.00 | 100.00                                                                              | 100.00 | 100.00                                                                              | 100.00 |
| No. of Lanes in Exit Pocket  | 0                                                                                 | 0     | 0                                                                                   | 0      | 0                                                                                   | 0      |
| Exit Pocket Length [ft]      | 0.00                                                                              | 0.00  | 0.00                                                                                | 0.00   | 0.00                                                                                | 0.00   |
| Speed [mph]                  | 25.00                                                                             |       | 25.00                                                                               |        | 25.00                                                                               |        |
| Grade [%]                    | 7.00                                                                              |       | 0.00                                                                                |        | 0.00                                                                                |        |
| Crosswalk                    | Yes                                                                               |       | No                                                                                  |        | No                                                                                  |        |

**Volumes**

| Name                                    | Dutch Bros Driveway |        | Blankenship Road |        | Blankenship Road |        |
|-----------------------------------------|---------------------|--------|------------------|--------|------------------|--------|
| Base Volume Input [veh/h]               | 4                   | 51     | 604              | 17     | 108              | 338    |
| Base Volume Adjustment Factor           | 1.0000              | 1.0000 | 1.0000           | 1.0000 | 1.0000           | 1.0000 |
| Heavy Vehicles Percentage [%]           | 0.00                | 4.00   | 2.00             | 0.00   | 2.00             | 5.00   |
| Growth Factor                           | 1.0000              | 1.0000 | 1.0000           | 1.0000 | 1.0000           | 1.0000 |
| In-Process Volume [veh/h]               | 0                   | 0      | 0                | 0      | 0                | 0      |
| Site-Generated Trips [veh/h]            | 0                   | 0      | 0                | 0      | 0                | 0      |
| Diverted Trips [veh/h]                  | 0                   | 0      | 0                | 0      | 0                | 0      |
| Pass-by Trips [veh/h]                   | 0                   | 0      | 0                | 0      | 0                | 0      |
| Existing Site Adjustment Volume [veh/h] | 0                   | 0      | 0                | 0      | 0                | 0      |
| Other Volume [veh/h]                    | 0                   | 0      | 0                | 0      | 0                | 0      |
| Total Hourly Volume [veh/h]             | 4                   | 51     | 604              | 17     | 108              | 338    |
| Peak Hour Factor                        | 0.8900              | 0.8900 | 0.8900           | 0.8900 | 0.8900           | 0.8900 |
| Other Adjustment Factor                 | 1.0000              | 1.0000 | 1.0000           | 1.0000 | 1.0000           | 1.0000 |
| Total 15-Minute Volume [veh/h]          | 1                   | 14     | 170              | 5      | 30               | 95     |
| Total Analysis Volume [veh/h]           | 4                   | 57     | 679              | 19     | 121              | 380    |
| Pedestrian Volume [ped/h]               | 3                   |        | 0                |        | 0                |        |

**Intersection Settings**

|                                    |      |      |      |
|------------------------------------|------|------|------|
| Priority Scheme                    | Stop | Free | Free |
| Flared Lane                        |      |      |      |
| Storage Area [veh]                 | 0    | 0    | 0    |
| Two-Stage Gap Acceptance           | Yes  |      |      |
| Number of Storage Spaces in Median | 1    | 0    | 0    |

**Movement, Approach, & Intersection Results**

|                                       |       |       |      |      |       |      |
|---------------------------------------|-------|-------|------|------|-------|------|
| V/C, Movement V/C Ratio               | 0.02  | 0.15  | 0.01 | 0.00 | 0.14  | 0.00 |
| d_M, Delay for Movement [s/veh]       | 22.30 | 15.99 | 0.00 | 0.00 | 9.66  | 0.00 |
| Movement LOS                          | C     | C     | A    | A    | A     | A    |
| 95th-Percentile Queue Length [veh/ln] | 0.06  | 0.52  | 0.00 | 0.00 | 0.47  | 0.00 |
| 95th-Percentile Queue Length [ft/ln]  | 1.44  | 12.90 | 0.00 | 0.00 | 11.69 | 0.00 |
| d_A, Approach Delay [s/veh]           | 16.41 |       | 0.00 |      | 2.33  |      |
| Approach LOS                          | C     |       | A    |      | A     |      |
| d_I, Intersection Delay [s/veh]       | 1.72  |       |      |      |       |      |
| Intersection LOS                      | C     |       |      |      |       |      |

**Intersection Level Of Service Report****Intersection 3: Blankenship Road/Salamo Road/10th Street**

|                  |                 |                           |       |
|------------------|-----------------|---------------------------|-------|
| Control Type:    | Signalized      | Delay (sec / veh):        | 40.2  |
| Analysis Method: | HCM 7th Edition | Level Of Service:         | D     |
| Analysis Period: | 15 minutes      | Volume to Capacity (v/c): | 0.652 |

**Intersection Setup**

| Name                         | 10th Street                                                                       |        | Blankenship Road                                                                    |        | Salamo Road                                                                         |        |
|------------------------------|-----------------------------------------------------------------------------------|--------|-------------------------------------------------------------------------------------|--------|-------------------------------------------------------------------------------------|--------|
| Approach                     | Northbound                                                                        |        | Eastbound                                                                           |        | Westbound                                                                           |        |
| Lane Configuration           |  |        |  |        |  |        |
| Turning Movement             | Left                                                                              | Right  | Thru                                                                                | Right  | Left                                                                                | Thru   |
| Lane Width [ft]              | 12.00                                                                             | 12.00  | 12.00                                                                               | 12.00  | 12.00                                                                               | 12.00  |
| No. of Lanes in Entry Pocket | 0                                                                                 | 1      | 0                                                                                   | 1      | 1                                                                                   | 0      |
| Entry Pocket Length [ft]     | 100.00                                                                            | 100.00 | 100.00                                                                              | 100.00 | 250.00                                                                              | 100.00 |
| No. of Lanes in Exit Pocket  | 0                                                                                 | 0      | 0                                                                                   | 0      | 0                                                                                   | 0      |
| Exit Pocket Length [ft]      | 0.00                                                                              | 0.00   | 0.00                                                                                | 0.00   | 0.00                                                                                | 0.00   |
| Speed [mph]                  | 25.00                                                                             |        | 25.00                                                                               |        | 35.00                                                                               |        |
| Grade [%]                    | 7.00                                                                              |        | 0.00                                                                                |        | -3.00                                                                               |        |
| Curb Present                 | No                                                                                |        | No                                                                                  |        | No                                                                                  |        |
| Crosswalk                    | Yes                                                                               |        | No                                                                                  |        | No                                                                                  |        |

**Volumes**

| Name                                        | 10th Street |        | Blankenship Road |        | Salamo Road |        |
|---------------------------------------------|-------------|--------|------------------|--------|-------------|--------|
| Base Volume Input [veh/h]                   | 340         | 366    | 68               | 588    | 493         | 106    |
| Base Volume Adjustment Factor               | 1.0000      | 1.0000 | 1.0000           | 1.0000 | 1.0000      | 1.0000 |
| Heavy Vehicles Percentage [%]               | 5.00        | 8.00   | 5.00             | 2.00   | 3.00        | 1.00   |
| Proportion of CAVs [%]                      | 0.00        |        |                  |        |             |        |
| Growth Factor                               | 1.0000      | 1.0000 | 1.0000           | 1.0000 | 1.0000      | 1.0000 |
| In-Process Volume [veh/h]                   | 0           | 0      | 0                | 0      | 0           | 0      |
| Site-Generated Trips [veh/h]                | 0           | 0      | 0                | 0      | 0           | 0      |
| Diverted Trips [veh/h]                      | 0           | 0      | 0                | 0      | 0           | 0      |
| Pass-by Trips [veh/h]                       | 0           | 0      | 0                | 0      | 0           | 0      |
| Existing Site Adjustment Volume [veh/h]     | 0           | 0      | 0                | 0      | 0           | 0      |
| Other Volume [veh/h]                        | 0           | 0      | 0                | 0      | 0           | 0      |
| Right Turn on Red Volume [veh/h]            | 0           | 4      | 0                | 33     | 0           | 0      |
| Total Hourly Volume [veh/h]                 | 340         | 362    | 68               | 555    | 493         | 106    |
| Peak Hour Factor                            | 0.9100      | 0.9100 | 0.9100           | 0.9100 | 0.9100      | 0.9100 |
| Other Adjustment Factor                     | 1.0000      | 1.0000 | 1.0000           | 1.0000 | 1.0000      | 1.0000 |
| Total 15-Minute Volume [veh/h]              | 93          | 99     | 19               | 152    | 135         | 29     |
| Total Analysis Volume [veh/h]               | 374         | 398    | 75               | 610    | 542         | 116    |
| Presence of On-Street Parking               | No          | No     | No               | No     | No          | No     |
| On-Street Parking Maneuver Rate [/h]        | 0           | 0      | 0                | 0      | 0           | 0      |
| Local Bus Stopping Rate [/h]                | 0           | 0      | 0                | 0      | 0           | 0      |
| v_do, Outbound Pedestrian Volume crossing   | 0           |        | 0                |        | 0           |        |
| v_di, Inbound Pedestrian Volume crossing m  | 0           |        | 0                |        | 0           |        |
| v_co, Outbound Pedestrian Volume crossing   | 0           |        | 0                |        | 0           |        |
| v_ci, Inbound Pedestrian Volume crossing mi | 0           |        | 0                |        | 0           |        |
| v_ab, Corner Pedestrian Volume [ped/h]      | 0           |        | 0                |        | 0           |        |
| Bicycle Volume [bicycles/h]                 | 1           |        | 0                |        | 0           |        |

**Intersection Settings**

|                           |                                       |
|---------------------------|---------------------------------------|
| Located in CBD            | No                                    |
| Signal Coordination Group | -                                     |
| Cycle Length [s]          | 90                                    |
| Active Pattern            | Free Running (No Pattern)             |
| Coordination Type         | <i>Free Running</i>                   |
| Actuation Type            | <i>Fully actuated</i>                 |
| Offset [s]                | 0.0                                   |
| Offset Reference          | Lead Green - Beginning of First Green |
| Permissive Mode           | SingleBand                            |
| Lost time [s]             | 12.00                                 |

**Phasing & Timing (Basic)**

| Control Type                    | Overlap | Overlap | Permissive | Overlap | Protected | Permissive |
|---------------------------------|---------|---------|------------|---------|-----------|------------|
| Flashing Yellow Arrow           |         |         |            |         |           |            |
| Signal Group                    | 6       | 6       | 4          | 5       | 3         | 8          |
| Auxiliary Signal Groups         | 5,6,7   | 3,5,6,7 |            | 4,5,7   |           |            |
| Maximum Green [s]               | 6       | 6       | 16         | 40      | 35        | 32         |
| Amber [s]                       | 4.0     | 4.0     | 4.0        | 4.0     | 4.0       | 5.0        |
| All red [s]                     | 1.5     | 1.5     | 1.5        | 1.5     | 1.5       | 1.0        |
| Walk [s]                        | 0.0     | 0.0     | 8.0        | 7.0     | 7.0       | 0.0        |
| Pedestrian Clearance [s]        | 0.0     | 0.0     | 27.0       | 15.0    | 10.0      | 0.0        |
| Delayed Vehicle Green [s]       | 0.0     | 0.0     | 0.0        | 0.0     | 0.0       | 0.0        |
| Rest In Walk                    | No      |         | No         |         |           | No         |
| I1, Start-Up Lost Time [s]      | 2.0     | 2.0     | 2.0        | 2.0     | 2.0       | 2.0        |
| I2, Clearance Lost Time [s]     | 2.0     | 2.0     | 2.0        | 2.0     | 2.0       | 2.0        |
| Detector Location [ft]          | 0.0     | 0.0     | 0.0        | 0.0     | 0.0       | 0.0        |
| Detector Length [ft]            | 0.0     | 0.0     | 0.0        | 0.0     | 0.0       | 0.0        |
| Advanced Detector Location [ft] | 0.0     | 0.0     | 0.0        | 0.0     | 0.0       | 0.0        |
| Advanced Detector Length [ft]   | 0.0     | 0.0     | 0.0        | 0.0     | 0.0       | 0.0        |
| I, Upstream Filtering Factor    | 1.00    | 1.00    | 1.00       | 1.00    | 1.00      | 1.00       |

**Phasing & Timing: Free Running (No Pattern)**

|                       |     |     |      |      |      |      |
|-----------------------|-----|-----|------|------|------|------|
| Split [s]             | 9.0 | 9.0 | 14.0 | 14.0 | 9.0  | 14.0 |
| Lead / Lag            | Lag | -   | -    | -    | Lead | -    |
| Minimum Green [s]     | 2   | 2   | 6    | 10   | 4    | 6    |
| Vehicle Extension [s] | 0.5 | 0.5 | 2.3  | 5.2  | 2.3  | 2.3  |
| Minimum Recall        | No  | No  | No   | Yes  | No   | No   |
| Maximum Recall        | No  | No  | No   | No   | No   | No   |
| Pedestrian Recall     | No  | No  | No   | No   | No   | No   |

**Exclusive Pedestrian Phase**

|                          |   |
|--------------------------|---|
| Pedestrian Signal Group  | 0 |
| Pedestrian Walk [s]      | 0 |
| Pedestrian Clearance [s] | 0 |

**Lane Group Calculations**

| Lane Group                              | L     | R    | C     | R     | L     | C     |
|-----------------------------------------|-------|------|-------|-------|-------|-------|
| C, Calculated Cycle Length [s]          | 128   | 128  | 128   | 128   | 128   | 128   |
| L, Total Lost Time per Cycle [s]        | 4.00  | 4.00 | 4.00  | 4.00  | 4.00  | 4.00  |
| l1_p, Permitted Start-Up Lost Time [s]  | 0.00  | 0.00 | 0.00  | 0.00  | 0.00  | 0.00  |
| l2, Clearance Lost Time [s]             | 0.00  | 2.00 | 2.00  | 0.00  | 2.00  | 2.00  |
| g_i, Effective Green Time [s]           | 60.4  | 96.9 | 15.3  | 70.8  | 36.5  | 55.8  |
| g / C, Green / Cycle                    | 0.47  | 0.76 | 0.12  | 0.55  | 0.28  | 0.44  |
| (v / s)_i Volume / Saturation Flow Rate | 0.25  | 0.32 | 0.04  | 0.38  | 0.31  | 0.06  |
| s, saturation flow rate [veh/h]         | 1476  | 1263 | 1825  | 1589  | 1767  | 1885  |
| c, Capacity [veh/h]                     | 662   | 910  | 218   | 840   | 502   | 819   |
| d1, Uniform Delay [s]                   | 14.92 | 0.00 | 51.91 | 14.70 | 45.93 | 21.85 |
| k, delay calibration                    | 0.39  | 0.50 | 0.07  | 0.50  | 0.50  | 0.07  |
| l, Upstream Filtering Factor            | 1.00  | 1.00 | 1.00  | 1.00  | 1.00  | 1.00  |
| d2, Incremental Delay [s]               | 2.72  | 1.53 | 0.57  | 5.43  | 63.10 | 0.05  |
| d3, Initial Queue Delay [s]             | 0.00  | 0.00 | 0.00  | 0.00  | 0.00  | 0.00  |
| Rp, platoon ratio                       | 1.33  | 1.33 | 1.00  | 1.00  | 1.00  | 1.00  |
| PF, progression factor                  | 1.00  | 1.00 | 1.00  | 1.00  | 1.00  | 1.00  |

**Lane Group Results**

|                                       |        |       |        |        |        |       |
|---------------------------------------|--------|-------|--------|--------|--------|-------|
| X, volume / capacity                  | 0.57   | 0.44  | 0.34   | 0.73   | 1.08   | 0.14  |
| d, Delay for Lane Group [s/veh]       | 17.63  | 1.53  | 52.49  | 20.13  | 109.04 | 21.89 |
| Lane Group LOS                        | B      | A     | D      | C      | F      | C     |
| Critical Lane Group                   | Yes    | No    | No     | Yes    | Yes    | No    |
| 50th-Percentile Queue Length [veh/ln] | 5.70   | 0.39  | 2.28   | 11.28  | 24.51  | 2.11  |
| 50th-Percentile Queue Length [ft/ln]  | 142.56 | 9.65  | 57.01  | 282.12 | 612.76 | 52.83 |
| 95th-Percentile Queue Length [veh/ln] | 9.62   | 0.69  | 4.10   | 16.79  | 34.23  | 3.80  |
| 95th-Percentile Queue Length [ft/ln]  | 240.46 | 17.37 | 102.61 | 419.85 | 855.70 | 95.10 |

**Movement, Approach, & Intersection Results**

|                                 |       |      |       |       |        |       |
|---------------------------------|-------|------|-------|-------|--------|-------|
| d_M, Delay for Movement [s/veh] | 17.63 | 1.53 | 52.49 | 20.13 | 109.04 | 21.89 |
| Movement LOS                    | B     | A    | D     | C     | F      | C     |
| d_A, Approach Delay [s/veh]     | 9.33  |      | 23.67 |       | 93.67  |       |
| Approach LOS                    | A     |      | C     |       | F      |       |
| d_I, Intersection Delay [s/veh] | 40.22 |      |       |       |        |       |
| Intersection LOS                | D     |      |       |       |        |       |
| Intersection V/C                | 0.652 |      |       |       |        |       |

**Emissions**

|                              |        |       |       |        |         |        |
|------------------------------|--------|-------|-------|--------|---------|--------|
| Vehicle Miles Traveled [mph] | 18.63  | 19.83 | 3.96  | 32.19  | 75.09   | 16.07  |
| Stops [stops/h]              | 160.07 | 10.84 | 64.01 | 316.77 | 688.03  | 59.32  |
| Fuel consumption [US gal/h]  | 2.79   | 1.06  | 1.22  | 5.16   | 20.06   | 1.58   |
| CO [g/h]                     | 195.30 | 73.88 | 85.59 | 360.78 | 1402.29 | 110.13 |
| NOx [g/h]                    | 38.00  | 14.38 | 16.65 | 70.19  | 272.83  | 21.43  |
| VOC [g/h]                    | 45.26  | 17.12 | 19.84 | 83.61  | 324.99  | 25.52  |

**Other Modes**

|                                                          |       |       |       |
|----------------------------------------------------------|-------|-------|-------|
| g_Walk,mi, Effective Walk Time [s]                       | 12.0  | 0.0   | 0.0   |
| M_corner, Corner Circulation Area [ft <sup>2</sup> /ped] | 0.00  | 0.00  | 0.00  |
| M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]  | 0.00  | 0.00  | 0.00  |
| d_p, Pedestrian Delay [s]                                | 52.69 | 0.00  | 0.00  |
| I_p,int, Pedestrian LOS Score for Intersectio            | 2.551 | 0.000 | 0.000 |
| Crosswalk LOS                                            | B     | F     | F     |
| s_b, Saturation Flow Rate of the bicycle lane            | 2000  | 2000  | 2000  |
| c_b, Capacity of the bicycle lane [bicycles/h]           | 374   | 250   | 499   |
| d_b, Bicycle Delay [s]                                   | 42.39 | 49.12 | 36.12 |
| I_b,int, Bicycle LOS Score for Intersection              | 1.560 | 2.744 | 2.645 |
| Bicycle LOS                                              | A     | B     | B     |

**Sequence**

|        |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|--------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | 1 | 2 | - | 3 | 4 | - | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | 5 | 6 | 7 | 8 | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |



**Intersection Level Of Service Report**  
**Intersection 4: 10th Street/I-205 SB Ramp**

|                  |                 |                           |       |
|------------------|-----------------|---------------------------|-------|
| Control Type:    | Signalized      | Delay (sec / veh):        | 52.1  |
| Analysis Method: | HCM 7th Edition | Level Of Service:         | D     |
| Analysis Period: | 15 minutes      | Volume to Capacity (v/c): | 0.718 |

