

Technical Memorandum

Project# 27852

To: Jamie Stasny, Regional Transportation and Land Use Policy Coordinator

From: Marc Butorac, PE, PTOE, PMP; Krista Purser, PE; Russ Doubleday; and Poppy Yang, Ph.D.

CC: Ana Jovanovic, Jamey Dempster, and Mulsri Jha – Jacobs

RE: Sunrise Corridor Community Visioning Tech Memo #4.3: Existing Transportation Conditions in the Study Area

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Introduction and Key Findings

This memorandum documents the existing transportation conditions within the Sunrise Corridor study area, including study intersections, functional classification, and roadway jurisdiction, as well as intersection and corridor operations, transit service, and a review of five years of crash data.

The following key findings were identified within this analysis:

■ Existing Facilities

- OR 224 (north of OR 212) is classified as an expressway, OR 212 is classified as a principal arterial, SE Sunnyside Road and SE 172nd Avenue are classified as major arterial roadways, and SE Jennifer Street, SE Evelyn Street, SE 82nd Drive, SE 102nd Avenue, SE 135th Street, SE 142nd Street are classified as minor arterial roadways.
- Walking and biking facilities are missing in much of the study area. There are also two shared-use paths within the study area: the I-205 Multi-Use Path and Sunrise Corridor Trail.

■ Crash Analysis

- Rear-end crashes (115 total reported crashes) and turning movement crashes (79 total reported crashes) were the most common crash type at the 10 study intersections.
- Six fatal crashes occurred along OR 212 and OR 224 within the Sunrise Corridor between 2017 and 2021.
- Fifteen roadway segments in the study area fall under Oregon Department of Transportation's (ODOT's) Safety Priority Index System (SPIS) lists of areas with high crash frequency, crash rate, and/or crash severity). There are six segments in the 95-100 percentile, six segments in the 90-95 percentile, and three segments in the 85-90 percentile.

■ Existing Transit Services


- The Sunrise Corridor has two different transit service providers: TriMet operates four routes with two planned routes. Clackamas County funds two routes including the industrial area shuttle and the Clackamas Community College campus shuttle.
- Within the Sunrise Corridor and the Clackamas Industrial Area, TriMet's *Forward Together* plan is planned to result in a net service increase by 2029.
- The Clackamas Industrial Area shuttle is in operation daily, with morning-only weekend service. It links Clackamas Town Center Transit Center to various locations, facilitating connections to major employers and Clackamas Community College.

■ Existing Intersection Operations


- The SE 152nd Avenue/OR 212 intersection is over capacity during both the weekday AM and PM peak hour periods.
- The OR 213 northbound access/I-205 southbound off-ramp/OR 224 intersection has a v/c ratio of 1.09 during the weekday PM peak hour. The queues at this intersection are not projected to reach the mainline.
- 95th percentile peak-hour queueing exceeds storage lengths on at least one approach to each of the major highway intersections: OR 213 southbound off-ramp/I-205 southbound on-ramp/OR 224, OR 213 northbound access/I-205 southbound off-ramp/OR 224, SE 135th Avenue/OR 212, and OR 224/OR 212 (Rock Creek Junction).
- The major intersection analysis indicates mixed changes. Compared to the ten 2019 intersection operations analyses for the Sunrise Corridor Concept, three of the intersections are operating better now, three of the intersections are operating worse now, two of the intersections are functionally the same, and one intersection is operating better during the AM peak hour and worse during the PM peak hour. Differences are due to shifts in traffic volumes along the corridor.
- There are a limited number of pedestrian crossings at intersections along Highway 212.

■ Sunrise Corridor Travel Patterns

- Over half the eastbound traffic on OR 224 and OR 212 comes from I-205 north and south, and OR 224 west of I-205 (Milwaukie Expressway). About 30% of eastbound OR 212 traffic continues past SE 172nd Ave.

Origin		Eastbound	Destination	
50%	I-205 north and south, OR 224 west of I-205 (Milwaukie Expressway)		30%	OR 212 past SE 172nd Ave

- For westbound OR 212 east of SE 172nd Ave, 20% comes from US 26. Additional westbound traffic comes from SE 242nd Ave (13%), SE 282nd Ave (9%), and SE 222nd Dr (6%). Around 25-30% are going west on OR 224 or south to I-205 and around 30% remaining on OR 212.