**Intersection Setup**

| Name                         | 10th Street                                                                       |        |        | 10th Street                                                                       |        |        | I-205 SB Entry Ramp |        |        | I-205 SB Exit Ramp                                                                  |        |        |
|------------------------------|-----------------------------------------------------------------------------------|--------|--------|-----------------------------------------------------------------------------------|--------|--------|---------------------|--------|--------|-------------------------------------------------------------------------------------|--------|--------|
| Approach                     | Northbound                                                                        |        |        | Southbound                                                                        |        |        | Eastbound           |        |        | Westbound                                                                           |        |        |
| Lane Configuration           |  |        |        |  |        |        |                     |        |        |  |        |        |
| Turning Movement             | Left                                                                              | Thru   | Right  | Left                                                                              | Thru   | Right  | Left                | Thru   | Right  | Left                                                                                | Thru   | Right  |
| Lane Width [ft]              | 12.00                                                                             | 12.00  | 12.00  | 12.00                                                                             | 12.00  | 12.00  | 12.00               | 12.00  | 12.00  | 12.00                                                                               | 12.00  | 12.00  |
| No. of Lanes in Entry Pocket | 1                                                                                 | 0      | 0      | 0                                                                                 | 0      | 0      | 0                   | 0      | 0      | 0                                                                                   | 0      | 1      |
| Entry Pocket Length [ft]     | 200.00                                                                            | 100.00 | 100.00 | 100.00                                                                            | 100.00 | 100.00 | 100.00              | 100.00 | 100.00 | 100.00                                                                              | 100.00 | 200.00 |
| No. of Lanes in Exit Pocket  | 0                                                                                 | 0      | 1      | 0                                                                                 | 0      | 0      | 0                   | 0      | 0      | 0                                                                                   | 0      | 0      |
| Exit Pocket Length [ft]      | 0.00                                                                              | 0.00   | 100.00 | 0.00                                                                              | 0.00   | 0.00   | 0.00                | 0.00   | 0.00   | 0.00                                                                                | 0.00   | 0.00   |
| Speed [mph]                  | 25.00                                                                             |        |        | 25.00                                                                             |        |        | 30.00               |        |        | 45.00                                                                               |        |        |
| Grade [%]                    | 9.00                                                                              |        |        | -4.00                                                                             |        |        | 0.00                |        |        | 0.00                                                                                |        |        |
| Curb Present                 | No                                                                                |        |        | No                                                                                |        |        |                     |        |        | No                                                                                  |        |        |
| Crosswalk                    | Yes                                                                               |        |        | No                                                                                |        |        | Yes                 |        |        | Yes                                                                                 |        |        |

**Volumes**

| Name                                        | 10th Street |        |        | 10th Street |        |        | I-205 SB Entry Ramp |        |        | I-205 SB Exit Ramp |        |        |
|---------------------------------------------|-------------|--------|--------|-------------|--------|--------|---------------------|--------|--------|--------------------|--------|--------|
| Base Volume Input [veh/h]                   | 165         | 524    | 0      | 0           | 578    | 503    | 0                   | 0      | 0      | 133                | 4      | 182    |
| Base Volume Adjustment Factor               | 1.0000      | 1.0000 | 1.0000 | 1.0000      | 1.0000 | 1.0000 | 1.0000              | 1.0000 | 1.0000 | 1.0000             | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%]               | 9.00        | 7.00   | 2.00   | 2.00        | 2.00   | 2.00   | 2.00                | 2.00   | 2.00   | 6.00               | 25.00  | 4.00   |
| Proportion of CAVs [%]                      | 0.00        |        |        |             |        |        |                     |        |        |                    |        |        |
| Growth Factor                               | 1.0000      | 1.0000 | 1.0000 | 1.0000      | 1.0000 | 1.0000 | 1.0000              | 1.0000 | 1.0000 | 1.0000             | 1.0000 | 1.0000 |
| In-Process Volume [veh/h]                   | 0           | 0      | 0      | 0           | 0      | 0      | 0                   | 0      | 0      | 0                  | 0      | 0      |
| Site-Generated Trips [veh/h]                | 0           | 0      | 0      | 0           | 0      | 0      | 0                   | 0      | 0      | 0                  | 0      | 0      |
| Diverted Trips [veh/h]                      | 0           | 0      | 0      | 0           | 0      | 0      | 0                   | 0      | 0      | 0                  | 0      | 0      |
| Pass-by Trips [veh/h]                       | 0           | 0      | 0      | 0           | 0      | 0      | 0                   | 0      | 0      | 0                  | 0      | 0      |
| Existing Site Adjustment Volume [veh/h]     | 0           | 0      | 0      | 0           | 0      | 0      | 0                   | 0      | 0      | 0                  | 0      | 0      |
| Other Volume [veh/h]                        | 0           | 0      | 0      | 0           | 0      | 0      | 0                   | 0      | 0      | 0                  | 0      | 0      |
| Right Turn on Red Volume [veh/h]            | 0           | 0      | 0      | 0           | 0      | 122    | 0                   | 0      | 0      | 0                  | 0      | 73     |
| Total Hourly Volume [veh/h]                 | 165         | 524    | 0      | 0           | 578    | 381    | 0                   | 0      | 0      | 133                | 4      | 109    |
| Peak Hour Factor                            | 0.9000      | 0.9000 | 1.0000 | 1.0000      | 0.9000 | 0.9000 | 1.0000              | 1.0000 | 1.0000 | 0.9000             | 0.9000 | 0.9000 |
| Other Adjustment Factor                     | 1.0000      | 1.0000 | 1.0000 | 1.0000      | 1.0000 | 1.0000 | 1.0000              | 1.0000 | 1.0000 | 1.0000             | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h]              | 46          | 146    | 0      | 0           | 161    | 106    | 0                   | 0      | 0      | 37                 | 1      | 30     |
| Total Analysis Volume [veh/h]               | 183         | 582    | 0      | 0           | 642    | 423    | 0                   | 0      | 0      | 148                | 4      | 121    |
| Presence of On-Street Parking               | No          |        | No     | No          |        | No     |                     |        |        | No                 |        | No     |
| On-Street Parking Maneuver Rate [/h]        | 0           | 0      | 0      | 0           | 0      | 0      | 0                   | 0      | 0      | 0                  | 0      | 0      |
| Local Bus Stopping Rate [/h]                | 0           | 0      | 0      | 0           | 0      | 0      | 0                   | 0      | 0      | 0                  | 0      | 0      |
| v_do, Outbound Pedestrian Volume crossing   | 0           |        |        | 0           |        |        | 0                   |        |        | 0                  |        |        |
| v_di, Inbound Pedestrian Volume crossing m  | 0           |        |        | 0           |        |        | 0                   |        |        | 0                  |        |        |
| v_co, Outbound Pedestrian Volume crossing   | 0           |        |        | 1           |        |        | 2                   |        |        | 0                  |        |        |
| v_ci, Inbound Pedestrian Volume crossing mi | 0           |        |        | 2           |        |        | 1                   |        |        | 0                  |        |        |
| v_ab, Corner Pedestrian Volume [ped/h]      | 0           |        |        | 0           |        |        | 0                   |        |        | 0                  |        |        |
| Bicycle Volume [bicycles/h]                 | 1           |        |        | 3           |        |        | 0                   |        |        | 0                  |        |        |

**Intersection Settings**

|                           |                                       |
|---------------------------|---------------------------------------|
| Located in CBD            | No                                    |
| Signal Coordination Group | -                                     |
| Cycle Length [s]          | 90                                    |
| Active Pattern            | Free Running (No Pattern)             |
| Coordination Type         | <i>Free Running</i>                   |
| Actuation Type            | <i>Fully actuated</i>                 |
| Offset [s]                | 0.0                                   |
| Offset Reference          | Lead Green - Beginning of First Green |
| Permissive Mode           | SingleBand                            |
| Lost time [s]             | 12.00                                 |

**Phasing & Timing (Basic)**

| Control Type                    | ProtPer | Permiss | Permiss | Permiss | Overlap | Overlap | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss |
|---------------------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| Flashing Yellow Arrow           | Yes     |         |         |         |         |         |         |         |         |         |         |         |
| Signal Group                    | 1       | 5       | 0       | 0       | 2       | 2       | 0       | 0       | 0       | 0       | 7       | 0       |
| Auxiliary Signal Groups         |         |         |         |         | 2,3,4   | 2,3,4   |         |         |         |         |         |         |
| Maximum Green [s]               | 21      | 40      | 0       | 0       | 37      | 37      | 0       | 0       | 0       | 0       | 45      | 0       |
| Amber [s]                       | 4.0     | 4.0     | 0.0     | 0.0     | 4.0     | 4.0     | 0.0     | 0.0     | 0.0     | 0.0     | 4.0     | 0.0     |
| All red [s]                     | 1.5     | 1.5     | 0.0     | 0.0     | 1.5     | 1.5     | 0.0     | 0.0     | 0.0     | 0.0     | 1.5     | 0.0     |
| Walk [s]                        | 0.0     | 7.0     | 0.0     | 0.0     | 7.0     | 7.0     | 0.0     | 0.0     | 0.0     | 0.0     | 7.0     | 0.0     |
| Pedestrian Clearance [s]        | 0.0     | 15.0    | 0.0     | 0.0     | 12.0    | 12.0    | 0.0     | 0.0     | 0.0     | 0.0     | 16.0    | 0.0     |
| Delayed Vehicle Green [s]       | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     |
| Rest In Walk                    |         | No      |         |         | No      |         |         |         |         |         | No      |         |
| I1, Start-Up Lost Time [s]      | 2.0     | 2.0     | 0.0     | 0.0     | 2.0     | 2.0     | 0.0     | 0.0     | 0.0     | 0.0     | 2.0     | 0.0     |
| I2, Clearance Lost Time [s]     | 2.0     | 2.0     | 0.0     | 0.0     | 2.0     | 2.0     | 0.0     | 0.0     | 0.0     | 0.0     | 2.0     | 0.0     |
| Detector Location [ft]          | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     |
| Detector Length [ft]            | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     |
| Advanced Detector Location [ft] | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     |
| Advanced Detector Length [ft]   | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     |
| I, Upstream Filtering Factor    | 1.00    | 1.00    | 1.00    | 1.00    | 1.00    | 1.00    | 1.00    | 1.00    | 1.00    | 1.00    | 1.00    | 1.00    |

**Phasing & Timing: Free Running (No Pattern)**

|                       |      |      |     |     |      |      |     |     |     |     |      |     |
|-----------------------|------|------|-----|-----|------|------|-----|-----|-----|-----|------|-----|
| Split [s]             | 9.0  | 14.0 | 0.0 | 0.0 | 14.0 | 14.0 | 0.0 | 0.0 | 0.0 | 0.0 | 14.0 | 0.0 |
| Lead / Lag            | Lead | -    | -   | -   | -    | -    | -   | -   | -   | -   | -    | -   |
| Minimum Green [s]     | 4    | 10   | 0   | 0   | 6    | 6    | 0   | 0   | 0   | 0   | 6    | 0   |
| Vehicle Extension [s] | 2.3  | 5.2  | 0.0 | 0.0 | 3.0  | 3.0  | 0.0 | 0.0 | 0.0 | 0.0 | 3.0  | 0.0 |
| Minimum Recall        | No   | Yes  |     |     | Yes  | Yes  |     |     |     |     | No   |     |
| Maximum Recall        | No   | No   |     |     | No   | No   |     |     |     |     | No   |     |
| Pedestrian Recall     | No   | No   |     |     | No   | No   |     |     |     |     | No   |     |

**Exclusive Pedestrian Phase**

|                          |   |
|--------------------------|---|
| Pedestrian Signal Group  | 0 |
| Pedestrian Walk [s]      | 0 |
| Pedestrian Clearance [s] | 0 |

**Lane Group Calculations**

| Lane Group                              | L     | C     | C    | C    |  | C     | R     |
|-----------------------------------------|-------|-------|------|------|--|-------|-------|
| C, Calculated Cycle Length [s]          | 117   | 117   | 117  | 117  |  | 117   | 117   |
| L, Total Lost Time per Cycle [s]        | 4.00  | 4.00  | 4.00 | 4.00 |  | 4.00  | 4.00  |
| l1_p, Permitted Start-Up Lost Time [s]  | 0.00  | 0.00  | 0.00 | 0.00 |  | 0.00  | 0.00  |
| l2, Clearance Lost Time [s]             | 2.00  | 2.00  | 2.00 | 2.00 |  | 2.00  | 2.00  |
| g_i, Effective Green Time [s]           | 19.0  | 41.5  | 66.1 | 66.1 |  | 16.0  | 16.0  |
| g / C, Green / Cycle                    | 0.16  | 0.35  | 0.56 | 0.56 |  | 0.14  | 0.14  |
| (v / s)_i Volume / Saturation Flow Rate | 0.14  | 0.40  | 0.28 | 0.33 |  | 0.10  | 0.08  |
| s, saturation flow rate [veh/h]         | 1344  | 1441  | 1869 | 1606 |  | 1454  | 1564  |
| c, Capacity [veh/h]                     | 219   | 510   | 1007 | 865  |  | 199   | 214   |
| d1, Uniform Delay [s]                   | 47.59 | 37.87 | 8.75 | 9.36 |  | 48.79 | 47.35 |
| k, delay calibration                    | 0.23  | 0.50  | 0.39 | 0.50 |  | 0.11  | 0.11  |
| l, Upstream Filtering Factor            | 1.00  | 1.00  | 1.00 | 1.00 |  | 1.00  | 1.00  |
| d2, Incremental Delay [s]               | 16.29 | 84.84 | 1.54 | 3.25 |  | 6.02  | 2.34  |
| d3, Initial Queue Delay [s]             | 0.00  | 0.00  | 0.00 | 0.00 |  | 0.00  | 0.00  |
| Rp, platoon ratio                       | 1.00  | 1.00  | 1.00 | 1.00 |  | 1.00  | 1.00  |
| PF, progression factor                  | 1.00  | 1.00  | 1.00 | 1.00 |  | 1.00  | 1.00  |

**Lane Group Results**

|                                       |        |        |        |        |  |        |        |
|---------------------------------------|--------|--------|--------|--------|--|--------|--------|
| X, volume / capacity                  | 0.84   | 1.14   | 0.53   | 0.62   |  | 0.76   | 0.57   |
| d, Delay for Lane Group [s/veh]       | 63.88  | 122.71 | 10.29  | 12.61  |  | 54.81  | 49.70  |
| Lane Group LOS                        | E      | F      | B      | B      |  | D      | D      |
| Critical Lane Group                   | No     | Yes    | No     | Yes    |  | Yes    | No     |
| 50th-Percentile Queue Length [veh/ln] | 6.20   | 26.52  | 4.36   | 4.98   |  | 4.50   | 3.36   |
| 50th-Percentile Queue Length [ft/ln]  | 155.02 | 662.97 | 108.88 | 124.46 |  | 112.45 | 83.94  |
| 95th-Percentile Queue Length [veh/ln] | 10.28  | 38.09  | 7.78   | 8.64   |  | 7.98   | 6.04   |
| 95th-Percentile Queue Length [ft/ln]  | 257.12 | 952.28 | 194.45 | 215.95 |  | 199.41 | 151.09 |

**Movement, Approach, & Intersection Results**

|                                 |        |        |      |       |       |       |      |      |      |       |       |       |
|---------------------------------|--------|--------|------|-------|-------|-------|------|------|------|-------|-------|-------|
| d_M, Delay for Movement [s/veh] | 63.88  | 122.71 | 0.00 | 0.00  | 10.69 | 12.61 | 0.00 | 0.00 | 0.00 | 54.81 | 54.81 | 49.70 |
| Movement LOS                    | E      | F      |      |       | B     | B     |      |      |      | D     | D     | D     |
| d_A, Approach Delay [s/veh]     | 108.64 |        |      | 11.45 |       |       | 0.00 |      |      | 52.55 |       |       |
| Approach LOS                    | F      |        |      | B     |       |       | A    |      |      | D     |       |       |
| d_I, Intersection Delay [s/veh] | 52.14  |        |      |       |       |       |      |      |      |       |       |       |
| Intersection LOS                | D      |        |      |       |       |       |      |      |      |       |       |       |
| Intersection V/C                | 0.718  |        |      |       |       |       |      |      |      |       |       |       |

**Emissions**

|                              |        |         |        |        |  |        |        |
|------------------------------|--------|---------|--------|--------|--|--------|--------|
| Vehicle Miles Traveled [mph] | 19.41  | 61.72   | 26.53  | 26.53  |  | 15.25  | 12.14  |
| Stops [stops/h]              | 190.50 | 814.70  | 133.81 | 152.95 |  | 138.19 | 103.15 |
| Fuel consumption [US gal/h]  | 3.98   | 20.43   | 2.82   | 3.15   |  | 3.94   | 2.92   |
| CO [g/h]                     | 278.34 | 1428.18 | 197.25 | 219.93 |  | 275.14 | 204.27 |
| NOx [g/h]                    | 54.16  | 277.87  | 38.38  | 42.79  |  | 53.53  | 39.74  |
| VOC [g/h]                    | 64.51  | 331.00  | 45.71  | 50.97  |  | 63.77  | 47.34  |

**Other Modes**

|                                                          |       |  |         |  |         |  |       |
|----------------------------------------------------------|-------|--|---------|--|---------|--|-------|
| g_Walk,mi, Effective Walk Time [s]                       | 11.0  |  | 0.0     |  | 11.0    |  | 11.0  |
| M_corner, Corner Circulation Area [ft <sup>2</sup> /ped] | 0.00  |  | 1029.96 |  | 1009.91 |  | 0.00  |
| M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]  | 0.00  |  | 0.00    |  | 0.00    |  | 0.00  |
| d_p, Pedestrian Delay [s]                                | 48.11 |  | 0.00    |  | 48.11   |  | 48.11 |
| I_p,int, Pedestrian LOS Score for Intersectio            | 2.460 |  | 0.000   |  | 2.150   |  | 2.084 |
| Crosswalk LOS                                            | B     |  | F       |  | B       |  | B     |
| s_b, Saturation Flow Rate of the bicycle lane            | 2000  |  | 2000    |  | 2000    |  | 2000  |
| c_b, Capacity of the bicycle lane [bicycles/h]           | 683   |  | 580     |  | 0       |  | 768   |
| d_b, Bicycle Delay [s]                                   | 25.43 |  | 29.57   |  | 58.59   |  | 22.23 |
| I_b,int, Bicycle LOS Score for Intersection              | 2.822 |  | 2.539   |  | 4.132   |  | 2.131 |
| Bicycle LOS                                              | C     |  | B       |  | D       |  | B     |

**Sequence**

|        |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|--------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | 1 | 2 | - | 3 | 4 | - | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | 5 | 6 | 7 | 8 | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |



**Intersection Level Of Service Report**  
**Intersection 5: 10th Street/I-205 NB Ramp**

|                  |                 |                           |       |
|------------------|-----------------|---------------------------|-------|
| Control Type:    | Signalized      | Delay (sec / veh):        | 26.9  |
| Analysis Method: | HCM 7th Edition | Level Of Service:         | C     |
| Analysis Period: | 15 minutes      | Volume to Capacity (v/c): | 0.624 |