Destination		Westbound	Origin	
25-30%	OR 224 or south to I-205		20%	US 26
30%	OR 212		13%	SE 242nd Ave
			9%	SE 282nd Ave
			6%	SE 222nd Dr

- Weekday westbound peak traffic on OR 224 and OR 212 is in the morning around 7AM while weekday eastbound peak traffic is in the afternoon from 3PM to 5PM; weekend peak traffic in both directions occurs midday from 10AM to 3PM.
- Traveling within the study area, the most common origins of travelers in the Clackamas Industrial Area are in the industrial area and Happy Valley residential. areas Damascus is the least common destination and origin point for the Clackamas Industrial Area. The Clackamas Industrial Area zone includes destinations along SE 82nd Drive, such as shopping and medical centers, which may draw different trip patterns than the industrial uses.
- Analysis of route-specific volume data shows heavy vehicles (above 26,000 pounds) constitute over 10% of westbound traffic at SE 172nd Avenue (including SE Thiessen Road), approximately 10% on eastbound traffic 106th Avenue (including 4-6% to/from Clackamas Industrial Area), and around 10% on both eastbound and westbound directions at OR 224 (Sunrise Expressway) related to the Clackamas Industrial Area.

Existing Facilities

Study Intersection Jurisdiction

Based on their significance to the network of the Sunrise Corridor and inclusion in the Sunrise Gateway Concept Plan, the project team identified 10 intersections for weekday AM and PM peak period analysis to understand traffic patterns, assess existing conditions, and understand impacts due to future growth or network changes. ODOT manages and operates nine of the 10 study intersections while Clackamas County manages the SE 122nd Avenue and SE Jennifer Street intersection. Figure 1 shows the location of the study intersections.

1. OR 213 southbound off-ramp/I-205 southbound on-ramp/OR 224
2. OR 213 northbound access/I-205 southbound off-ramp/OR 224
3. I-205 northbound on-ramp/OR 224
4. SE 122nd Avenue/OR 224/OR 212
5. SE 135th Avenue/OR 212
6. SE 142nd Avenue/OR 212

7. SE 152nd Avenue/OR 212
8. OR 224/OR 212 (Rock Creek Junction)
9. SE 172nd Avenue/OR 212
10. SE 122nd Avenue/SE Jennifer Street

Roadway Jurisdiction

Various jurisdictions manage the roadway network within the study area, as shown in Figure 2 below. ODOT operates I-205, OR 212, OR 213, and OR 224, while Clackamas County operates most of the streets within the Clackamas Industrial Area and north of the Sunrise Corridor. SE Sunnyside Road, a parallel east-west facility, is operated by either Clackamas County or Happy Valley, depending on the specific location along the roadway. To the east of the I-205 and OR 213 intersection, most of the study intersection minor streets are operated by Clackamas County, except for SE 135th Avenue and SE 172nd Avenue, which are operated by Happy Valley on the north leg of the intersection.

Functional Classification

The western end of the Sunrise Corridor study area is bounded by I-205. OR 212, OR 224, Sunrise Expressway between I-205 and SE 122nd Avenue, and OR 212 from SE 122nd Avenue east are classified as major arterials. Other streets that connect to study intersections are arterial streets, including SE 135th Avenue, SE 142nd Avenue, SE 152nd Avenue, SE 172nd Avenue, and SE Jennifer Street. Figure 3 shows the functional classification of the streets within the study area.

For the ODOT facilities, I-205 is classified as an Interstate Highway, OR 212 and OR 224 are classified as Statewide Highways, and OR 213 is classified as a District Highway.