**Intersection Setup**

| Name                         | 10th Street                                                                       |        |       | 10th Street                                                                       |        |        | I-205 NB Exit Ramp                                                                  |        |        | I-205 NB Entry Ramp |        |        |
|------------------------------|-----------------------------------------------------------------------------------|--------|-------|-----------------------------------------------------------------------------------|--------|--------|-------------------------------------------------------------------------------------|--------|--------|---------------------|--------|--------|
| Approach                     | Northbound                                                                        |        |       | Southbound                                                                        |        |        | Eastbound                                                                           |        |        | Westbound           |        |        |
| Lane Configuration           |  |        |       |  |        |        |  |        |        |                     |        |        |
| Turning Movement             | Left                                                                              | Thru   | Right | Left                                                                              | Thru   | Right  | Left                                                                                | Thru   | Right  | Left                | Thru   | Right  |
| Lane Width [ft]              | 12.00                                                                             | 12.00  | 12.00 | 12.00                                                                             | 12.00  | 12.00  | 12.00                                                                               | 12.00  | 12.00  | 12.00               | 12.00  | 12.00  |
| No. of Lanes in Entry Pocket | 0                                                                                 | 0      | 1     | 1                                                                                 | 0      | 0      | 0                                                                                   | 0      | 1      | 0                   | 0      | 0      |
| Entry Pocket Length [ft]     | 100.00                                                                            | 100.00 | 60.00 | 100.00                                                                            | 100.00 | 100.00 | 100.00                                                                              | 100.00 | 100.00 | 100.00              | 100.00 | 100.00 |
| No. of Lanes in Exit Pocket  | 0                                                                                 | 0      | 0     | 0                                                                                 | 0      | 0      | 0                                                                                   | 0      | 0      | 0                   | 0      | 0      |
| Exit Pocket Length [ft]      | 0.00                                                                              | 0.00   | 0.00  | 0.00                                                                              | 0.00   | 0.00   | 0.00                                                                                | 0.00   | 0.00   | 0.00                | 0.00   | 0.00   |
| Speed [mph]                  | 25.00                                                                             |        |       | 25.00                                                                             |        |        | 45.00                                                                               |        |        | 30.00               |        |        |
| Grade [%]                    | 0.00                                                                              |        |       | 0.00                                                                              |        |        | -4.00                                                                               |        |        | 0.00                |        |        |
| Curb Present                 | No                                                                                |        |       | No                                                                                |        |        | No                                                                                  |        |        |                     |        |        |
| Crosswalk                    | Yes                                                                               |        |       | No                                                                                |        |        | Yes                                                                                 |        |        | Yes                 |        |        |

**Volumes**

| Name                                        | 10th Street |        |        | 10th Street |        |        | I-205 NB Exit Ramp |        |        | I-205 NB Entry Ramp |        |        |
|---------------------------------------------|-------------|--------|--------|-------------|--------|--------|--------------------|--------|--------|---------------------|--------|--------|
| Base Volume Input [veh/h]                   | 0           | 410    | 187    | 291         | 420    | 0      | 279                | 0      | 149    | 0                   | 0      | 0      |
| Base Volume Adjustment Factor               | 1.0000      | 1.0000 | 1.0000 | 1.0000      | 1.0000 | 1.0000 | 1.0000             | 1.0000 | 1.0000 | 1.0000              | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%]               | 2.00        | 6.00   | 2.00   | 3.00        | 4.00   | 2.00   | 9.00               | 0.00   | 1.00   | 2.00                | 2.00   | 2.00   |
| Proportion of CAVs [%]                      | 0.00        |        |        |             |        |        |                    |        |        |                     |        |        |
| Growth Factor                               | 1.0000      | 1.0000 | 1.0000 | 1.0000      | 1.0000 | 1.0000 | 1.0000             | 1.0000 | 1.0000 | 1.0000              | 1.0000 | 1.0000 |
| In-Process Volume [veh/h]                   | 0           | 0      | 0      | 0           | 0      | 0      | 0                  | 0      | 0      | 0                   | 0      | 0      |
| Site-Generated Trips [veh/h]                | 0           | 0      | 0      | 0           | 0      | 0      | 0                  | 0      | 0      | 0                   | 0      | 0      |
| Diverted Trips [veh/h]                      | 0           | 0      | 0      | 0           | 0      | 0      | 0                  | 0      | 0      | 0                   | 0      | 0      |
| Pass-by Trips [veh/h]                       | 0           | 0      | 0      | 0           | 0      | 0      | 0                  | 0      | 0      | 0                   | 0      | 0      |
| Existing Site Adjustment Volume [veh/h]     | 0           | 0      | 0      | 0           | 0      | 0      | 0                  | 0      | 0      | 0                   | 0      | 0      |
| Other Volume [veh/h]                        | 0           | 0      | 0      | 0           | 0      | 0      | 0                  | 0      | 0      | 0                   | 0      | 0      |
| Right Turn on Red Volume [veh/h]            | 0           | 0      | 60     | 0           | 0      | 0      | 0                  | 0      | 91     | 0                   | 0      | 0      |
| Total Hourly Volume [veh/h]                 | 0           | 410    | 127    | 291         | 420    | 0      | 279                | 0      | 58     | 0                   | 0      | 0      |
| Peak Hour Factor                            | 1.0000      | 0.8800 | 0.8800 | 0.8800      | 0.8800 | 1.0000 | 0.8800             | 0.8800 | 0.8800 | 1.0000              | 1.0000 | 1.0000 |
| Other Adjustment Factor                     | 1.0000      | 1.0000 | 1.0000 | 1.0000      | 1.0000 | 1.0000 | 1.0000             | 1.0000 | 1.0000 | 1.0000              | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h]              | 0           | 116    | 36     | 83          | 119    | 0      | 79                 | 0      | 16     | 0                   | 0      | 0      |
| Total Analysis Volume [veh/h]               | 0           | 466    | 144    | 331         | 477    | 0      | 317                | 0      | 66     | 0                   | 0      | 0      |
| Presence of On-Street Parking               | No          |        | No     | No          |        | No     | No                 |        | No     |                     |        |        |
| On-Street Parking Maneuver Rate [/h]        | 0           | 0      | 0      | 0           | 0      | 0      | 0                  | 0      | 0      | 0                   | 0      | 0      |
| Local Bus Stopping Rate [/h]                | 0           | 0      | 0      | 0           | 0      | 0      | 0                  | 0      | 0      | 0                   | 0      | 0      |
| v_do, Outbound Pedestrian Volume crossing   | 0           |        |        | 0           |        |        | 0                  |        |        | 0                   |        |        |
| v_di, Inbound Pedestrian Volume crossing m  | 0           |        |        | 0           |        |        | 0                  |        |        | 0                   |        |        |
| v_co, Outbound Pedestrian Volume crossing   | 0           |        |        | 0           |        |        | 1                  |        |        | 0                   |        |        |
| v_ci, Inbound Pedestrian Volume crossing mi | 0           |        |        | 1           |        |        | 0                  |        |        | 0                   |        |        |
| v_ab, Corner Pedestrian Volume [ped/h]      | 0           |        |        | 0           |        |        | 0                  |        |        | 0                   |        |        |
| Bicycle Volume [bicycles/h]                 | 1           |        |        | 0           |        |        | 0                  |        |        | 0                   |        |        |

**Intersection Settings**

|                           |                                       |
|---------------------------|---------------------------------------|
| Located in CBD            | No                                    |
| Signal Coordination Group | -                                     |
| Cycle Length [s]          | 90                                    |
| Active Pattern            | Free Running (No Pattern)             |
| Coordination Type         | <i>Free Running</i>                   |
| Actuation Type            | <i>Fully actuated</i>                 |
| Offset [s]                | 0.0                                   |
| Offset Reference          | Lead Green - Beginning of First Green |
| Permissive Mode           | SingleBand                            |
| Lost time [s]             | 12.00                                 |

**Phasing & Timing (Basic)**

| Control Type                    | Permiss | Permiss | Permiss | ProtPer | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss |
|---------------------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| Flashing Yellow Arrow           |         |         |         | No      |         |         |         |         |         |         |         |         |
| Signal Group                    | 0       | 6       | 0       | 5       | 2       | 0       | 5       | 8       | 0       | 0       | 0       | 0       |
| Auxiliary Signal Groups         |         |         |         |         |         |         |         |         |         |         |         |         |
| Maximum Green [s]               | 0       | 50      | 0       | 45      | 30      | 0       | 45      | 20      | 0       | 0       | 0       | 0       |
| Amber [s]                       | 0.0     | 4.0     | 0.0     | 4.0     | 4.0     | 0.0     | 4.0     | 4.0     | 0.0     | 0.0     | 0.0     | 0.0     |
| All red [s]                     | 0.0     | 1.0     | 0.0     | 1.0     | 1.0     | 0.0     | 1.0     | 1.0     | 0.0     | 0.0     | 0.0     | 0.0     |
| Walk [s]                        | 0.0     | 7.0     | 0.0     | 0.0     | 7.0     | 0.0     | 0.0     | 7.0     | 0.0     | 0.0     | 0.0     | 0.0     |
| Pedestrian Clearance [s]        | 0.0     | 10.0    | 0.0     | 0.0     | 15.0    | 0.0     | 0.0     | 17.0    | 0.0     | 0.0     | 0.0     | 0.0     |
| Delayed Vehicle Green [s]       | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     |
| Rest In Walk                    |         | No      |         |         | No      |         |         | No      |         |         |         |         |
| I1, Start-Up Lost Time [s]      | 0.0     | 2.0     | 0.0     | 2.0     | 2.0     | 0.0     | 2.0     | 2.0     | 0.0     | 0.0     | 0.0     | 0.0     |
| I2, Clearance Lost Time [s]     | 0.0     | 3.0     | 0.0     | 3.0     | 3.0     | 0.0     | 3.0     | 3.0     | 0.0     | 0.0     | 0.0     | 0.0     |
| Detector Location [ft]          | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     |
| Detector Length [ft]            | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     |
| Advanced Detector Location [ft] | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     |
| Advanced Detector Length [ft]   | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     |
| I, Upstream Filtering Factor    | 1.00    | 1.00    | 1.00    | 1.00    | 1.00    | 1.00    | 1.00    | 1.00    | 1.00    | 1.00    | 1.00    | 1.00    |

**Phasing & Timing: Free Running (No Pattern)**

|                       |     |      |     |      |      |     |      |      |     |     |     |     |
|-----------------------|-----|------|-----|------|------|-----|------|------|-----|-----|-----|-----|
| Split [s]             | 0.0 | 14.0 | 0.0 | 9.0  | 14.0 | 0.0 | 9.0  | 14.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Lead / Lag            | -   | -    | -   | Lead | -    | -   | Lead | -    | -   | -   | -   | -   |
| Minimum Green [s]     | 0   | 10   | 0   | 4    | 10   | 0   | 4    | 6    | 0   | 0   | 0   | 0   |
| Vehicle Extension [s] | 0.0 | 6.9  | 0.0 | 2.3  | 6.9  | 0.0 | 2.3  | 2.3  | 0.0 | 0.0 | 0.0 | 0.0 |
| Minimum Recall        |     | Yes  |     | No   | Yes  |     |      | No   |     |     |     |     |
| Maximum Recall        |     | Yes  |     | No   | No   |     |      | Yes  |     |     |     |     |
| Pedestrian Recall     |     | No   |     | No   | No   |     |      | No   |     |     |     |     |

**Exclusive Pedestrian Phase**

|                          |   |
|--------------------------|---|
| Pedestrian Signal Group  | 0 |
| Pedestrian Walk [s]      | 0 |
| Pedestrian Clearance [s] | 0 |

**Lane Group Calculations**

| Lane Group                              | C     | R     | L     | C     | C     | R     |  |
|-----------------------------------------|-------|-------|-------|-------|-------|-------|--|
| C, Calculated Cycle Length [s]          | 103   | 103   | 103   | 103   | 103   | 103   |  |
| L, Total Lost Time per Cycle [s]        | 5.00  | 5.00  | 5.00  | 5.00  | 5.00  | 5.00  |  |
| l1_p, Permitted Start-Up Lost Time [s]  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  |  |
| l2, Clearance Lost Time [s]             | 3.00  | 3.00  | 0.00  | 3.00  | 3.00  | 3.00  |  |
| g_i, Effective Green Time [s]           | 50.0  | 50.0  | 73.0  | 73.0  | 20.0  | 20.0  |  |
| g / C, Green / Cycle                    | 0.49  | 0.49  | 0.71  | 0.71  | 0.19  | 0.19  |  |
| (v / s)_i Volume / Saturation Flow Rate | 0.26  | 0.09  | 0.31  | 0.26  | 0.18  | 0.04  |  |
| s, saturation flow rate [veh/h]         | 1810  | 1556  | 1072  | 1840  | 1809  | 1602  |  |
| c, Capacity [veh/h]                     | 878   | 755   | 720   | 1304  | 351   | 311   |  |
| d1, Uniform Delay [s]                   | 18.38 | 15.00 | 10.98 | 12.40 | 43.89 | 37.79 |  |
| k, delay calibration                    | 0.50  | 0.50  | 0.66  | 0.66  | 0.50  | 0.50  |  |
| l, Upstream Filtering Factor            | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  |  |
| d2, Incremental Delay [s]               | 2.29  | 0.56  | 2.75  | 1.04  | 28.74 | 1.55  |  |
| d3, Initial Queue Delay [s]             | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  |  |
| Rp, platoon ratio                       | 1.00  | 1.00  | 0.67  | 0.67  | 0.67  | 0.67  |  |
| PF, progression factor                  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  |  |

**Lane Group Results**

|                                       |        |       |        |        |        |       |  |
|---------------------------------------|--------|-------|--------|--------|--------|-------|--|
| X, volume / capacity                  | 0.53   | 0.19  | 0.46   | 0.37   | 0.90   | 0.21  |  |
| d, Delay for Lane Group [s/veh]       | 20.67  | 15.56 | 13.73  | 13.44  | 72.63  | 39.35 |  |
| Lane Group LOS                        | C      | B     | B      | B      | E      | D     |  |
| Critical Lane Group                   | Yes    | No    | Yes    | No     | Yes    | No    |  |
| 50th-Percentile Queue Length [veh/ln] | 8.12   | 2.03  | 5.59   | 8.06   | 10.89  | 1.59  |  |
| 50th-Percentile Queue Length [ft/ln]  | 203.10 | 50.66 | 139.70 | 201.41 | 272.18 | 39.70 |  |
| 95th-Percentile Queue Length [veh/ln] | 12.80  | 3.65  | 9.46   | 12.71  | 16.30  | 2.86  |  |
| 95th-Percentile Queue Length [ft/ln]  | 319.97 | 91.19 | 236.62 | 317.78 | 407.46 | 71.46 |  |

**Movement, Approach, & Intersection Results**

|                                 |       |       |       |       |       |      |       |       |       |      |      |      |
|---------------------------------|-------|-------|-------|-------|-------|------|-------|-------|-------|------|------|------|
| d_M, Delay for Movement [s/veh] | 0.00  | 20.67 | 15.56 | 13.73 | 13.44 | 0.00 | 72.63 | 72.63 | 39.35 | 0.00 | 0.00 | 0.00 |
| Movement LOS                    |       | C     | B     | B     | B     |      | E     | E     | D     |      |      |      |
| d_A, Approach Delay [s/veh]     | 19.46 |       |       | 13.56 |       |      | 66.89 |       |       | 0.00 |      |      |
| Approach LOS                    | B     |       |       | B     |       |      | E     |       |       | A    |      |      |
| d_I, Intersection Delay [s/veh] | 26.90 |       |       |       |       |      |       |       |       |      |      |      |
| Intersection LOS                | C     |       |       |       |       |      |       |       |       |      |      |      |
| Intersection V/C                | 0.624 |       |       |       |       |      |       |       |       |      |      |      |

**Emissions**

|                              |        |       |        |        |        |       |  |
|------------------------------|--------|-------|--------|--------|--------|-------|--|
| Vehicle Miles Traveled [mph] | 27.55  | 8.51  | 35.10  | 50.59  | 24.33  | 5.07  |  |
| Stops [stops/h]              | 284.04 | 70.85 | 195.38 | 281.67 | 380.65 | 55.52 |  |
| Fuel consumption [US gal/h]  | 4.29   | 1.11  | 3.25   | 4.66   | 10.25  | 1.39  |  |
| CO [g/h]                     | 299.74 | 77.64 | 227.40 | 325.77 | 716.58 | 97.32 |  |
| NOx [g/h]                    | 58.32  | 15.10 | 44.24  | 63.38  | 139.42 | 18.94 |  |
| VOC [g/h]                    | 69.47  | 17.99 | 52.70  | 75.50  | 166.07 | 22.56 |  |

**Other Modes**

|                                                          |       |         |         |       |
|----------------------------------------------------------|-------|---------|---------|-------|
| g_Walk,mi, Effective Walk Time [s]                       | 11.0  | 0.0     | 11.0    | 11.0  |
| M_corner, Corner Circulation Area [ft <sup>2</sup> /ped] | 0.00  | 3150.00 | 3098.66 | 0.00  |
| M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]  | 0.00  | 0.00    | 7337.18 | 0.00  |
| d_p, Pedestrian Delay [s]                                | 41.07 | 0.00    | 41.07   | 41.07 |
| I_p,int, Pedestrian LOS Score for Intersectio            | 2.385 | 0.000   | 2.197   | 2.110 |
| Crosswalk LOS                                            | B     | F       | B       | B     |
| s_b, Saturation Flow Rate of the bicycle lane            | 2000  | 2000    | 2000    | 2000  |
| c_b, Capacity of the bicycle lane [bicycles/h]           | 971   | 583     | 388     | 0     |
| d_b, Bicycle Delay [s]                                   | 13.63 | 25.85   | 33.43   | 51.48 |
| I_b,int, Bicycle LOS Score for Intersection              | 2.665 | 2.893   | 2.342   | 4.132 |
| Bicycle LOS                                              | B     | C       | B       | D     |

**Sequence**

|        |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|--------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | 2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | 5 | 6 | 8 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |



**Intersection Level Of Service Report**  
**Intersection 6: 10th Street/8th Avenue/8th Court**

|                  |                 |                           |       |
|------------------|-----------------|---------------------------|-------|
| Control Type:    | Two-way stop    | Delay (sec / veh):        | 55.2  |
| Analysis Method: | HCM 7th Edition | Level Of Service:         | F     |
| Analysis Period: | 15 minutes      | Volume to Capacity (v/c): | 0.318 |

**Intersection Setup**

| Name                         | 10th Street                                                                       |        |        | 10th Street                                                                       |        |        | 8th Avenue                                                                          |        |        | 8th Court                                                                           |        |       |
|------------------------------|-----------------------------------------------------------------------------------|--------|--------|-----------------------------------------------------------------------------------|--------|--------|-------------------------------------------------------------------------------------|--------|--------|-------------------------------------------------------------------------------------|--------|-------|
| Approach                     | Northbound                                                                        |        |        | Southbound                                                                        |        |        | Eastbound                                                                           |        |        | Westbound                                                                           |        |       |
| Lane Configuration           |  |        |        |  |        |        |  |        |        |  |        |       |
| Turning Movement             | Left                                                                              | Thru   | Right  | Left                                                                              | Thru   | Right  | Left                                                                                | Thru   | Right  | Left                                                                                | Thru   | Right |
| Lane Width [ft]              | 12.00                                                                             | 12.00  | 12.00  | 12.00                                                                             | 12.00  | 12.00  | 12.00                                                                               | 12.00  | 12.00  | 12.00                                                                               | 12.00  | 12.00 |
| No. of Lanes in Entry Pocket | 0                                                                                 | 0      | 0      | 1                                                                                 | 0      | 0      | 0                                                                                   | 0      | 0      | 0                                                                                   | 0      | 1     |
| Entry Pocket Length [ft]     | 100.00                                                                            | 100.00 | 100.00 | 90.00                                                                             | 100.00 | 100.00 | 100.00                                                                              | 100.00 | 100.00 | 100.00                                                                              | 100.00 | 60.00 |
| No. of Lanes in Exit Pocket  | 0                                                                                 | 0      | 0      | 0                                                                                 | 0      | 0      | 0                                                                                   | 0      | 0      | 0                                                                                   | 0      | 0     |
| Exit Pocket Length [ft]      | 0.00                                                                              | 0.00   | 0.00   | 0.00                                                                              | 0.00   | 0.00   | 0.00                                                                                | 0.00   | 0.00   | 0.00                                                                                | 0.00   | 0.00  |
| Speed [mph]                  | 25.00                                                                             |        |        | 25.00                                                                             |        |        | 25.00                                                                               |        |        | 25.00                                                                               |        |       |
| Grade [%]                    | 0.00                                                                              |        |        | 0.00                                                                              |        |        | 0.00                                                                                |        |        | 0.00                                                                                |        |       |
| Crosswalk                    | Yes                                                                               |        |        | Yes                                                                               |        |        | Yes                                                                                 |        |        | Yes                                                                                 |        |       |