Figure 1. Study Intersections

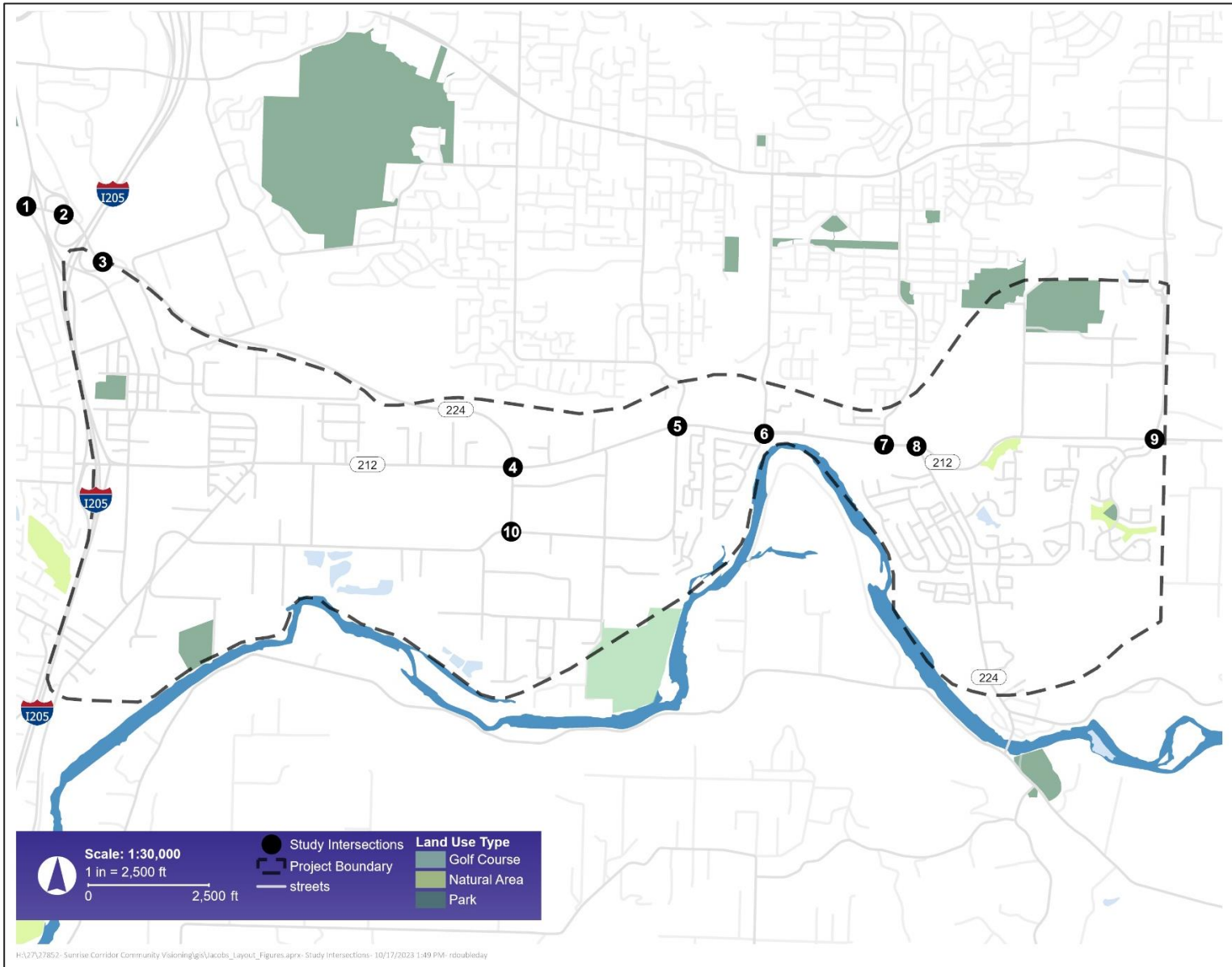


Figure 2. Roadway