**Volumes**

| Name                                    | 10th Street |        |        | 10th Street |        |        | 8th Avenue |        |        | 8th Court |        |        |
|-----------------------------------------|-------------|--------|--------|-------------|--------|--------|------------|--------|--------|-----------|--------|--------|
| Base Volume Input [veh/h]               | 1           | 454    | 63     | 129         | 345    | 95     | 3          | 1      | 50     | 29        | 0      | 140    |
| Base Volume Adjustment Factor           | 1.0000      | 1.0000 | 1.0000 | 1.0000      | 1.0000 | 1.0000 | 1.0000     | 1.0000 | 1.0000 | 1.0000    | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%]           | 0.00        | 6.00   | 3.00   | 3.00        | 7.00   | 2.00   | 0.00       | 0.00   | 4.00   | 4.00      | 2.00   | 3.00   |
| Growth Factor                           | 1.0000      | 1.0000 | 1.0000 | 1.0000      | 1.0000 | 1.0000 | 1.0000     | 1.0000 | 1.0000 | 1.0000    | 1.0000 | 1.0000 |
| In-Process Volume [veh/h]               | 0           | 0      | 0      | 0           | 0      | 0      | 0          | 0      | 0      | 0         | 0      | 0      |
| Site-Generated Trips [veh/h]            | 0           | 0      | 0      | 0           | 0      | 0      | 0          | 0      | 0      | 0         | 0      | 0      |
| Diverted Trips [veh/h]                  | 0           | 0      | 0      | 0           | 0      | 0      | 0          | 0      | 0      | 0         | 0      | 0      |
| Pass-by Trips [veh/h]                   | 0           | 0      | 0      | 0           | 0      | 0      | 0          | 0      | 0      | 0         | 0      | 0      |
| Existing Site Adjustment Volume [veh/h] | 0           | 0      | 0      | 0           | 0      | 0      | 0          | 0      | 0      | 0         | 0      | 0      |
| Other Volume [veh/h]                    | 0           | 0      | 0      | 0           | 0      | 0      | 0          | 0      | 0      | 0         | 0      | 0      |
| Total Hourly Volume [veh/h]             | 1           | 454    | 63     | 129         | 345    | 95     | 3          | 1      | 50     | 29        | 0      | 140    |
| Peak Hour Factor                        | 0.8900      | 0.8900 | 0.8900 | 0.8900      | 0.8900 | 0.8900 | 0.8900     | 0.8900 | 0.8900 | 0.8900    | 1.0000 | 0.8900 |
| Other Adjustment Factor                 | 1.0000      | 1.0000 | 1.0000 | 1.0000      | 1.0000 | 1.0000 | 1.0000     | 1.0000 | 1.0000 | 1.0000    | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h]          | 0           | 128    | 18     | 36          | 97     | 27     | 1          | 0      | 14     | 8         | 0      | 39     |
| Total Analysis Volume [veh/h]           | 1           | 510    | 71     | 145         | 388    | 107    | 3          | 1      | 56     | 33        | 0      | 157    |
| Pedestrian Volume [ped/h]               | 1           |        |        | 1           |        |        | 1          |        |        | 0         |        |        |

**Intersection Settings**

|                                    |      |      |      |      |
|------------------------------------|------|------|------|------|
| Priority Scheme                    | Free | Free | Stop | Stop |
| Flared Lane                        |      |      | No   |      |
| Storage Area [veh]                 | 0    | 0    | 0    | 0    |
| Two-Stage Gap Acceptance           |      |      | No   | No   |
| Number of Storage Spaces in Median | 0    | 0    | 0    | 0    |

**Movement, Approach, & Intersection Results**

|                                       |      |      |      |       |      |      |       |       |       |       |      |       |
|---------------------------------------|------|------|------|-------|------|------|-------|-------|-------|-------|------|-------|
| V/C, Movement V/C Ratio               | 0.00 | 0.01 | 0.00 | 0.15  | 0.00 | 0.00 | 0.04  | 0.01  | 0.09  | 0.32  | 0.00 | 0.29  |
| d_M, Delay for Movement [s/veh]       | 8.34 | 0.00 | 0.00 | 9.27  | 0.00 | 0.00 | 53.54 | 32.89 | 12.25 | 55.15 | 0.00 | 14.51 |
| Movement LOS                          | A    | A    | A    | A     | A    | A    | F     | D     | B     | F     |      | B     |
| 95th-Percentile Queue Length [veh/ln] | 0.00 | 0.00 | 0.00 | 0.51  | 0.00 | 0.00 | 0.48  | 0.48  | 0.48  | 1.23  | 0.00 | 1.22  |
| 95th-Percentile Queue Length [ft/ln]  | 0.04 | 0.04 | 0.04 | 12.84 | 0.00 | 0.00 | 11.95 | 11.95 | 11.95 | 30.74 | 0.00 | 30.39 |
| d_A, Approach Delay [s/veh]           | 0.01 |      |      | 2.10  |      |      | 14.66 |       |       | 21.57 |      |       |
| Approach LOS                          | A    |      |      | A     |      |      | B     |       |       | C     |      |       |
| d_I, Intersection Delay [s/veh]       | 4.30 |      |      |       |      |      |       |       |       |       |      |       |
| Intersection LOS                      | F    |      |      |       |      |      |       |       |       |       |      |       |

**Intersection Level Of Service Report****Intersection 1: Blankenship Road/Realigned Tannler Drive**

|                  |                 |                           |       |
|------------------|-----------------|---------------------------|-------|
| Control Type:    | Signalized      | Delay (sec / veh):        | 17.6  |
| Analysis Method: | HCM 7th Edition | Level Of Service:         | B     |
| Analysis Period: | 15 minutes      | Volume to Capacity (v/c): | 0.690 |

**Intersection Setup**

| Name                         | Pa Ha                                                                             |        |        | Realigned Tannler Drive                                                           |        |        | Blankenship Road                                                                    |        |        | Blankenship Road                                                                    |        |        |
|------------------------------|-----------------------------------------------------------------------------------|--------|--------|-----------------------------------------------------------------------------------|--------|--------|-------------------------------------------------------------------------------------|--------|--------|-------------------------------------------------------------------------------------|--------|--------|
| Approach                     | Northbound                                                                        |        |        | Southbound                                                                        |        |        | Eastbound                                                                           |        |        | Westbound                                                                           |        |        |
| Lane Configuration           |  |        |        |  |        |        |  |        |        |  |        |        |
| Turning Movement             | Left                                                                              | Thru   | Right  | Left                                                                              | Thru   | Right  | Left                                                                                | Thru   | Right  | Left                                                                                | Thru   | Right  |
| Lane Width [ft]              | 12.00                                                                             | 12.00  | 12.00  | 12.00                                                                             | 12.00  | 12.00  | 12.00                                                                               | 12.00  | 12.00  | 12.00                                                                               | 12.00  | 12.00  |
| No. of Lanes in Entry Pocket | 0                                                                                 | 0      | 0      | 0                                                                                 | 0      | 0      | 1                                                                                   | 0      | 0      | 1                                                                                   | 0      | 0      |
| Entry Pocket Length [ft]     | 100.00                                                                            | 100.00 | 100.00 | 100.00                                                                            | 100.00 | 100.00 | 100.00                                                                              | 100.00 | 100.00 | 150.00                                                                              | 100.00 | 100.00 |
| No. of Lanes in Exit Pocket  | 0                                                                                 | 0      | 0      | 0                                                                                 | 0      | 0      | 0                                                                                   | 0      | 0      | 0                                                                                   | 0      | 0      |
| Exit Pocket Length [ft]      | 0.00                                                                              | 0.00   | 0.00   | 0.00                                                                              | 0.00   | 0.00   | 0.00                                                                                | 0.00   | 0.00   | 0.00                                                                                | 0.00   | 0.00   |
| Speed [mph]                  | 25.00                                                                             |        |        | 30.00                                                                             |        |        | 25.00                                                                               |        |        | 25.00                                                                               |        |        |
| Grade [%]                    | 12.00                                                                             |        |        | 0.00                                                                              |        |        | 0.00                                                                                |        |        | 0.00                                                                                |        |        |
| Curb Present                 | No                                                                                |        |        | No                                                                                |        |        | No                                                                                  |        |        | No                                                                                  |        |        |
| Crosswalk                    | Yes                                                                               |        |        | Yes                                                                               |        |        | Yes                                                                                 |        |        | Yes                                                                                 |        |        |

**Volumes**

| Name                                        | Pa Ha  |        |        | Realigned Tannler Drive |        |        | Blankenship Road |        |        | Blankenship Road |        |        |
|---------------------------------------------|--------|--------|--------|-------------------------|--------|--------|------------------|--------|--------|------------------|--------|--------|
| Base Volume Input [veh/h]                   | 15     | 2      | 28     | 176                     | 2      | 77     | 139              | 729    | 24     | 17               | 264    | 152    |
| Base Volume Adjustment Factor               | 1.0000 | 1.0000 | 1.0000 | 1.0000                  | 1.0000 | 1.0000 | 1.0000           | 1.0000 | 1.0000 | 1.0000           | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%]               | 0.00   | 0.00   | 4.00   | 1.00                    | 0.00   | 0.00   | 1.00             | 1.00   | 0.00   | 0.00             | 1.00   | 0.00   |
| Proportion of CAVs [%]                      | 0.00   |        |        |                         |        |        |                  |        |        |                  |        |        |
| Growth Factor                               | 1.0000 | 1.0000 | 1.0000 | 1.0000                  | 1.0000 | 1.0000 | 1.0000           | 1.0000 | 1.0000 | 1.0000           | 1.0000 | 1.0000 |
| In-Process Volume [veh/h]                   | 0      | 0      | 0      | 0                       | 0      | 0      | 0                | 0      | 0      | 0                | 0      | 0      |
| Site-Generated Trips [veh/h]                | 0      | 0      | 0      | 0                       | 0      | 0      | 0                | 0      | 0      | 0                | 0      | 0      |
| Diverted Trips [veh/h]                      | 0      | 0      | 0      | 0                       | 0      | 0      | 0                | 0      | 0      | 0                | 0      | 0      |
| Pass-by Trips [veh/h]                       | 0      | 0      | 0      | 0                       | 0      | 0      | 0                | 0      | 0      | 0                | 0      | 0      |
| Existing Site Adjustment Volume [veh/h]     | 0      | 0      | 0      | 0                       | 0      | 0      | 0                | 0      | 0      | 0                | 0      | 0      |
| Other Volume [veh/h]                        | 0      | 0      | 0      | 0                       | 0      | 0      | 0                | 0      | 0      | 0                | 0      | 0      |
| Right Turn on Red Volume [veh/h]            | 0      | 0      | 0      | 0                       | 0      | 0      | 0                | 0      | 0      | 0                | 0      | 0      |
| Total Hourly Volume [veh/h]                 | 15     | 2      | 28     | 176                     | 2      | 77     | 139              | 729    | 24     | 17               | 264    | 152    |
| Peak Hour Factor                            | 0.9300 | 0.9300 | 0.9300 | 0.9300                  | 0.9300 | 0.9300 | 0.9300           | 0.9300 | 0.9300 | 0.9300           | 0.9300 | 0.9300 |
| Other Adjustment Factor                     | 1.0000 | 1.0000 | 1.0000 | 1.0000                  | 1.0000 | 1.0000 | 1.0000           | 1.0000 | 1.0000 | 1.0000           | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h]              | 4      | 1      | 8      | 47                      | 1      | 21     | 37               | 196    | 6      | 5                | 71     | 41     |
| Total Analysis Volume [veh/h]               | 16     | 2      | 30     | 189                     | 2      | 83     | 149              | 784    | 26     | 18               | 284    | 163    |
| Presence of On-Street Parking               | No     |        | No     | No                      |        | No     | No               |        | No     | No               |        | No     |
| On-Street Parking Maneuver Rate [/h]        | 0      | 0      | 0      | 0                       | 0      | 0      | 0                | 0      | 0      | 0                | 0      | 0      |
| Local Bus Stopping Rate [/h]                | 0      | 0      | 0      | 0                       | 0      | 0      | 0                | 0      | 0      | 0                | 0      | 0      |
| v_do, Outbound Pedestrian Volume crossing   | 5      |        |        | 5                       |        |        | 5                |        |        | 5                |        |        |
| v_di, Inbound Pedestrian Volume crossing m  | 5      |        |        | 5                       |        |        | 5                |        |        | 5                |        |        |
| v_co, Outbound Pedestrian Volume crossing   | 3      |        |        | 5                       |        |        | 3                |        |        | 5                |        |        |
| v_ci, Inbound Pedestrian Volume crossing mi | 3      |        |        | 5                       |        |        | 3                |        |        | 5                |        |        |
| v_ab, Corner Pedestrian Volume [ped/h]      | 0      |        |        | 0                       |        |        | 0                |        |        | 0                |        |        |
| Bicycle Volume [bicycles/h]                 | 0      |        |        | 0                       |        |        | 1                |        |        | 0                |        |        |

**Intersection Settings**

|                           |                                       |
|---------------------------|---------------------------------------|
| Located in CBD            | No                                    |
| Signal Coordination Group | -                                     |
| Cycle Length [s]          | 90                                    |
| Active Pattern            | Free Running (No Pattern)             |
| Coordination Type         | <i>Free Running</i>                   |
| Actuation Type            | <i>Fully actuated</i>                 |
| Offset [s]                | 0.0                                   |
| Offset Reference          | Lead Green - Beginning of First Green |
| Permissive Mode           | SingleBand                            |
| Lost time [s]             | 12.00                                 |

**Phasing & Timing (Basic)**

| Control Type                    | Split | Split | Split | Split | Split | Split | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss |
|---------------------------------|-------|-------|-------|-------|-------|-------|---------|---------|---------|---------|---------|---------|
| Flashing Yellow Arrow           |       |       |       |       |       |       | No      |         |         | No      |         |         |
| Signal Group                    | 0     | 8     | 0     | 0     | 4     | 0     | 0       | 2       | 0       | 0       | 6       | 0       |
| Auxiliary Signal Groups         |       |       |       |       |       |       |         |         |         |         |         |         |
| Maximum Green [s]               | 0     | 5     | 0     | 0     | 10    | 0     | 0       | 40      | 0       | 0       | 40      | 0       |
| Amber [s]                       | 0.0   | 4.0   | 0.0   | 0.0   | 4.0   | 0.0   | 0.0     | 4.0     | 0.0     | 0.0     | 4.0     | 0.0     |
| All red [s]                     | 0.0   | 1.5   | 0.0   | 0.0   | 1.5   | 0.0   | 0.0     | 1.5     | 0.0     | 0.0     | 1.5     | 0.0     |
| Walk [s]                        | 0.0   | 5.0   | 0.0   | 0.0   | 5.0   | 0.0   | 0.0     | 5.0     | 0.0     | 0.0     | 5.0     | 0.0     |
| Pedestrian Clearance [s]        | 0.0   | 17.0  | 0.0   | 0.0   | 17.0  | 0.0   | 0.0     | 17.0    | 0.0     | 0.0     | 17.0    | 0.0     |
| Delayed Vehicle Green [s]       | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     |
| Rest In Walk                    |       | No    |       |       | No    |       |         | No      |         |         | No      |         |
| I1, Start-Up Lost Time [s]      | 0.0   | 2.0   | 0.0   | 0.0   | 2.0   | 0.0   | 0.0     | 2.0     | 0.0     | 0.0     | 2.0     | 0.0     |
| I2, Clearance Lost Time [s]     | 0.0   | 3.5   | 0.0   | 0.0   | 3.5   | 0.0   | 0.0     | 3.5     | 0.0     | 0.0     | 3.5     | 0.0     |
| Detector Location [ft]          | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     |
| Detector Length [ft]            | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     |
| Advanced Detector Location [ft] | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     |
| Advanced Detector Length [ft]   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     |
| I, Upstream Filtering Factor    | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00    | 1.00    | 1.00    | 1.00    | 1.00    | 1.00    |

**Phasing & Timing: Free Running (No Pattern)**

|                       |     |      |     |     |      |     |     |      |     |     |      |     |
|-----------------------|-----|------|-----|-----|------|-----|-----|------|-----|-----|------|-----|
| Split [s]             | 0.0 | 14.0 | 0.0 | 0.0 | 14.0 | 0.0 | 0.0 | 14.0 | 0.0 | 0.0 | 14.0 | 0.0 |
| Lead / Lag            | -   | -    | -   | -   | -    | -   | -   | -    | -   | -   | -    | -   |
| Minimum Green [s]     | 0   | 5    | 0   | 0   | 10   | 0   | 0   | 10   | 0   | 0   | 10   | 0   |
| Vehicle Extension [s] | 0.0 | 3.0  | 0.0 | 0.0 | 3.0  | 0.0 | 0.0 | 3.0  | 0.0 | 0.0 | 3.0  | 0.0 |
| Minimum Recall        |     | No   |     |     | No   |     |     | No   |     |     | No   |     |
| Maximum Recall        |     | No   |     |     | No   |     |     | Yes  |     |     | Yes  |     |
| Pedestrian Recall     |     | No   |     |     | No   |     |     | No   |     |     | No   |     |

**Exclusive Pedestrian Phase**

|                          |   |
|--------------------------|---|
| Pedestrian Signal Group  | 0 |
| Pedestrian Walk [s]      | 0 |
| Pedestrian Clearance [s] | 0 |

**Lane Group Calculations**

| Lane Group                              | C     | C     | R     | L     | C     | L     | C    |
|-----------------------------------------|-------|-------|-------|-------|-------|-------|------|
| C, Calculated Cycle Length [s]          | 71    | 71    | 71    | 71    | 71    | 71    | 71   |
| L, Total Lost Time per Cycle [s]        | 5.50  | 5.50  | 5.50  | 5.50  | 5.50  | 5.50  | 5.50 |
| l1_p, Permitted Start-Up Lost Time [s]  | 0.00  | 0.00  | 0.00  | 2.00  | 0.00  | 2.00  | 0.00 |
| l2, Clearance Lost Time [s]             | 3.50  | 3.50  | 3.50  | 3.50  | 3.50  | 3.50  | 3.50 |
| g_i, Effective Green Time [s]           | 4.9   | 10.0  | 10.0  | 40.0  | 40.0  | 40.0  | 40.0 |
| g / C, Green / Cycle                    | 0.07  | 0.14  | 0.14  | 0.56  | 0.56  | 0.56  | 0.56 |
| (v / s)_i Volume / Saturation Flow Rate | 0.04  | 0.11  | 0.05  | 0.16  | 0.43  | 0.03  | 0.25 |
| s, saturation flow rate [veh/h]         | 1337  | 1810  | 1557  | 948   | 1873  | 684   | 1765 |
| c, Capacity [veh/h]                     | 92    | 253   | 218   | 509   | 1049  | 237   | 988  |
| d1, Uniform Delay [s]                   | 32.11 | 29.53 | 27.84 | 13.73 | 12.18 | 17.22 | 4.85 |
| k, delay calibration                    | 0.11  | 0.15  | 0.11  | 0.50  | 0.50  | 0.50  | 0.50 |
| l, Upstream Filtering Factor            | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00 |
| d2, Incremental Delay [s]               | 4.50  | 6.31  | 1.09  | 1.46  | 5.53  | 0.62  | 1.49 |
| d3, Initial Queue Delay [s]             | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00 |
| Rp, platoon ratio                       | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.33  | 1.33 |
| PF, progression factor                  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00 |

**Lane Group Results**

|                                       |       |        |       |       |        |       |        |
|---------------------------------------|-------|--------|-------|-------|--------|-------|--------|
| X, volume / capacity                  | 0.52  | 0.75   | 0.38  | 0.29  | 0.77   | 0.08  | 0.45   |
| d, Delay for Lane Group [s/veh]       | 36.61 | 35.83  | 28.93 | 15.18 | 17.71  | 17.84 | 6.35   |
| Lane Group LOS                        | D     | D      | C     | B     | B      | B     | A      |
| Critical Lane Group                   | Yes   | Yes    | No    | No    | Yes    | No    | No     |
| 50th-Percentile Queue Length [veh/ln] | 0.90  | 3.47   | 1.31  | 1.73  | 10.27  | 0.25  | 2.24   |
| 50th-Percentile Queue Length [ft/ln]  | 22.56 | 86.77  | 32.66 | 43.29 | 256.72 | 6.16  | 55.92  |
| 95th-Percentile Queue Length [veh/ln] | 1.62  | 6.25   | 2.35  | 3.12  | 15.52  | 0.44  | 4.03   |
| 95th-Percentile Queue Length [ft/ln]  | 40.61 | 156.18 | 58.78 | 77.92 | 388.10 | 11.09 | 100.66 |

**Movement, Approach, & Intersection Results**

|                                 |       |       |       |       |       |       |       |       |       |       |      |      |
|---------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|------|
| d_M, Delay for Movement [s/veh] | 36.61 | 36.61 | 36.61 | 35.83 | 35.83 | 28.93 | 15.18 | 17.71 | 17.71 | 17.84 | 6.35 | 6.35 |
| Movement LOS                    | D     | D     | D     | D     | D     | C     | B     | B     | B     | B     | A    | A    |
| d_A, Approach Delay [s/veh]     | 36.61 |       |       | 33.74 |       |       | 17.31 |       |       | 6.79  |      |      |
| Approach LOS                    | D     |       |       | C     |       |       | B     |       |       | A     |      |      |
| d_I, Intersection Delay [s/veh] | 17.62 |       |       |       |       |       |       |       |       |       |      |      |
| Intersection LOS                | B     |       |       |       |       |       |       |       |       |       |      |      |
| Intersection V/C                | 0.690 |       |       |       |       |       |       |       |       |       |      |      |

**Emissions**

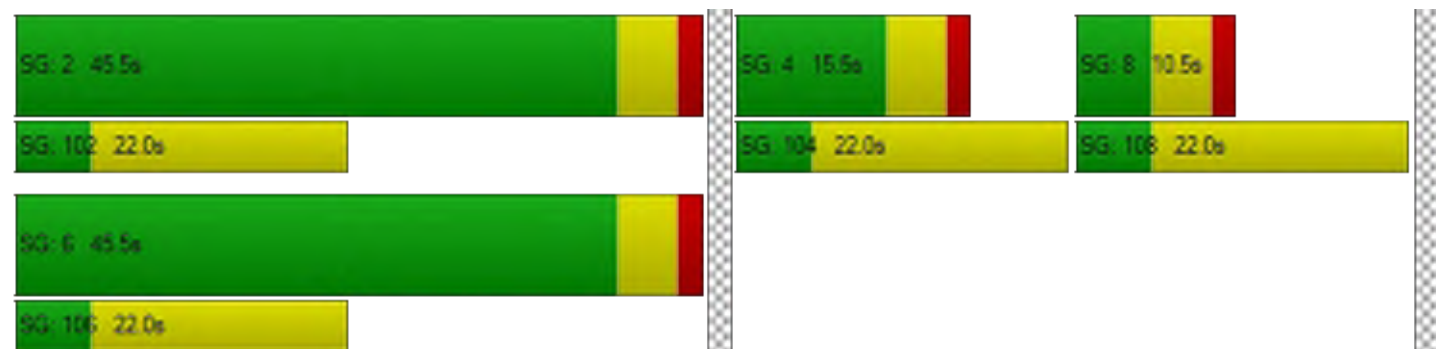
|                              |       |        |       |       |        |       |        |
|------------------------------|-------|--------|-------|-------|--------|-------|--------|
| Vehicle Miles Traveled [mph] | 1.57  | 6.58   | 2.86  | 5.45  | 29.62  | 1.27  | 31.52  |
| Stops [stops/h]              | 45.50 | 174.97 | 65.85 | 87.30 | 517.70 | 12.43 | 112.78 |
| Fuel consumption [US gal/h]  | 0.60  | 2.63   | 0.97  | 1.04  | 6.24   | 0.17  | 2.43   |
| CO [g/h]                     | 42.14 | 183.87 | 67.82 | 72.72 | 435.96 | 11.89 | 169.70 |
| NOx [g/h]                    | 8.20  | 35.77  | 13.20 | 14.15 | 84.82  | 2.31  | 33.02  |
| VOC [g/h]                    | 9.77  | 42.61  | 15.72 | 16.85 | 101.04 | 2.76  | 39.33  |

**Other Modes**

|                                                          |         |        |        |        |
|----------------------------------------------------------|---------|--------|--------|--------|
| g_Walk,mi, Effective Walk Time [s]                       | 9.0     | 9.0    | 9.0    | 9.0    |
| M_corner, Corner Circulation Area [ft <sup>2</sup> /ped] | 179.83  | 140.46 | 179.83 | 140.46 |
| M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]  | 1208.70 | 439.23 | 770.72 | 896.26 |
| d_p, Pedestrian Delay [s]                                | 27.27   | 27.27  | 27.27  | 27.27  |
| I_p,int, Pedestrian LOS Score for Intersectio            | 1.769   | 2.333  | 2.294  | 2.328  |
| Crosswalk LOS                                            | A       | B      | B      | B      |
| s_b, Saturation Flow Rate of the bicycle lane            | 2000    | 2000   | 2000   | 2000   |
| c_b, Capacity of the bicycle lane [bicycles/h]           | 140     | 280    | 1120   | 1120   |
| d_b, Bicycle Delay [s]                                   | 30.88   | 26.40  | 6.91   | 6.91   |
| I_b,int, Bicycle LOS Score for Intersection              | 1.639   | 2.012  | 3.142  | 2.327  |
| Bicycle LOS                                              | A       | B      | C      | B      |

**Sequence**

|        |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|--------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | 2 | - | 4 | 8 | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | 6 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |



**Intersection Level Of Service Report****Intersection 2: Blankenship Road/Shopping Center Driveway**

|                  |                 |                           |       |
|------------------|-----------------|---------------------------|-------|
| Control Type:    | Two-way stop    | Delay (sec / veh):        | 27.0  |
| Analysis Method: | HCM 7th Edition | Level Of Service:         | D     |
| Analysis Period: | 15 minutes      | Volume to Capacity (v/c): | 0.012 |

**Intersection Setup**

| Name                         | Dutch Bros Driveway                                                               |       | Blankenship Road                                                                   |        | Blankenship Road                                                                    |        |
|------------------------------|-----------------------------------------------------------------------------------|-------|------------------------------------------------------------------------------------|--------|-------------------------------------------------------------------------------------|--------|
| Approach                     | Northbound                                                                        |       | Eastbound                                                                          |        | Westbound                                                                           |        |
| Lane Configuration           |  |       |  |        |  |        |
| Turning Movement             | Left                                                                              | Right | Thru                                                                               | Right  | Left                                                                                | Thru   |
| Lane Width [ft]              | 12.00                                                                             | 12.00 | 12.00                                                                              | 12.00  | 12.00                                                                               | 12.00  |
| No. of Lanes in Entry Pocket | 0                                                                                 | 1     | 0                                                                                  | 0      | 1                                                                                   | 0      |
| Entry Pocket Length [ft]     | 100.00                                                                            | 90.00 | 100.00                                                                             | 100.00 | 100.00                                                                              | 100.00 |
| No. of Lanes in Exit Pocket  | 0                                                                                 | 0     | 0                                                                                  | 0      | 0                                                                                   | 0      |
| Exit Pocket Length [ft]      | 0.00                                                                              | 0.00  | 0.00                                                                               | 0.00   | 0.00                                                                                | 0.00   |
| Speed [mph]                  | 25.00                                                                             |       | 25.00                                                                              |        | 25.00                                                                               |        |
| Grade [%]                    | 7.00                                                                              |       | 0.00                                                                               |        | 0.00                                                                                |        |
| Crosswalk                    | Yes                                                                               |       | No                                                                                 |        | No                                                                                  |        |

**Volumes**

| Name                                    | Dutch Bros Driveway |        | Blankenship Road |        | Blankenship Road |        |
|-----------------------------------------|---------------------|--------|------------------|--------|------------------|--------|
| Base Volume Input [veh/h]               | 2                   | 64     | 926              | 7      | 43               | 431    |
| Base Volume Adjustment Factor           | 1.0000              | 1.0000 | 1.0000           | 1.0000 | 1.0000           | 1.0000 |
| Heavy Vehicles Percentage [%]           | 0.00                | 3.00   | 1.00             | 0.00   | 2.00             | 2.00   |
| Growth Factor                           | 1.0000              | 1.0000 | 1.0000           | 1.0000 | 1.0000           | 1.0000 |
| In-Process Volume [veh/h]               | 0                   | 0      | 0                | 0      | 0                | 0      |
| Site-Generated Trips [veh/h]            | 0                   | 0      | 0                | 0      | 0                | 0      |
| Diverted Trips [veh/h]                  | 0                   | 0      | 0                | 0      | 0                | 0      |
| Pass-by Trips [veh/h]                   | 0                   | 0      | 0                | 0      | 0                | 0      |
| Existing Site Adjustment Volume [veh/h] | 0                   | 0      | 0                | 0      | 0                | 0      |
| Other Volume [veh/h]                    | 0                   | 0      | 0                | 0      | 0                | 0      |
| Total Hourly Volume [veh/h]             | 2                   | 64     | 926              | 7      | 43               | 431    |
| Peak Hour Factor                        | 0.9200              | 0.9200 | 0.9200           | 0.9200 | 0.9200           | 0.9200 |
| Other Adjustment Factor                 | 1.0000              | 1.0000 | 1.0000           | 1.0000 | 1.0000           | 1.0000 |
| Total 15-Minute Volume [veh/h]          | 1                   | 17     | 252              | 2      | 12               | 117    |
| Total Analysis Volume [veh/h]           | 2                   | 70     | 1007             | 8      | 47               | 468    |
| Pedestrian Volume [ped/h]               | 1                   |        | 0                |        | 0                |        |

**Intersection Settings**

|                                    |      |      |      |
|------------------------------------|------|------|------|
| Priority Scheme                    | Stop | Free | Free |
| Flared Lane                        |      |      |      |
| Storage Area [veh]                 | 0    | 0    | 0    |
| Two-Stage Gap Acceptance           | Yes  |      |      |
| Number of Storage Spaces in Median | 1    | 0    | 0    |

**Movement, Approach, & Intersection Results**

|                                       |       |       |      |      |       |      |
|---------------------------------------|-------|-------|------|------|-------|------|
| V/C, Movement V/C Ratio               | 0.01  | 0.30  | 0.01 | 0.00 | 0.07  | 0.00 |
| d_M, Delay for Movement [s/veh]       | 27.02 | 26.41 | 0.00 | 0.00 | 10.67 | 0.00 |
| Movement LOS                          | D     | D     | A    | A    | B     | A    |
| 95th-Percentile Queue Length [veh/ln] | 0.04  | 1.19  | 0.00 | 0.00 | 0.22  | 0.00 |
| 95th-Percentile Queue Length [ft/ln]  | 0.92  | 29.71 | 0.00 | 0.00 | 5.54  | 0.00 |
| d_A, Approach Delay [s/veh]           | 26.42 |       | 0.00 |      | 0.97  |      |
| Approach LOS                          | D     |       | A    |      | A     |      |
| d_I, Intersection Delay [s/veh]       | 1.50  |       |      |      |       |      |
| Intersection LOS                      | D     |       |      |      |       |      |

**Intersection Level Of Service Report****Intersection 3: Blankenship Road/Salamo Road/10th Street**

|                  |                 |                           |       |
|------------------|-----------------|---------------------------|-------|
| Control Type:    | Signalized      | Delay (sec / veh):        | 38.7  |
| Analysis Method: | HCM 7th Edition | Level Of Service:         | D     |
| Analysis Period: | 15 minutes      | Volume to Capacity (v/c): | 0.501 |

**Intersection Setup**

| Name                         | 10th Street                                                                       |        | Blankenship Road                                                                    |        | Salamo Road                                                                         |        |
|------------------------------|-----------------------------------------------------------------------------------|--------|-------------------------------------------------------------------------------------|--------|-------------------------------------------------------------------------------------|--------|
| Approach                     | Northbound                                                                        |        | Eastbound                                                                           |        | Westbound                                                                           |        |
| Lane Configuration           |  |        |  |        |  |        |
| Turning Movement             | Left                                                                              | Right  | Thru                                                                                | Right  | Left                                                                                | Thru   |
| Lane Width [ft]              | 12.00                                                                             | 12.00  | 12.00                                                                               | 12.00  | 12.00                                                                               | 12.00  |
| No. of Lanes in Entry Pocket | 0                                                                                 | 1      | 0                                                                                   | 1      | 1                                                                                   | 0      |
| Entry Pocket Length [ft]     | 100.00                                                                            | 100.00 | 100.00                                                                              | 100.00 | 250.00                                                                              | 100.00 |
| No. of Lanes in Exit Pocket  | 0                                                                                 | 0      | 0                                                                                   | 0      | 0                                                                                   | 0      |
| Exit Pocket Length [ft]      | 0.00                                                                              | 0.00   | 0.00                                                                                | 0.00   | 0.00                                                                                | 0.00   |
| Speed [mph]                  | 25.00                                                                             |        | 25.00                                                                               |        | 35.00                                                                               |        |
| Grade [%]                    | 7.00                                                                              |        | 0.00                                                                                |        | -3.00                                                                               |        |
| Curb Present                 | No                                                                                |        | No                                                                                  |        | No                                                                                  |        |
| Crosswalk                    | Yes                                                                               |        | No                                                                                  |        | No                                                                                  |        |

**Volumes**

| Name                                        | 10th Street |        | Blankenship Road |        | Salamo Road |        |
|---------------------------------------------|-------------|--------|------------------|--------|-------------|--------|
| Base Volume Input [veh/h]                   | 367         | 313    | 158              | 833    | 399         | 107    |
| Base Volume Adjustment Factor               | 1.0000      | 1.0000 | 1.0000           | 1.0000 | 1.0000      | 1.0000 |
| Heavy Vehicles Percentage [%]               | 1.00        | 1.00   | 1.00             | 2.00   | 3.00        | 1.00   |
| Proportion of CAVs [%]                      | 0.00        |        |                  |        |             |        |
| Growth Factor                               | 1.0000      | 1.0000 | 1.0000           | 1.0000 | 1.0000      | 1.0000 |
| In-Process Volume [veh/h]                   | 0           | 0      | 0                | 0      | 0           | 0      |
| Site-Generated Trips [veh/h]                | 0           | 0      | 0                | 0      | 0           | 0      |
| Diverted Trips [veh/h]                      | 0           | 0      | 0                | 0      | 0           | 0      |
| Pass-by Trips [veh/h]                       | 0           | 0      | 0                | 0      | 0           | 0      |
| Existing Site Adjustment Volume [veh/h]     | 0           | 0      | 0                | 0      | 0           | 0      |
| Other Volume [veh/h]                        | 0           | 0      | 0                | 0      | 0           | 0      |
| Right Turn on Red Volume [veh/h]            | 0           | 17     | 0                | 18     | 0           | 0      |
| Total Hourly Volume [veh/h]                 | 367         | 296    | 158              | 815    | 399         | 107    |
| Peak Hour Factor                            | 0.9400      | 0.9400 | 0.9400           | 0.9400 | 0.9400      | 0.9400 |
| Other Adjustment Factor                     | 1.0000      | 1.0000 | 1.0000           | 1.0000 | 1.0000      | 1.0000 |
| Total 15-Minute Volume [veh/h]              | 98          | 79     | 42               | 217    | 106         | 28     |
| Total Analysis Volume [veh/h]               | 390         | 315    | 168              | 867    | 424         | 114    |
| Presence of On-Street Parking               | No          | No     | No               | No     | No          | No     |
| On-Street Parking Maneuver Rate [/h]        | 0           | 0      | 0                | 0      | 0           | 0      |
| Local Bus Stopping Rate [/h]                | 0           | 0      | 0                | 0      | 0           | 0      |
| v_do, Outbound Pedestrian Volume crossing   | 0           |        | 0                |        | 0           |        |
| v_di, Inbound Pedestrian Volume crossing m  | 0           |        | 0                |        | 0           |        |
| v_co, Outbound Pedestrian Volume crossing   | 0           |        | 0                |        | 0           |        |
| v_ci, Inbound Pedestrian Volume crossing mi | 0           |        | 0                |        | 0           |        |
| v_ab, Corner Pedestrian Volume [ped/h]      | 0           |        | 0                |        | 0           |        |
| Bicycle Volume [bicycles/h]                 | 1           |        | 1                |        | 0           |        |

**Intersection Settings**

|                           |                                       |
|---------------------------|---------------------------------------|
| Located in CBD            | No                                    |
| Signal Coordination Group | -                                     |
| Cycle Length [s]          | 90                                    |
| Active Pattern            | Free Running (No Pattern)             |
| Coordination Type         | <i>Free Running</i>                   |
| Actuation Type            | <i>Fully actuated</i>                 |
| Offset [s]                | 0.0                                   |
| Offset Reference          | Lead Green - Beginning of First Green |
| Permissive Mode           | SingleBand                            |
| Lost time [s]             | 12.00                                 |

**Phasing & Timing (Basic)**

| Control Type                    | Overlap | Overlap | Permissive | Overlap | Protected | Permissive |
|---------------------------------|---------|---------|------------|---------|-----------|------------|
| Flashing Yellow Arrow           |         |         |            |         |           |            |
| Signal Group                    | 6       | 6       | 4          | 5       | 3         | 8          |
| Auxiliary Signal Groups         | 5,6,7   | 3,5,6,7 |            | 4,5,7   |           |            |
| Maximum Green [s]               | 6       | 6       | 16         | 40      | 35        | 32         |
| Amber [s]                       | 4.0     | 4.0     | 4.0        | 4.0     | 4.0       | 5.0        |
| All red [s]                     | 1.5     | 1.5     | 1.5        | 1.5     | 1.5       | 1.0        |
| Walk [s]                        | 0.0     | 0.0     | 8.0        | 7.0     | 7.0       | 0.0        |
| Pedestrian Clearance [s]        | 0.0     | 0.0     | 27.0       | 15.0    | 10.0      | 0.0        |
| Delayed Vehicle Green [s]       | 0.0     | 0.0     | 0.0        | 0.0     | 0.0       | 0.0        |
| Rest In Walk                    | No      |         | No         |         |           | No         |
| I1, Start-Up Lost Time [s]      | 2.0     | 2.0     | 2.0        | 2.0     | 2.0       | 2.0        |
| I2, Clearance Lost Time [s]     | 2.0     | 2.0     | 2.0        | 2.0     | 2.0       | 2.0        |
| Detector Location [ft]          | 0.0     | 0.0     | 0.0        | 0.0     | 0.0       | 0.0        |
| Detector Length [ft]            | 0.0     | 0.0     | 0.0        | 0.0     | 0.0       | 0.0        |
| Advanced Detector Location [ft] | 0.0     | 0.0     | 0.0        | 0.0     | 0.0       | 0.0        |
| Advanced Detector Length [ft]   | 0.0     | 0.0     | 0.0        | 0.0     | 0.0       | 0.0        |
| I, Upstream Filtering Factor    | 1.00    | 1.00    | 1.00       | 1.00    | 1.00      | 1.00       |

**Phasing & Timing: Free Running (No Pattern)**

|                       |     |     |      |      |      |      |
|-----------------------|-----|-----|------|------|------|------|
| Split [s]             | 9.0 | 9.0 | 14.0 | 14.0 | 9.0  | 14.0 |
| Lead / Lag            | Lag | -   | -    | -    | Lead | -    |
| Minimum Green [s]     | 2   | 2   | 6    | 10   | 4    | 6    |
| Vehicle Extension [s] | 0.5 | 0.5 | 2.3  | 5.2  | 2.3  | 2.3  |
| Minimum Recall        | No  | No  | No   | Yes  | No   | No   |
| Maximum Recall        | No  | No  | No   | No   | No   | No   |
| Pedestrian Recall     | No  | No  | No   | No   | No   | No   |