Jurisdiction

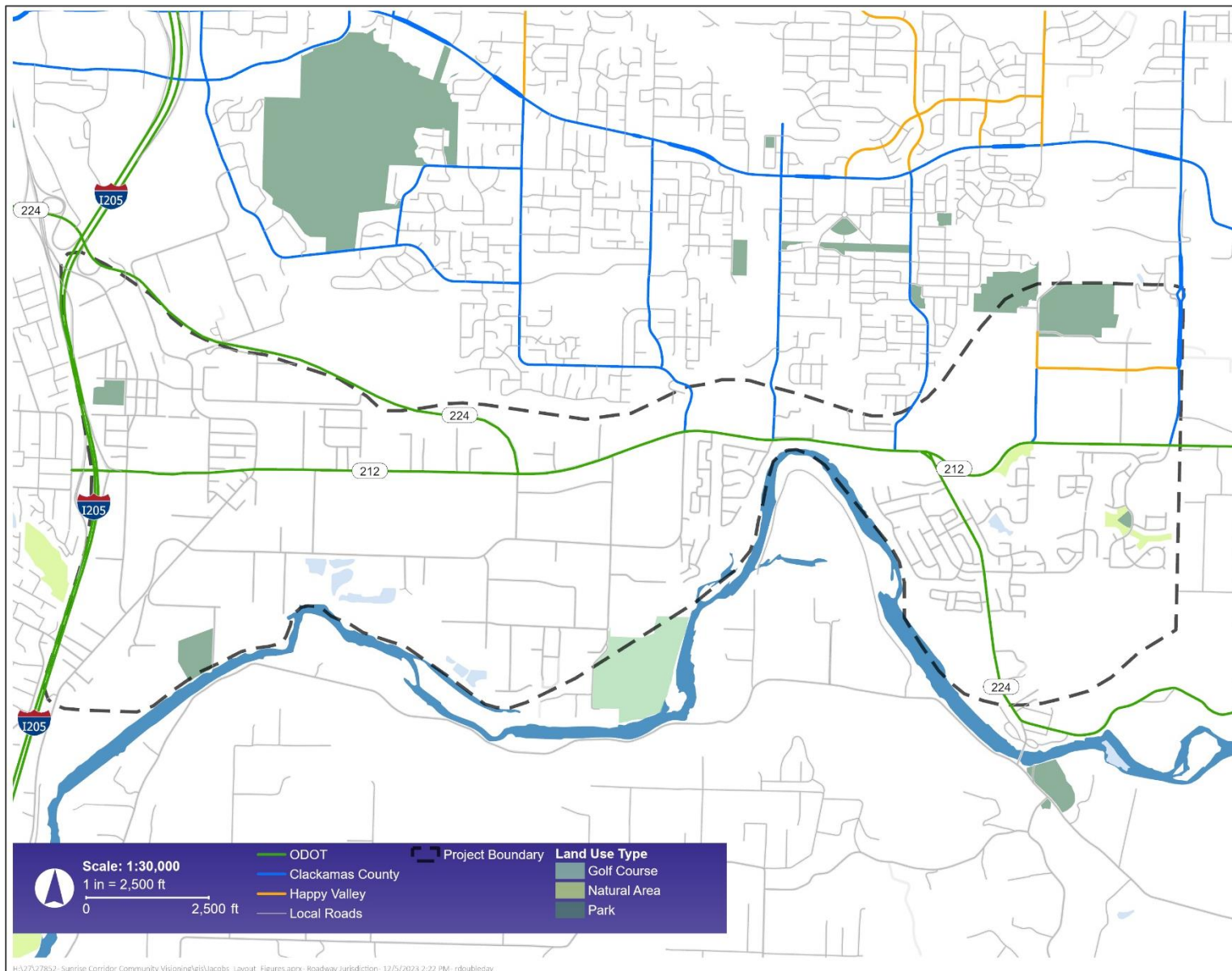


Figure 3. Functional Classification