**Exclusive Pedestrian Phase**

|                          |   |
|--------------------------|---|
| Pedestrian Signal Group  | 0 |
| Pedestrian Walk [s]      | 0 |
| Pedestrian Clearance [s] | 0 |

**Lane Group Calculations**

| Lane Group                              | L     | R     | C     | R     | L     | C     |
|-----------------------------------------|-------|-------|-------|-------|-------|-------|
| C, Calculated Cycle Length [s]          | 134   | 134   | 134   | 134   | 134   | 134   |
| L, Total Lost Time per Cycle [s]        | 4.00  | 4.00  | 4.00  | 4.00  | 4.00  | 4.00  |
| l1_p, Permitted Start-Up Lost Time [s]  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  |
| l2, Clearance Lost Time [s]             | 0.00  | 2.00  | 2.00  | 0.00  | 2.00  | 2.00  |
| g_i, Effective Green Time [s]           | 65.7  | 101.0 | 17.5  | 78.4  | 35.2  | 56.7  |
| g / C, Green / Cycle                    | 0.49  | 0.75  | 0.13  | 0.58  | 0.26  | 0.42  |
| (v / s)_i Volume / Saturation Flow Rate | 0.25  | 0.23  | 0.09  | 0.55  | 0.24  | 0.06  |
| s, saturation flow rate [veh/h]         | 1533  | 1351  | 1885  | 1577  | 1767  | 1885  |
| c, Capacity [veh/h]                     | 715   | 969   | 245   | 884   | 464   | 796   |
| d1, Uniform Delay [s]                   | 14.15 | 0.00  | 55.92 | 18.87 | 48.18 | 23.92 |
| k, delay calibration                    | 0.41  | 0.37  | 0.21  | 0.50  | 0.39  | 0.07  |
| l, Upstream Filtering Factor            | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  |
| d2, Incremental Delay [s]               | 2.44  | 0.66  | 6.44  | 25.99 | 20.99 | 0.05  |
| d3, Initial Queue Delay [s]             | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  |
| Rp, platoon ratio                       | 1.33  | 1.33  | 1.00  | 1.00  | 1.00  | 1.00  |
| PF, progression factor                  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  |

**Lane Group Results**

|                                       |        |      |        |        |        |        |
|---------------------------------------|--------|------|--------|--------|--------|--------|
| X, volume / capacity                  | 0.55   | 0.33 | 0.69   | 0.98   | 0.91   | 0.14   |
| d, Delay for Lane Group [s/veh]       | 16.59  | 0.66 | 62.36  | 44.85  | 69.17  | 23.97  |
| Lane Group LOS                        | B      | A    | E      | D      | E      | C      |
| Critical Lane Group                   | Yes    | No   | No     | Yes    | Yes    | No     |
| 50th-Percentile Queue Length [veh/ln] | 5.79   | 0.18 | 5.94   | 25.02  | 16.35  | 2.25   |
| 50th-Percentile Queue Length [ft/ln]  | 144.81 | 4.43 | 148.54 | 625.44 | 408.64 | 56.34  |
| 95th-Percentile Queue Length [veh/ln] | 9.74   | 0.32 | 9.94   | 33.22  | 22.98  | 4.06   |
| 95th-Percentile Queue Length [ft/ln]  | 243.49 | 7.97 | 248.48 | 830.51 | 574.40 | 101.41 |

**Movement, Approach, & Intersection Results**

|                                 |       |      |       |       |       |       |
|---------------------------------|-------|------|-------|-------|-------|-------|
| d_M, Delay for Movement [s/veh] | 16.59 | 0.66 | 62.36 | 44.85 | 69.17 | 23.97 |
| Movement LOS                    | B     | A    | E     | D     | E     | C     |
| d_A, Approach Delay [s/veh]     | 9.47  |      | 47.70 |       | 59.59 |       |
| Approach LOS                    | A     |      | D     |       | E     |       |
| d_I, Intersection Delay [s/veh] | 38.68 |      |       |       |       |       |
| Intersection LOS                | D     |      |       |       |       |       |
| Intersection V/C                | 0.501 |      |       |       |       |       |

**Emissions**

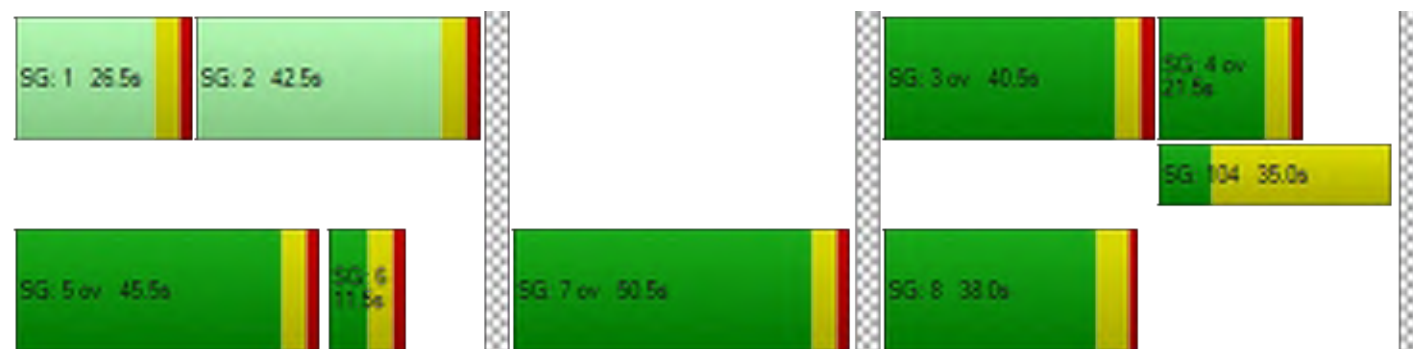
|                              |        |       |        |        |        |        |
|------------------------------|--------|-------|--------|--------|--------|--------|
| Vehicle Miles Traveled [mph] | 19.43  | 15.69 | 8.86   | 45.75  | 58.75  | 15.79  |
| Stops [stops/h]              | 155.06 | 4.74  | 159.06 | 669.72 | 437.57 | 60.33  |
| Fuel consumption [US gal/h]  | 2.79   | 0.77  | 3.14   | 12.54  | 11.50  | 1.61   |
| CO [g/h]                     | 194.70 | 53.56 | 219.53 | 876.50 | 803.67 | 112.67 |
| NOx [g/h]                    | 37.88  | 10.42 | 42.71  | 170.53 | 156.36 | 21.92  |
| VOC [g/h]                    | 45.12  | 12.41 | 50.88  | 203.14 | 186.26 | 26.11  |

**Other Modes**

|                                                          |       |       |       |
|----------------------------------------------------------|-------|-------|-------|
| g_Walk,mi, Effective Walk Time [s]                       | 12.0  | 0.0   | 0.0   |
| M_corner, Corner Circulation Area [ft <sup>2</sup> /ped] | 0.00  | 0.00  | 0.00  |
| M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]  | 0.00  | 0.00  | 0.00  |
| d_p, Pedestrian Delay [s]                                | 55.77 | 0.00  | 0.00  |
| I_p,int, Pedestrian LOS Score for Intersectio            | 2.586 | 0.000 | 0.000 |
| Crosswalk LOS                                            | B     | F     | F     |
| s_b, Saturation Flow Rate of the bicycle lane            | 2000  | 2000  | 2000  |
| c_b, Capacity of the bicycle lane [bicycles/h]           | 357   | 238   | 476   |
| d_b, Bicycle Delay [s]                                   | 45.40 | 52.22 | 39.05 |
| I_b,int, Bicycle LOS Score for Intersection              | 1.560 | 3.297 | 2.447 |
| Bicycle LOS                                              | A     | C     | B     |

**Sequence**

|        |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|--------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | 1 | 2 | - | 3 | 4 | - | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | 5 | 6 | 7 | 8 | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |



**Intersection Level Of Service Report**  
**Intersection 4: 10th Street/I-205 SB Ramp**

|                  |                 |                           |       |
|------------------|-----------------|---------------------------|-------|
| Control Type:    | Signalized      | Delay (sec / veh):        | 26.0  |
| Analysis Method: | HCM 7th Edition | Level Of Service:         | C     |
| Analysis Period: | 15 minutes      | Volume to Capacity (v/c): | 0.573 |

**Intersection Setup**

| Name                         | 10th Street                                                                       |        |        | 10th Street                                                                       |        |        | I-205 SB Entry Ramp                                                                 |        |        | I-205 SB Exit Ramp                                                                  |        |        |
|------------------------------|-----------------------------------------------------------------------------------|--------|--------|-----------------------------------------------------------------------------------|--------|--------|-------------------------------------------------------------------------------------|--------|--------|-------------------------------------------------------------------------------------|--------|--------|
| Approach                     | Northbound                                                                        |        |        | Southbound                                                                        |        |        | Eastbound                                                                           |        |        | Westbound                                                                           |        |        |
| Lane Configuration           |  |        |        |  |        |        |  |        |        |  |        |        |
| Turning Movement             | Left                                                                              | Thru   | Right  | Left                                                                              | Thru   | Right  | Left                                                                                | Thru   | Right  | Left                                                                                | Thru   | Right  |
| Lane Width [ft]              | 12.00                                                                             | 12.00  | 12.00  | 12.00                                                                             | 12.00  | 12.00  | 12.00                                                                               | 12.00  | 12.00  | 12.00                                                                               | 12.00  | 12.00  |
| No. of Lanes in Entry Pocket | 1                                                                                 | 0      | 0      | 0                                                                                 | 0      | 0      | 0                                                                                   | 0      | 0      | 0                                                                                   | 0      | 1      |
| Entry Pocket Length [ft]     | 200.00                                                                            | 100.00 | 100.00 | 100.00                                                                            | 100.00 | 100.00 | 100.00                                                                              | 100.00 | 100.00 | 100.00                                                                              | 100.00 | 200.00 |
| No. of Lanes in Exit Pocket  | 0                                                                                 | 0      | 1      | 0                                                                                 | 0      | 0      | 0                                                                                   | 0      | 0      | 0                                                                                   | 0      | 0      |
| Exit Pocket Length [ft]      | 0.00                                                                              | 0.00   | 100.00 | 0.00                                                                              | 0.00   | 0.00   | 0.00                                                                                | 0.00   | 0.00   | 0.00                                                                                | 0.00   | 0.00   |
| Speed [mph]                  | 25.00                                                                             |        |        | 25.00                                                                             |        |        | 30.00                                                                               |        |        | 45.00                                                                               |        |        |
| Grade [%]                    | 9.00                                                                              |        |        | -4.00                                                                             |        |        | 0.00                                                                                |        |        | 0.00                                                                                |        |        |
| Curb Present                 | No                                                                                |        |        | No                                                                                |        |        |                                                                                     |        |        | No                                                                                  |        |        |
| Crosswalk                    | Yes                                                                               |        |        | No                                                                                |        |        | Yes                                                                                 |        |        | Yes                                                                                 |        |        |

**Volumes**

| Name                                        | 10th Street |        |        | 10th Street |        |        | I-205 SB Entry Ramp |        |        | I-205 SB Exit Ramp |        |        |
|---------------------------------------------|-------------|--------|--------|-------------|--------|--------|---------------------|--------|--------|--------------------|--------|--------|
| Base Volume Input [veh/h]                   | 102         | 349    | 0      | 0           | 896    | 336    | 0                   | 0      | 0      | 193                | 3      | 331    |
| Base Volume Adjustment Factor               | 1.0000      | 1.0000 | 1.0000 | 1.0000      | 1.0000 | 1.0000 | 1.0000              | 1.0000 | 1.0000 | 1.0000             | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%]               | 5.00        | 1.00   | 2.00   | 2.00        | 2.00   | 2.00   | 2.00                | 2.00   | 2.00   | 0.00               | 0.00   | 0.00   |
| Proportion of CAVs [%]                      | 0.00        |        |        |             |        |        |                     |        |        |                    |        |        |
| Growth Factor                               | 1.0000      | 1.0000 | 1.0000 | 1.0000      | 1.0000 | 1.0000 | 1.0000              | 1.0000 | 1.0000 | 1.0000             | 1.0000 | 1.0000 |
| In-Process Volume [veh/h]                   | 0           | 0      | 0      | 0           | 0      | 0      | 0                   | 0      | 0      | 0                  | 0      | 0      |
| Site-Generated Trips [veh/h]                | 0           | 0      | 0      | 0           | 0      | 0      | 0                   | 0      | 0      | 0                  | 0      | 0      |
| Diverted Trips [veh/h]                      | 0           | 0      | 0      | 0           | 0      | 0      | 0                   | 0      | 0      | 0                  | 0      | 0      |
| Pass-by Trips [veh/h]                       | 0           | 0      | 0      | 0           | 0      | 0      | 0                   | 0      | 0      | 0                  | 0      | 0      |
| Existing Site Adjustment Volume [veh/h]     | 0           | 0      | 0      | 0           | 0      | 0      | 0                   | 0      | 0      | 0                  | 0      | 0      |
| Other Volume [veh/h]                        | 0           | 0      | 0      | 0           | 0      | 0      | 0                   | 0      | 0      | 0                  | 0      | 0      |
| Right Turn on Red Volume [veh/h]            | 0           | 0      | 0      | 0           | 0      | 88     | 0                   | 0      | 0      | 0                  | 0      | 195    |
| Total Hourly Volume [veh/h]                 | 102         | 349    | 0      | 0           | 896    | 248    | 0                   | 0      | 0      | 193                | 3      | 136    |
| Peak Hour Factor                            | 0.9500      | 0.9500 | 1.0000 | 1.0000      | 0.9500 | 0.9500 | 1.0000              | 1.0000 | 1.0000 | 0.9500             | 0.9500 | 0.9500 |
| Other Adjustment Factor                     | 1.0000      | 1.0000 | 1.0000 | 1.0000      | 1.0000 | 1.0000 | 1.0000              | 1.0000 | 1.0000 | 1.0000             | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h]              | 27          | 92     | 0      | 0           | 236    | 65     | 0                   | 0      | 0      | 51                 | 1      | 36     |
| Total Analysis Volume [veh/h]               | 107         | 367    | 0      | 0           | 943    | 261    | 0                   | 0      | 0      | 203                | 3      | 143    |
| Presence of On-Street Parking               | No          |        | No     | No          |        | No     |                     |        |        | No                 |        | No     |
| On-Street Parking Maneuver Rate [/h]        | 0           | 0      | 0      | 0           | 0      | 0      | 0                   | 0      | 0      | 0                  | 0      | 0      |
| Local Bus Stopping Rate [/h]                | 0           | 0      | 0      | 0           | 0      | 0      | 0                   | 0      | 0      | 0                  | 0      | 0      |
| v_do, Outbound Pedestrian Volume crossing   | 0           |        |        | 0           |        |        | 0                   |        |        | 0                  |        |        |
| v_di, Inbound Pedestrian Volume crossing m  | 0           |        |        | 0           |        |        | 0                   |        |        | 0                  |        |        |
| v_co, Outbound Pedestrian Volume crossing   | 0           |        |        | 2           |        |        | 2                   |        |        | 0                  |        |        |
| v_ci, Inbound Pedestrian Volume crossing mi | 0           |        |        | 2           |        |        | 2                   |        |        | 0                  |        |        |
| v_ab, Corner Pedestrian Volume [ped/h]      | 0           |        |        | 0           |        |        | 0                   |        |        | 0                  |        |        |
| Bicycle Volume [bicycles/h]                 | 0           |        |        | 0           |        |        | 0                   |        |        | 0                  |        |        |

**Intersection Settings**

|                           |                                       |
|---------------------------|---------------------------------------|
| Located in CBD            | No                                    |
| Signal Coordination Group | -                                     |
| Cycle Length [s]          | 134                                   |
| Active Pattern            | Pattern 1                             |
| Coordination Type         | Time of Day Pattern Isolated          |
| Actuation Type            | Fixed time                            |
| Offset [s]                | 0.0                                   |
| Offset Reference          | Lead Green - Beginning of First Green |
| Permissive Mode           | SingleBand                            |
| Lost time [s]             | 12.00                                 |

**Phasing & Timing (Basic)**

| Control Type                    | ProtPer | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss |
|---------------------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| Flashing Yellow Arrow           | Yes     |         |         |         |         |         |         |         |         |         |         |         |
| Signal Group                    | 1       | 5       | 0       | 0       | 2       | 2       | 0       | 0       | 0       | 0       | 7       | 0       |
| Auxiliary Signal Groups         |         |         |         |         |         |         |         |         |         |         |         |         |
| Maximum Green [s]               | 11      | 56      | 0       | 0       | 86      | 86      | 0       | 0       | 0       | 0       | 18      | 0       |
| Amber [s]                       | 4.0     | 4.0     | 0.0     | 0.0     | 4.0     | 4.0     | 0.0     | 0.0     | 0.0     | 0.0     | 4.0     | 0.0     |
| All red [s]                     | 1.5     | 1.5     | 0.0     | 0.0     | 1.5     | 1.5     | 0.0     | 0.0     | 0.0     | 0.0     | 1.5     | 0.0     |
| Walk [s]                        | 0.0     | 7.0     | 0.0     | 0.0     | 7.0     | 7.0     | 0.0     | 0.0     | 0.0     | 0.0     | 7.0     | 0.0     |
| Pedestrian Clearance [s]        | 0.0     | 15.0    | 0.0     | 0.0     | 12.0    | 12.0    | 0.0     | 0.0     | 0.0     | 0.0     | 16.0    | 0.0     |
| Delayed Vehicle Green [s]       | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     |
| Rest In Walk                    |         | No      |         |         | No      |         |         |         |         |         | No      |         |
| I1, Start-Up Lost Time [s]      | 2.0     | 2.0     | 0.0     | 0.0     | 2.0     | 2.0     | 0.0     | 0.0     | 0.0     | 0.0     | 2.0     | 0.0     |
| I2, Clearance Lost Time [s]     | 2.0     | 2.0     | 0.0     | 0.0     | 2.0     | 2.0     | 0.0     | 0.0     | 0.0     | 0.0     | 2.0     | 0.0     |
| Detector Location [ft]          | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     |
| Detector Length [ft]            | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     |
| Advanced Detector Location [ft] | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     |
| Advanced Detector Length [ft]   | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     |
| I, Upstream Filtering Factor    | 1.00    | 1.00    | 1.00    | 1.00    | 1.00    | 1.00    | 1.00    | 1.00    | 1.00    | 1.00    | 1.00    | 1.00    |

**Phasing & Timing: Pattern 1**

|                       |      |      |     |     |      |      |     |     |     |     |      |     |
|-----------------------|------|------|-----|-----|------|------|-----|-----|-----|-----|------|-----|
| Split [s]             | 22.0 | 60.0 | 0.0 | 0.0 | 88.0 | 88.0 | 0.0 | 0.0 | 0.0 | 0.0 | 24.0 | 0.0 |
| Lead / Lag            | Lead | -    | -   | -   | -    | -    | -   | -   | -   | -   | -    | -   |
| Minimum Green [s]     | 5    | 5    | 0   | 0   | 10   | 10   | 0   | 0   | 0   | 0   | 10   | 0   |
| Vehicle Extension [s] | 3.0  | 3.0  | 0.0 | 0.0 | 3.0  | 3.0  | 0.0 | 0.0 | 0.0 | 0.0 | 3.0  | 0.0 |
| Minimum Recall        | No   | No   |     |     | No   |      |     |     |     |     | No   |     |
| Maximum Recall        | No   | No   |     |     | No   |      |     |     |     |     | No   |     |
| Pedestrian Recall     | No   | No   |     |     | No   |      |     |     |     |     | No   |     |

**Exclusive Pedestrian Phase**

|                          |   |
|--------------------------|---|
| Pedestrian Signal Group  | 0 |
| Pedestrian Walk [s]      | 0 |
| Pedestrian Clearance [s] | 0 |

**Lane Group Calculations**

| Lane Group                              | L     | C     | C    | C    |  | C     | R     |
|-----------------------------------------|-------|-------|------|------|--|-------|-------|
| C, Calculated Cycle Length [s]          | 134   | 134   | 134  | 134  |  | 134   | 134   |
| L, Total Lost Time per Cycle [s]        | 4.00  | 4.00  | 4.00 | 4.00 |  | 4.00  | 4.00  |
| l1_p, Permitted Start-Up Lost Time [s]  | 0.00  | 0.00  | 0.00 | 0.00 |  | 0.00  | 0.00  |
| l2, Clearance Lost Time [s]             | 0.00  | 2.00  | 2.00 | 2.00 |  | 2.00  | 2.00  |
| g_i, Effective Green Time [s]           | 104.5 | 56.0  | 84.0 | 84.0 |  | 20.0  | 20.0  |
| g / C, Green / Cycle                    | 0.78  | 0.42  | 0.63 | 0.63 |  | 0.15  | 0.15  |
| (v / s)_i Volume / Saturation Flow Rate | 0.19  | 0.24  | 0.32 | 0.35 |  | 0.11  | 0.09  |
| s, saturation flow rate [veh/h]         | 563   | 1531  | 1869 | 1734 |  | 1811  | 1615  |
| c, Capacity [veh/h]                     | 475   | 640   | 1172 | 1087 |  | 270   | 241   |
| d1, Uniform Delay [s]                   | 14.07 | 46.50 | 5.12 | 5.27 |  | 54.72 | 53.20 |
| k, delay calibration                    | 0.50  | 0.50  | 0.50 | 0.50 |  | 0.50  | 0.50  |
| l, Upstream Filtering Factor            | 1.00  | 1.00  | 1.00 | 1.00 |  | 1.00  | 1.00  |
| d2, Incremental Delay [s]               | 1.10  | 3.71  | 1.61 | 2.04 |  | 18.24 | 10.31 |
| d3, Initial Queue Delay [s]             | 0.00  | 0.00  | 0.00 | 0.00 |  | 0.00  | 0.00  |
| Rp, platoon ratio                       | 0.33  | 0.33  | 1.33 | 1.33 |  | 1.00  | 1.00  |
| PF, progression factor                  | 1.00  | 1.00  | 1.00 | 1.00 |  | 1.00  | 1.00  |

**Lane Group Results**

|                                       |        |        |        |        |  |        |        |
|---------------------------------------|--------|--------|--------|--------|--|--------|--------|
| X, volume / capacity                  | 0.23   | 0.57   | 0.51   | 0.55   |  | 0.76   | 0.59   |
| d, Delay for Lane Group [s/veh]       | 15.17  | 50.21  | 6.73   | 7.31   |  | 72.96  | 63.51  |
| Lane Group LOS                        | B      | D      | A      | A      |  | E      | E      |
| Critical Lane Group                   | Yes    | No     | No     | Yes    |  | Yes    | No     |
| 50th-Percentile Queue Length [veh/ln] | 2.82   | 13.09  | 3.99   | 4.13   |  | 7.90   | 5.10   |
| 50th-Percentile Queue Length [ft/ln]  | 70.60  | 327.13 | 99.75  | 103.14 |  | 197.53 | 127.48 |
| 95th-Percentile Queue Length [veh/ln] | 5.08   | 19.02  | 7.18   | 7.43   |  | 12.51  | 8.80   |
| 95th-Percentile Queue Length [ft/ln]  | 127.08 | 475.44 | 179.56 | 185.65 |  | 312.78 | 220.07 |

**Movement, Approach, & Intersection Results**

|                                 |       |       |      |      |      |      |      |      |      |       |       |       |
|---------------------------------|-------|-------|------|------|------|------|------|------|------|-------|-------|-------|
| d_M, Delay for Movement [s/veh] | 15.17 | 50.21 | 0.00 | 0.00 | 6.94 | 7.31 | 0.00 | 0.00 | 0.00 | 72.96 | 72.96 | 63.51 |
| Movement LOS                    | B     | D     |      |      | A    | A    |      |      |      | E     | E     | E     |
| d_A, Approach Delay [s/veh]     | 42.30 |       |      | 7.02 |      |      | 0.00 |      |      | 69.09 |       |       |
| Approach LOS                    | D     |       |      | A    |      |      | A    |      |      | E     |       |       |
| d_I, Intersection Delay [s/veh] | 25.96 |       |      |      |      |      |      |      |      |       |       |       |
| Intersection LOS                | C     |       |      |      |      |      |      |      |      |       |       |       |
| Intersection V/C                | 0.573 |       |      |      |      |      |      |      |      |       |       |       |

**Emissions**

|                              |       |        |        |        |  |        |        |
|------------------------------|-------|--------|--------|--------|--|--------|--------|
| Vehicle Miles Traveled [mph] | 11.35 | 38.92  | 29.99  | 29.99  |  | 20.67  | 14.35  |
| Stops [stops/h]              | 75.87 | 351.54 | 107.20 | 110.84 |  | 212.27 | 137.00 |
| Fuel consumption [US gal/h]  | 1.13  | 6.85   | 2.59   | 2.67   |  | 6.41   | 4.04   |
| CO [g/h]                     | 79.10 | 478.70 | 180.70 | 186.58 |  | 447.76 | 282.62 |
| NOx [g/h]                    | 15.39 | 93.14  | 35.16  | 36.30  |  | 87.12  | 54.99  |
| VOC [g/h]                    | 18.33 | 110.94 | 41.88  | 43.24  |  | 103.77 | 65.50  |

**Other Modes**

|                                                          |       |        |        |       |
|----------------------------------------------------------|-------|--------|--------|-------|
| g_Walk,mi, Effective Walk Time [s]                       | 11.0  | 0.0    | 11.0   | 11.0  |
| M_corner, Corner Circulation Area [ft <sup>2</sup> /ped] | 0.00  | 752.22 | 752.22 | 0.00  |
| M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]  | 0.00  | 0.00   | 0.00   | 0.00  |
| d_p, Pedestrian Delay [s]                                | 56.45 | 0.00   | 56.45  | 56.45 |
| I_p,int, Pedestrian LOS Score for Intersectio            | 2.479 | 0.000  | 1.922  | 2.409 |
| Crosswalk LOS                                            | B     | F      | A      | B     |
| s_b, Saturation Flow Rate of the bicycle lane            | 2000  | 2000   | 2000   | 2000  |
| c_b, Capacity of the bicycle lane [bicycles/h]           | 813   | 1231   | 0      | 276   |
| d_b, Bicycle Delay [s]                                   | 23.58 | 9.90   | 67.00  | 49.78 |
| I_b,int, Bicycle LOS Score for Intersection              | 2.342 | 2.626  | 4.132  | 2.457 |
| Bicycle LOS                                              | B     | B      | D      | B     |

**Sequence**

|        |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|--------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | 1 | 2 | 7 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | 5 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |



**Intersection Level Of Service Report**  
**Intersection 5: 10th Street/I-205 NB Ramp**

|                  |                 |                           |       |
|------------------|-----------------|---------------------------|-------|
| Control Type:    | Signalized      | Delay (sec / veh):        | 23.4  |
| Analysis Method: | HCM 7th Edition | Level Of Service:         | C     |
| Analysis Period: | 15 minutes      | Volume to Capacity (v/c): | 0.685 |

**Intersection Setup**

| Name                         | 10th Street                                                                       |        |       | 10th Street                                                                       |        |        | I-205 NB Exit Ramp                                                                  |        |        | I-205 NB Entry Ramp |        |        |
|------------------------------|-----------------------------------------------------------------------------------|--------|-------|-----------------------------------------------------------------------------------|--------|--------|-------------------------------------------------------------------------------------|--------|--------|---------------------|--------|--------|
| Approach                     | Northbound                                                                        |        |       | Southbound                                                                        |        |        | Eastbound                                                                           |        |        | Westbound           |        |        |
| Lane Configuration           |  |        |       |  |        |        |  |        |        |                     |        |        |
| Turning Movement             | Left                                                                              | Thru   | Right | Left                                                                              | Thru   | Right  | Left                                                                                | Thru   | Right  | Left                | Thru   | Right  |
| Lane Width [ft]              | 12.00                                                                             | 12.00  | 12.00 | 12.00                                                                             | 12.00  | 12.00  | 12.00                                                                               | 12.00  | 12.00  | 12.00               | 12.00  | 12.00  |
| No. of Lanes in Entry Pocket | 0                                                                                 | 0      | 1     | 1                                                                                 | 0      | 0      | 0                                                                                   | 0      | 1      | 0                   | 0      | 0      |
| Entry Pocket Length [ft]     | 100.00                                                                            | 100.00 | 60.00 | 100.00                                                                            | 100.00 | 100.00 | 100.00                                                                              | 100.00 | 100.00 | 100.00              | 100.00 | 100.00 |
| No. of Lanes in Exit Pocket  | 0                                                                                 | 0      | 0     | 0                                                                                 | 0      | 0      | 0                                                                                   | 0      | 0      | 0                   | 0      | 0      |
| Exit Pocket Length [ft]      | 0.00                                                                              | 0.00   | 0.00  | 0.00                                                                              | 0.00   | 0.00   | 0.00                                                                                | 0.00   | 0.00   | 0.00                | 0.00   | 0.00   |
| Speed [mph]                  | 25.00                                                                             |        |       | 25.00                                                                             |        |        | 45.00                                                                               |        |        | 30.00               |        |        |
| Grade [%]                    | 0.00                                                                              |        |       | 0.00                                                                              |        |        | -4.00                                                                               |        |        | 0.00                |        |        |
| Curb Present                 | No                                                                                |        |       | No                                                                                |        |        | No                                                                                  |        |        |                     |        |        |
| Crosswalk                    | Yes                                                                               |        |       | No                                                                                |        |        | Yes                                                                                 |        |        | Yes                 |        |        |

**Volumes**

| Name                                        | 10th Street |        |        | 10th Street |        |        | I-205 NB Exit Ramp |        |        | I-205 NB Entry Ramp |        |        |
|---------------------------------------------|-------------|--------|--------|-------------|--------|--------|--------------------|--------|--------|---------------------|--------|--------|
| Base Volume Input [veh/h]                   | 0           | 360    | 514    | 592         | 497    | 0      | 91                 | 2      | 49     | 0                   | 0      | 0      |
| Base Volume Adjustment Factor               | 1.0000      | 1.0000 | 1.0000 | 1.0000      | 1.0000 | 1.0000 | 1.0000             | 1.0000 | 1.0000 | 1.0000              | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%]               | 2.00        | 3.00   | 2.00   | 3.00        | 0.00   | 2.00   | 0.00               | 50.00  | 2.00   | 2.00                | 2.00   | 2.00   |
| Proportion of CAVs [%]                      | 0.00        |        |        |             |        |        |                    |        |        |                     |        |        |
| Growth Factor                               | 1.0000      | 1.0000 | 1.0000 | 1.0000      | 1.0000 | 1.0000 | 1.0000             | 1.0000 | 1.0000 | 1.0000              | 1.0000 | 1.0000 |
| In-Process Volume [veh/h]                   | 0           | 0      | 0      | 0           | 0      | 0      | 0                  | 0      | 0      | 0                   | 0      | 0      |
| Site-Generated Trips [veh/h]                | 0           | 0      | 0      | 0           | 0      | 0      | 0                  | 0      | 0      | 0                   | 0      | 0      |
| Diverted Trips [veh/h]                      | 0           | 0      | 0      | 0           | 0      | 0      | 0                  | 0      | 0      | 0                   | 0      | 0      |
| Pass-by Trips [veh/h]                       | 0           | 0      | 0      | 0           | 0      | 0      | 0                  | 0      | 0      | 0                   | 0      | 0      |
| Existing Site Adjustment Volume [veh/h]     | 0           | 0      | 0      | 0           | 0      | 0      | 0                  | 0      | 0      | 0                   | 0      | 0      |
| Other Volume [veh/h]                        | 0           | 0      | 0      | 0           | 0      | 0      | 0                  | 0      | 0      | 0                   | 0      | 0      |
| Right Turn on Red Volume [veh/h]            | 0           | 0      | 63     | 0           | 0      | 0      | 0                  | 0      | 35     | 0                   | 0      | 0      |
| Total Hourly Volume [veh/h]                 | 0           | 360    | 451    | 592         | 497    | 0      | 91                 | 2      | 14     | 0                   | 0      | 0      |
| Peak Hour Factor                            | 1.0000      | 0.9700 | 0.9700 | 0.9700      | 0.9700 | 1.0000 | 0.9700             | 0.9700 | 0.9700 | 1.0000              | 1.0000 | 1.0000 |
| Other Adjustment Factor                     | 1.0000      | 1.0000 | 1.0000 | 1.0000      | 1.0000 | 1.0000 | 1.0000             | 1.0000 | 1.0000 | 1.0000              | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h]              | 0           | 93     | 116    | 153         | 128    | 0      | 23                 | 1      | 4      | 0                   | 0      | 0      |
| Total Analysis Volume [veh/h]               | 0           | 371    | 465    | 610         | 512    | 0      | 94                 | 2      | 14     | 0                   | 0      | 0      |
| Presence of On-Street Parking               | No          |        | No     | No          |        | No     | No                 |        | No     |                     |        |        |
| On-Street Parking Maneuver Rate [/h]        | 0           | 0      | 0      | 0           | 0      | 0      | 0                  | 0      | 0      | 0                   | 0      | 0      |
| Local Bus Stopping Rate [/h]                | 0           | 0      | 0      | 0           | 0      | 0      | 0                  | 0      | 0      | 0                   | 0      | 0      |
| v_do, Outbound Pedestrian Volume crossing   | 0           |        |        | 0           |        |        | 0                  |        |        | 0                   |        |        |
| v_di, Inbound Pedestrian Volume crossing m  | 0           |        |        | 0           |        |        | 0                  |        |        | 0                   |        |        |
| v_co, Outbound Pedestrian Volume crossing   | 0           |        |        | 3           |        |        | 4                  |        |        | 0                   |        |        |
| v_ci, Inbound Pedestrian Volume crossing mi | 0           |        |        | 4           |        |        | 3                  |        |        | 0                   |        |        |
| v_ab, Corner Pedestrian Volume [ped/h]      | 0           |        |        | 0           |        |        | 0                  |        |        | 0                   |        |        |
| Bicycle Volume [bicycles/h]                 | 0           |        |        | 0           |        |        | 0                  |        |        | 0                   |        |        |

**Intersection Settings**

|                           |                                       |
|---------------------------|---------------------------------------|
| Located in CBD            | No                                    |
| Signal Coordination Group | -                                     |
| Cycle Length [s]          | 90                                    |
| Active Pattern            | Free Running (No Pattern)             |
| Coordination Type         | <i>Free Running</i>                   |
| Actuation Type            | <i>Fully actuated</i>                 |
| Offset [s]                | 0.0                                   |
| Offset Reference          | Lead Green - Beginning of First Green |
| Permissive Mode           | SingleBand                            |
| Lost time [s]             | 12.00                                 |

**Phasing & Timing (Basic)**

| Control Type                    | Permiss | Permiss | Permiss | ProtPer | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss |
|---------------------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| Flashing Yellow Arrow           |         |         |         | No      |         |         |         |         |         |         |         |         |
| Signal Group                    | 0       | 6       | 0       | 5       | 2       | 0       | 5       | 8       | 0       | 0       | 0       | 0       |
| Auxiliary Signal Groups         |         |         |         |         |         |         |         |         |         |         |         |         |
| Maximum Green [s]               | 0       | 50      | 0       | 45      | 30      | 0       | 45      | 20      | 0       | 0       | 0       | 0       |
| Amber [s]                       | 0.0     | 4.0     | 0.0     | 4.0     | 4.0     | 0.0     | 4.0     | 4.0     | 0.0     | 0.0     | 0.0     | 0.0     |
| All red [s]                     | 0.0     | 1.0     | 0.0     | 1.0     | 1.0     | 0.0     | 1.0     | 1.0     | 0.0     | 0.0     | 0.0     | 0.0     |
| Walk [s]                        | 0.0     | 7.0     | 0.0     | 0.0     | 7.0     | 0.0     | 0.0     | 7.0     | 0.0     | 0.0     | 0.0     | 0.0     |
| Pedestrian Clearance [s]        | 0.0     | 10.0    | 0.0     | 0.0     | 15.0    | 0.0     | 0.0     | 17.0    | 0.0     | 0.0     | 0.0     | 0.0     |
| Delayed Vehicle Green [s]       | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     |
| Rest In Walk                    |         | No      |         |         | No      |         |         | No      |         |         |         |         |
| I1, Start-Up Lost Time [s]      | 0.0     | 2.0     | 0.0     | 2.0     | 2.0     | 0.0     | 2.0     | 2.0     | 0.0     | 0.0     | 0.0     | 0.0     |
| I2, Clearance Lost Time [s]     | 0.0     | 3.0     | 0.0     | 3.0     | 3.0     | 0.0     | 3.0     | 3.0     | 0.0     | 0.0     | 0.0     | 0.0     |
| Detector Location [ft]          | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     |
| Detector Length [ft]            | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     |
| Advanced Detector Location [ft] | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     |
| Advanced Detector Length [ft]   | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     |
| I, Upstream Filtering Factor    | 1.00    | 1.00    | 1.00    | 1.00    | 1.00    | 1.00    | 1.00    | 1.00    | 1.00    | 1.00    | 1.00    | 1.00    |

**Phasing & Timing: Free Running (No Pattern)**

|                       |     |      |     |      |      |     |      |      |     |     |     |     |
|-----------------------|-----|------|-----|------|------|-----|------|------|-----|-----|-----|-----|
| Split [s]             | 0.0 | 14.0 | 0.0 | 9.0  | 14.0 | 0.0 | 9.0  | 14.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Lead / Lag            | -   | -    | -   | Lead | -    | -   | Lead | -    | -   | -   | -   | -   |
| Minimum Green [s]     | 0   | 10   | 0   | 4    | 10   | 0   | 4    | 6    | 0   | 0   | 0   | 0   |
| Vehicle Extension [s] | 0.0 | 6.9  | 0.0 | 2.3  | 6.9  | 0.0 | 2.3  | 2.3  | 0.0 | 0.0 | 0.0 | 0.0 |
| Minimum Recall        |     | Yes  |     | No   | Yes  |     |      | No   |     |     |     |     |
| Maximum Recall        |     | Yes  |     | Yes  | Yes  |     |      | No   |     |     |     |     |
| Pedestrian Recall     |     | No   |     | No   | No   |     |      | No   |     |     |     |     |

**Exclusive Pedestrian Phase**

|                          |   |
|--------------------------|---|
| Pedestrian Signal Group  | 0 |
| Pedestrian Walk [s]      | 0 |
| Pedestrian Clearance [s] | 0 |

**Lane Group Calculations**

| Lane Group                              | C     | R     | L     | C     | C     | R     |  |
|-----------------------------------------|-------|-------|-------|-------|-------|-------|--|
| C, Calculated Cycle Length [s]          | 122   | 122   | 122   | 122   | 122   | 122   |  |
| L, Total Lost Time per Cycle [s]        | 5.00  | 5.00  | 5.00  | 5.00  | 5.00  | 5.00  |  |
| l1_p, Permitted Start-Up Lost Time [s]  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  |  |
| l2, Clearance Lost Time [s]             | 3.00  | 3.00  | 0.00  | 3.00  | 3.00  | 3.00  |  |
| g_i, Effective Green Time [s]           | 50.0  | 50.0  | 100.0 | 100.0 | 12.3  | 12.3  |  |
| g / C, Green / Cycle                    | 0.41  | 0.41  | 0.82  | 0.82  | 0.10  | 0.10  |  |
| (v / s)_i Volume / Saturation Flow Rate | 0.20  | 0.29  | 0.52  | 0.27  | 0.09  | 0.01  |  |
| s, saturation flow rate [veh/h]         | 1855  | 1589  | 1181  | 1900  | 1104  | 1589  |  |
| c, Capacity [veh/h]                     | 759   | 650   | 959   | 1554  | 111   | 159   |  |
| d1, Uniform Delay [s]                   | 26.70 | 30.19 | 10.73 | 9.22  | 54.20 | 49.92 |  |
| k, delay calibration                    | 0.50  | 0.50  | 0.50  | 0.50  | 0.07  | 0.07  |  |
| l, Upstream Filtering Factor            | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  |  |
| d2, Incremental Delay [s]               | 2.25  | 6.62  | 3.22  | 0.57  | 11.68 | 0.14  |  |
| d3, Initial Queue Delay [s]             | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  | 0.00  |  |
| Rp, platoon ratio                       | 1.00  | 1.00  | 0.67  | 0.67  | 1.00  | 1.00  |  |
| PF, progression factor                  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  |  |