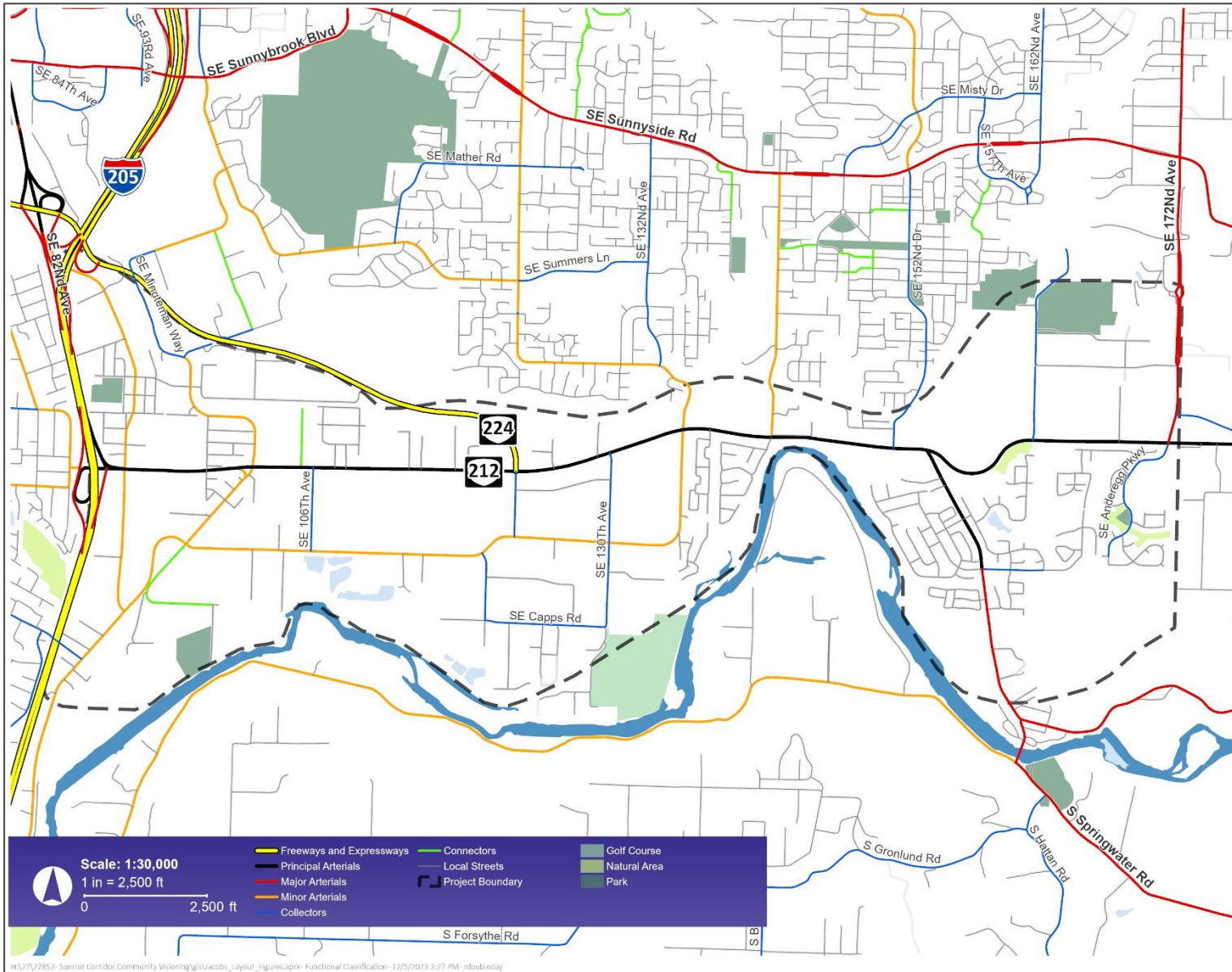
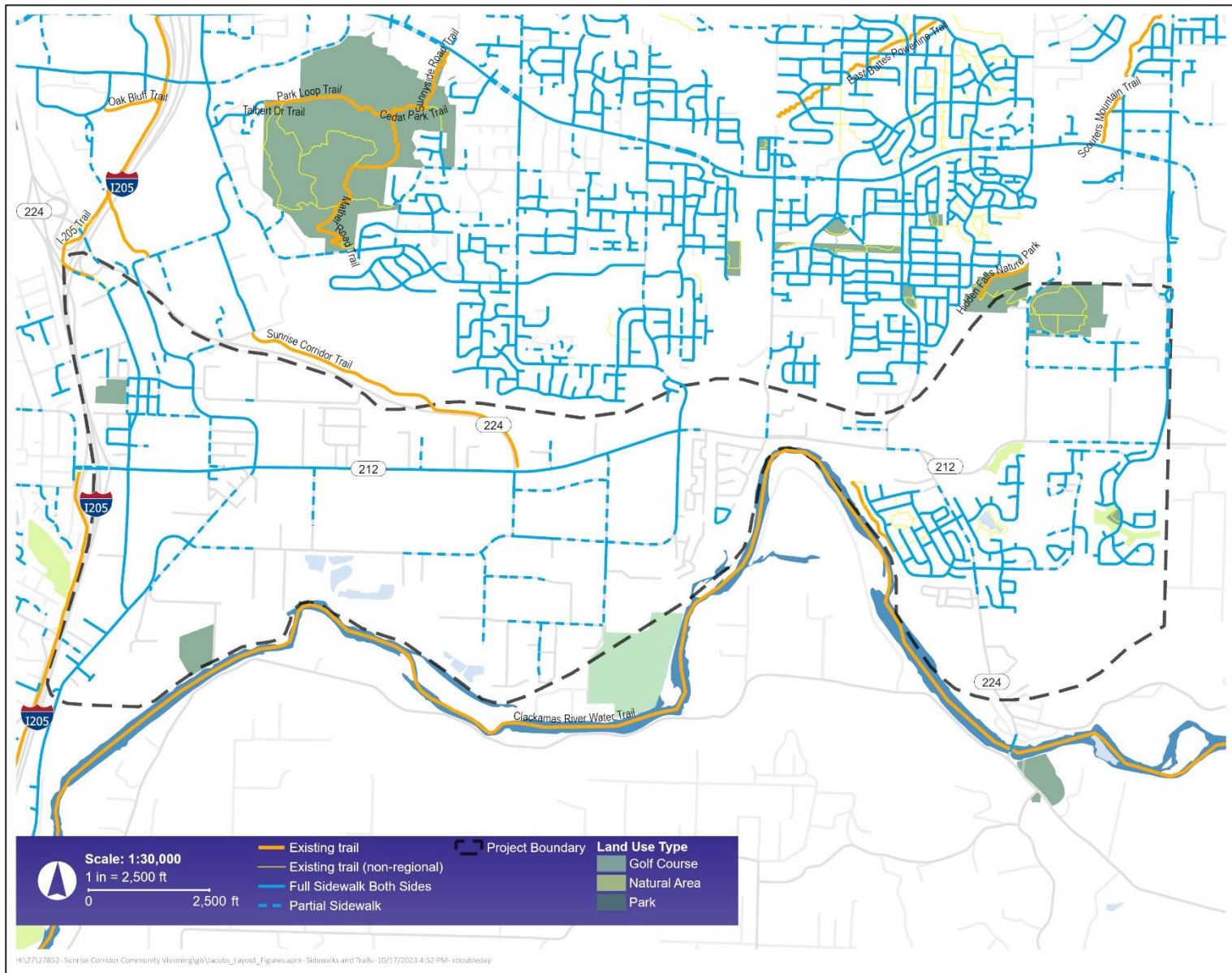