**Lane Group Results**

|                                       |        |        |        |        |        |       |  |
|---------------------------------------|--------|--------|--------|--------|--------|-------|--|
| X, volume / capacity                  | 0.49   | 0.72   | 0.64   | 0.33   | 0.87   | 0.09  |  |
| d, Delay for Lane Group [s/veh]       | 28.94  | 36.81  | 13.95  | 9.78   | 65.87  | 50.07 |  |
| Lane Group LOS                        | C      | D      | B      | A      | E      | D     |  |
| Critical Lane Group                   | No     | Yes    | Yes    | No     | Yes    | No    |  |
| 50th-Percentile Queue Length [veh/ln] | 8.55   | 12.64  | 11.69  | 8.78   | 3.20   | 0.39  |  |
| 50th-Percentile Queue Length [ft/ln]  | 213.74 | 316.01 | 292.24 | 219.42 | 79.93  | 9.69  |  |
| 95th-Percentile Queue Length [veh/ln] | 13.34  | 18.47  | 17.30  | 13.64  | 5.75   | 0.70  |  |
| 95th-Percentile Queue Length [ft/ln]  | 333.62 | 461.78 | 432.42 | 340.89 | 143.87 | 17.44 |  |

**Movement, Approach, & Intersection Results**

|                                 |       |       |       |       |      |      |       |       |       |      |      |      |
|---------------------------------|-------|-------|-------|-------|------|------|-------|-------|-------|------|------|------|
| d_M, Delay for Movement [s/veh] | 0.00  | 28.94 | 36.81 | 13.95 | 9.78 | 0.00 | 65.87 | 65.87 | 50.07 | 0.00 | 0.00 | 0.00 |
| Movement LOS                    |       | C     | D     | B     | A    |      | E     | E     | D     |      |      |      |
| d_A, Approach Delay [s/veh]     | 33.32 |       |       | 12.05 |      |      | 63.86 |       |       | 0.00 |      |      |
| Approach LOS                    | C     |       |       | B     |      |      | E     |       |       | A    |      |      |
| d_I, Intersection Delay [s/veh] | 23.40 |       |       |       |      |      |       |       |       |      |      |      |
| Intersection LOS                | C     |       |       |       |      |      |       |       |       |      |      |      |
| Intersection V/C                | 0.685 |       |       |       |      |      |       |       |       |      |      |      |

**Emissions**

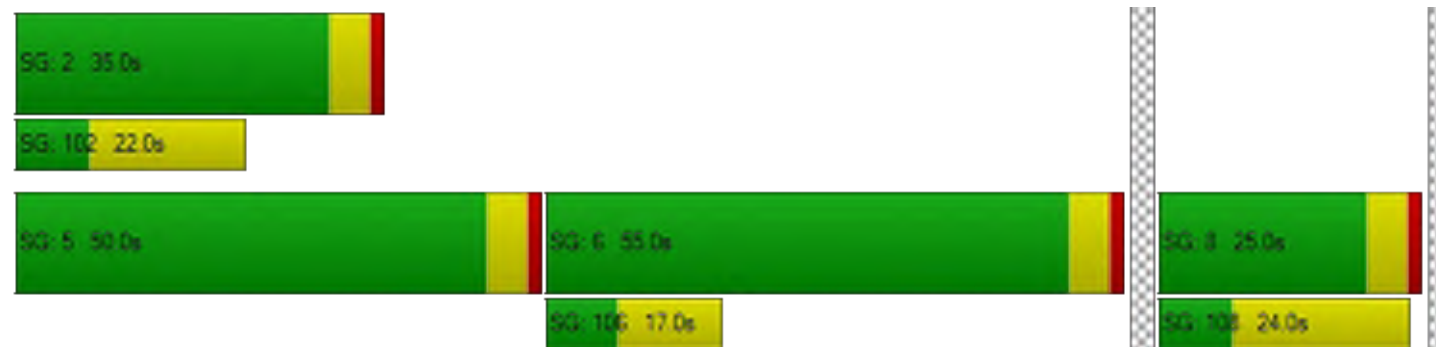
|                              |        |        |        |        |        |       |  |
|------------------------------|--------|--------|--------|--------|--------|-------|--|
| Vehicle Miles Traveled [mph] | 21.93  | 27.49  | 64.69  | 54.30  | 7.37   | 1.07  |  |
| Stops [stops/h]              | 251.75 | 372.21 | 344.22 | 258.44 | 94.14  | 11.41 |  |
| Fuel consumption [US gal/h]  | 4.14   | 6.15   | 5.96   | 4.45   | 2.71   | 0.32  |  |
| CO [g/h]                     | 289.18 | 429.64 | 416.74 | 311.25 | 189.42 | 22.46 |  |
| NOx [g/h]                    | 56.26  | 83.59  | 81.08  | 60.56  | 36.85  | 4.37  |  |
| VOC [g/h]                    | 67.02  | 99.57  | 96.58  | 72.13  | 43.90  | 5.21  |  |

**Other Modes**

|                                                          |       |        |        |       |
|----------------------------------------------------------|-------|--------|--------|-------|
| g_Walk,mi, Effective Walk Time [s]                       | 11.0  | 0.0    | 11.0   | 11.0  |
| M_corner, Corner Circulation Area [ft <sup>2</sup> /ped] | 0.00  | 422.88 | 413.84 | 0.00  |
| M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]  | 0.00  | 0.00   | 880.77 | 0.00  |
| d_p, Pedestrian Delay [s]                                | 50.62 | 0.00   | 50.62  | 50.62 |
| I_p,int, Pedestrian LOS Score for Intersectio            | 2.440 | 0.000  | 1.885  | 2.796 |
| Crosswalk LOS                                            | B     | F      | A      | C     |
| s_b, Saturation Flow Rate of the bicycle lane            | 2000  | 2000   | 2000   | 2000  |
| c_b, Capacity of the bicycle lane [bicycles/h]           | 818   | 491    | 327    | 0     |
| d_b, Bicycle Delay [s]                                   | 21.35 | 34.81  | 42.76  | 61.13 |
| I_b,int, Bicycle LOS Score for Intersection              | 3.043 | 3.411  | 1.799  | 4.132 |
| Bicycle LOS                                              | C     | C      | A      | D     |

**Sequence**

|        |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|--------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | 2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | 5 | 6 | 8 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |



**Intersection Level Of Service Report**  
**Intersection 6: 10th Street/8th Avenue/8th Court**

|                  |                 |                           |       |
|------------------|-----------------|---------------------------|-------|
| Control Type:    | Two-way stop    | Delay (sec / veh):        | 138.5 |
| Analysis Method: | HCM 7th Edition | Level Of Service:         | F     |
| Analysis Period: | 15 minutes      | Volume to Capacity (v/c): | 0.554 |

**Intersection Setup**

| Name                         | 10th Street                                                                       |        |        | 10th Street                                                                       |        |        | 8th Avenue                                                                          |        |        | 8th Court                                                                           |        |       |
|------------------------------|-----------------------------------------------------------------------------------|--------|--------|-----------------------------------------------------------------------------------|--------|--------|-------------------------------------------------------------------------------------|--------|--------|-------------------------------------------------------------------------------------|--------|-------|
| Approach                     | Northbound                                                                        |        |        | Southbound                                                                        |        |        | Eastbound                                                                           |        |        | Westbound                                                                           |        |       |
| Lane Configuration           |  |        |        |  |        |        |  |        |        |  |        |       |
| Turning Movement             | Left                                                                              | Thru   | Right  | Left                                                                              | Thru   | Right  | Left                                                                                | Thru   | Right  | Left                                                                                | Thru   | Right |
| Lane Width [ft]              | 12.00                                                                             | 12.00  | 12.00  | 12.00                                                                             | 12.00  | 12.00  | 12.00                                                                               | 12.00  | 12.00  | 12.00                                                                               | 12.00  | 12.00 |
| No. of Lanes in Entry Pocket | 0                                                                                 | 0      | 0      | 1                                                                                 | 0      | 0      | 0                                                                                   | 0      | 0      | 0                                                                                   | 0      | 1     |
| Entry Pocket Length [ft]     | 100.00                                                                            | 100.00 | 100.00 | 90.00                                                                             | 100.00 | 100.00 | 100.00                                                                              | 100.00 | 100.00 | 100.00                                                                              | 100.00 | 60.00 |
| No. of Lanes in Exit Pocket  | 0                                                                                 | 0      | 0      | 0                                                                                 | 0      | 0      | 0                                                                                   | 0      | 0      | 0                                                                                   | 0      | 0     |
| Exit Pocket Length [ft]      | 0.00                                                                              | 0.00   | 0.00   | 0.00                                                                              | 0.00   | 0.00   | 0.00                                                                                | 0.00   | 0.00   | 0.00                                                                                | 0.00   | 0.00  |
| Speed [mph]                  | 25.00                                                                             |        |        | 25.00                                                                             |        |        | 25.00                                                                               |        |        | 25.00                                                                               |        |       |
| Grade [%]                    | 0.00                                                                              |        |        | 0.00                                                                              |        |        | 0.00                                                                                |        |        | 0.00                                                                                |        |       |
| Crosswalk                    | Yes                                                                               |        |        | Yes                                                                               |        |        | Yes                                                                                 |        |        | Yes                                                                                 |        |       |

**Volumes**

| Name                                    | 10th Street |        |        | 10th Street |        |        | 8th Avenue |        |        | 8th Court |        |        |
|-----------------------------------------|-------------|--------|--------|-------------|--------|--------|------------|--------|--------|-----------|--------|--------|
| Base Volume Input [veh/h]               | 0           | 738    | 51     | 91          | 308    | 147    | 10         | 4      | 239    | 28        | 0      | 126    |
| Base Volume Adjustment Factor           | 1.0000      | 1.0000 | 1.0000 | 1.0000      | 1.0000 | 1.0000 | 1.0000     | 1.0000 | 1.0000 | 1.0000    | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%]           | 0.00        | 2.00   | 2.00   | 0.00        | 1.00   | 0.00   | 0.00       | 0.00   | 1.00   | 0.00      | 2.00   | 1.00   |
| Growth Factor                           | 1.0000      | 1.0000 | 1.0000 | 1.0000      | 1.0000 | 1.0000 | 1.0000     | 1.0000 | 1.0000 | 1.0000    | 1.0000 | 1.0000 |
| In-Process Volume [veh/h]               | 0           | 0      | 0      | 0           | 0      | 0      | 0          | 0      | 0      | 0         | 0      | 0      |
| Site-Generated Trips [veh/h]            | 0           | 0      | 0      | 0           | 0      | 0      | 0          | 0      | 0      | 0         | 0      | 0      |
| Diverted Trips [veh/h]                  | 0           | 0      | 0      | 0           | 0      | 0      | 0          | 0      | 0      | 0         | 0      | 0      |
| Pass-by Trips [veh/h]                   | 0           | 0      | 0      | 0           | 0      | 0      | 0          | 0      | 0      | 0         | 0      | 0      |
| Existing Site Adjustment Volume [veh/h] | 0           | 0      | 0      | 0           | 0      | 0      | 0          | 0      | 0      | 0         | 0      | 0      |
| Other Volume [veh/h]                    | 0           | 0      | 0      | 0           | 0      | 0      | 0          | 0      | 0      | 0         | 0      | 0      |
| Total Hourly Volume [veh/h]             | 0           | 738    | 51     | 91          | 308    | 147    | 10         | 4      | 239    | 28        | 0      | 126    |
| Peak Hour Factor                        | 0.9600      | 0.9600 | 0.9600 | 0.9600      | 0.9600 | 0.9600 | 0.9600     | 0.9600 | 0.9600 | 0.9600    | 1.0000 | 0.9600 |
| Other Adjustment Factor                 | 1.0000      | 1.0000 | 1.0000 | 1.0000      | 1.0000 | 1.0000 | 1.0000     | 1.0000 | 1.0000 | 1.0000    | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h]          | 0           | 192    | 13     | 24          | 80     | 38     | 3          | 1      | 62     | 7         | 0      | 33     |
| Total Analysis Volume [veh/h]           | 0           | 769    | 53     | 95          | 321    | 153    | 10         | 4      | 249    | 29        | 0      | 131    |
| Pedestrian Volume [ped/h]               | 2           |        |        | 0           |        |        | 5          |        |        | 0         |        |        |

**Intersection Settings**

|                                    |      |      |      |      |
|------------------------------------|------|------|------|------|
| Priority Scheme                    | Free | Free | Stop | Stop |
| Flared Lane                        |      |      | No   |      |
| Storage Area [veh]                 | 0    | 0    | 0    | 0    |
| Two-Stage Gap Acceptance           |      |      | No   | No   |
| Number of Storage Spaces in Median | 0    | 0    | 0    | 0    |

**Movement, Approach, & Intersection Results**

|                                       |      |      |      |      |      |      |       |       |       |        |      |       |
|---------------------------------------|------|------|------|------|------|------|-------|-------|-------|--------|------|-------|
| V/C, Movement V/C Ratio               | 0.00 | 0.01 | 0.00 | 0.12 | 0.00 | 0.00 | 0.16  | 0.03  | 0.39  | 0.55   | 0.00 | 0.34  |
| d_M, Delay for Movement [s/veh]       | 8.31 | 0.00 | 0.00 | 9.99 | 0.00 | 0.00 | 71.67 | 44.67 | 20.78 | 138.52 | 0.00 | 18.89 |
| Movement LOS                          | A    | A    | A    | A    | A    | A    | F     | E     | C     | F      |      | C     |
| 95th-Percentile Queue Length [veh/ln] | 0.00 | 0.00 | 0.00 | 0.39 | 0.00 | 0.00 | 3.56  | 3.56  | 3.56  | 2.15   | 0.00 | 1.46  |
| 95th-Percentile Queue Length [ft/ln]  | 0.00 | 0.00 | 0.00 | 9.84 | 0.00 | 0.00 | 88.93 | 88.93 | 88.93 | 53.70  | 0.00 | 36.45 |
| d_A, Approach Delay [s/veh]           | 0.00 |      |      | 1.67 |      |      | 23.07 |       |       | 40.57  |      |       |
| Approach LOS                          | A    |      |      | A    |      |      | C     |       |       | E      |      |       |
| d_I, Intersection Delay [s/veh]       | 7.45 |      |      |      |      |      |       |       |       |        |      |       |
| Intersection LOS                      | F    |      |      |      |      |      |       |       |       |        |      |       |

## Appendix H

### Signal Warrant Analysis



**Project #:** 33371  
**Project Name:** Modera West Linn  
**Analyst:** EYG  
**Analysis Date:** 5/28/2026  
**File:** H:\33\33371 - Tannier Road Mixed Use Development\analysis\Signal Warrants\33371 Signal-Warrant-Analysis 5 26 2026.xlsx\Warrant  
**Intersection:** Blankenship at Realigned Tannler  
**Scenario:** 2029 Total  
**Data Date:** 12/10/2025

### Analysis Traffic Volumes

| Hour              | Begin   | End | Major Street |     | Minor Street |     |
|-------------------|---------|-----|--------------|-----|--------------|-----|
|                   |         |     | EB           | WB  | NB           | SB  |
| 5:00 PM           | 6:00 PM |     | 892          | 433 | 17           | 178 |
| 2nd Highest Hour  |         |     | 882          | 428 | 17           | 176 |
| 3rd Highest Hour  |         |     | 802          | 389 | 15           | 160 |
| 4th Highest Hour  |         |     | 722          | 350 | 14           | 144 |
| 5th Highest Hour  |         |     | 601          | 292 | 11           | 120 |
| 6th Highest Hour  |         |     | 591          | 287 | 11           | 118 |
| 7th Highest Hour  |         |     | 561          | 272 | 11           | 112 |
| 8th Highest Hour  |         |     | 501          | 243 | 10           | 100 |
| 9th Highest Hour  |         |     | 491          | 238 | 9            | 98  |
| 10th Highest Hour |         |     | 481          | 234 | 9            | 96  |
| 11th Highest Hour |         |     | 461          | 224 | 9            | 92  |
| 12th Highest Hour |         |     | 451          | 219 | 9            | 90  |
| 13th Highest Hour |         |     | 441          | 214 | 8            | 88  |
| 14th Highest Hour |         |     | 441          | 214 | 8            | 88  |
| 15th Highest Hour |         |     | 361          | 175 | 7            | 72  |
| 16th Highest Hour |         |     | 311          | 151 | 6            | 62  |
| 17th Highest Hour |         |     | 261          | 126 | 5            | 52  |
| 18th Highest Hour |         |     | 200          | 97  | 4            | 40  |
| 19th Highest Hour |         |     | 180          | 88  | 3            | 36  |
| 20th Highest Hour |         |     | 120          | 58  | 2            | 24  |
| 21st Highest Hour |         |     | 60           | 29  | 1            | 12  |
| 22nd Highest Hour |         |     | 50           | 24  | 1            | 10  |
| 23rd Highest Hour |         |     | 30           | 15  | 1            | 6   |
| 24th Highest Hour |         |     | 30           | 15  | 1            | 6   |

### Warrant Summary

| Warrant | Name                               | Analyzed? | Met? |
|---------|------------------------------------|-----------|------|
| #1      | Eight-Hour Vehicular Volume        | Yes       | No   |
| #2      | Four-Hour Vehicular volume         | Yes       | Yes  |
| #3      | Peak Hour                          | No        | -    |
| #4      | Pedestrian Volume                  | No        | -    |
| #5      | School Crossing                    | No        | -    |
| #6      | Coordinated Signal System          | No        | -    |
| #7      | Crash Experience                   | No        | -    |
| #8      | Roadway Network                    | No        | -    |
| #9      | Intersection Near a Grade Crossing | No        | -    |

### Input Parameters

|                                            |           |
|--------------------------------------------|-----------|
| Volume Adjustment Factor =                 | 1.0       |
| North-South Approach =                     | Minor     |
| East-West Approach =                       | Major     |
| Major Street Thru Lanes =                  | 1         |
| Minor Street Thru Lanes =                  | 1         |
| Speed > 40 mph?                            | No        |
| Population < 10,000?                       | No        |
| Warrant Factor                             | 100%      |
| Peak Hour or Daily Count?                  | Peak Hour |
| Major Street: 4th-Highest Hour / Peak Hour | 81%       |
| Major Street: 8th-Highest Hour / Peak Hour | 56%       |
| Minor Street: 4th-Highest Hour / Peak Hour | 81%       |
| Minor Street: 8th-Highest Hour / Peak Hour | 56%       |

### Warrant #1 - Eight Hour

| Warrant Factor | Condition | Major Street Requirement | Minor Street Requirement | Hours That Condition Is Met | Condition for Warrant Factor Met? | Signal Warrant Met? |
|----------------|-----------|--------------------------|--------------------------|-----------------------------|-----------------------------------|---------------------|
| 100%           | A         | 500                      | 150                      | 3                           | No                                | No                  |
|                | B         | 750                      | 75                       | 7                           | No                                |                     |
| 80%            | A         | 400                      | 120                      | 5                           | No                                | Yes                 |
|                | B         | 600                      | 60                       | 14                          | Yes                               |                     |
| 70%            | A         | 350                      | 105                      | 7                           | No                                | Yes                 |
|                | B         | 525                      | 53                       | 15                          | Yes                               |                     |
| 56%            | A         | 280                      | 84                       | 14                          | Yes                               | Yes                 |
|                | B         | 420                      | 42                       | 16                          | Yes                               |                     |

### Warrant #2 - Four-Hour 100% Warrant Factor