Figure 4. Active Transportation



Transportation Facilities

Table 1 summarizes the roadway transportation facilities within the study area.

Table 1. Existing Transportation Facilities and Roadways in the Study Area

Roadway	Functional Classification	No. of Lanes	Posted Speed	Sidewalks	Bike Lanes	On-Street Parking
OR 212 (Sunrise)	Statewide Highway (ODOT) Principal Expressway (Clackamas County)	4	50-55 MPH	No ¹	No ¹	No
OR 212 (122 nd east)	Statewide Highway (ODOT) Principal Arterial (Clackamas County)	5	45 MPH	Partial ²	Yes	No
OR 213	District Highway (ODOT) Principal Arterial (Clackamas County)	4	45-50 MPH	No	No	No
OR 224 (I-205 to 122 nd)	Statewide Highway (ODOT) Principal Arterial (Clackamas County)	5	35-45 MPH	Yes	Yes	No
OR 224 (Rock Creek Junction south)	District Highway (ODOT) Principal Arterial (Clackamas County)	2	45 MPH	Partial ³	Partial ³	No
I-205	Interstate Highway (ODOT)	6	55 MPH	No	No	No
SE 122 nd Avenue	Collector	2	30 MPH	Partial ⁴	Yes	No
SE 135 th Avenue	Minor Arterial	2-3	35 MPH	No	Yes	No
SE 142 nd Avenue	Minor Arterial	2	40 MPH	No	No	Partial ⁵
SE 152 nd Avenue	Collector	2	35 MPH	No	No	No
SE 172 nd Avenue	Major Arterial	4	45 MPH	Yes	Yes	No
SE Anderegg Parkway	Collector	2	None Posted	Yes	No	Yes
SE Jennifer Street	Minor Arterial	3	40 MPH	Partial ⁶	Yes	No

¹ There is a parallel shared-use path on the north side of OR 212 between Mather Road and SE 122nd Avenue.

² There is a complete sidewalk network between SE 122nd Avenue and SE 135th Avenue. There are no sidewalks east of SE 135th Avenue.

³ There are sidewalks and bike lanes around the housing developments at Goose Hollow Drive and SE Eckert Lane. Otherwise, the street has a wide shoulder for people walking and biking.

⁴ SE 122nd Avenue has a complete sidewalk network except for a 125-foot segment on the west side of the street immediately north of SE Jennifer Street.

⁵ On-street parking is only allowed on the east side of the street immediately to the north of OR 212.

⁶ There are sidewalks east of the intersection with SE 122nd Avenue and none west of the intersection.

There are a limited number of people walking and biking along Highway 212 in the traffic count data. There were nine pedestrians identified at the OR 224/OR 212 intersection during the weekday PM peak hour, eight pedestrians at the OR 224/SE 122nd Avenue/OR 212 intersection during the weekday PM peak hour, and no more than four pedestrians at any other study intersection during that time. The weekday PM peak hour traffic counts captured six bicyclists at both the OR 224/SE 122nd Avenue/OR 212 and SE 142nd

Avenue/OR 212 intersections, and no more than three bicyclists at any other intersection along OR 212. The traffic count data catches a single bicyclist and no pedestrians at any of the study intersections on the existing Sunrise Expressway.

There are two shared-use paths within the study area: the I-205 Multi-Use Path and Sunrise Corridor Trail, shown in Figure 4. The I-205 Multi-Use Path runs along the west side of I-205, with connections to SE Ambler Road, SE Lawnfield Road, and SE 82nd Drive heading north and Highway 212 and SE McKinley Avenue heading south. There is a gap in the I-205 Multi-Use Path between OR 224 and OR 212. The Sunrise Corridor Trail runs from SE Mather Road north of OR 224 to the SE 125th Court/OR 212 intersection.

Union Pacific maintains Portland to Oregon City railroad facilities within the study area, as well, with three railroad tracks running underneath OR 224 and four railroad tracks running underneath OR 212. The fourth set of tracks under OR 212 provides shortline access to industrial land off of SE Jennifer Street and SE Capps Road.

Electric vehicle charging stations in the study area include one at the Hampton Inn on SE Adams Street, two at the Verne A Duncan Elementary School/Adrienne C. Nelson High School, and about 20 in the Clackamas Town Center area.

Crash Analysis

This section evaluates study intersection crashes for the five most recent years with data, as well as all other crashes along the OR 212 and OR 224 corridors outside of the study intersections, with special attention to any fatal crashes in the corridor.

Intersection Crash Analysis

The study intersection crash history was obtained from the Oregon Department of Transportation's TDS Crash Reports Portal (Reference 1) and TransGIS (Reference 2) for the five-year period from January 1, 2017 to December 31, 2021. Table 2 summarizes the reported crash frequency, type, and severity by intersection. Generally, ODOT considers a crash rate greater than one (1.0) crash per million entering vehicles (MEV) as an indicator that a potential geometric or operational issue may exist, and that further evaluation should be considered.

There are two signalized intersections where the majority of reported crashes are rear-end crashes, including:

- SE 135th Avenue/OR 212 (52 of the 60 reported crashes were rear-end crashes)
- SE 122nd Avenue/OR 212, (24 of the 34 reported crashes were rear-end crashes)

There are two signalized intersections where the majority of reported crashes were turning movement crashes:

- 142nd Avenue/OR 212 intersection (18 of the 28 reported crashes); and
- SE 172nd Avenue/OR 212 intersection (17 of the 28 reported crashes).

There were no reported crashes involving a fatality at any study intersection during the analysis period.

Appendix A includes the crash data for each of the study intersections.

Non-Intersection Crash Analysis

Table 3 below summarizes reported crash frequency, type, and severity by segment. The segments exclude study intersection crashes. Figure 5 includes a map of all of the crashes within the study area. Appendix A includes the crash data for each of the segments.

Additional discussion on the three non-intersection crash areas is below.

Table 2. Study Intersection Crash Frequency and Severity (January 2017 through December 2021)

	Intersection	No. of Crashes	Crash Type							Crash Severity		Total	Crash Rate
			Rear-End	Fixed Object	Turning	Angle	Head-On	Side-swipe	Other	PDO	Injury		
1	OR 213 SB off-ramp/I-205 SB on-ramp/OR 224	8	3	1	4	-	-	-	-	2	6	8	0.11
2	OR 213 NB access/I-205 SB off-ramp/OR 224	16	2	-	9	2	-	1	2	8	8	16	0.26
3	I-205 NB on-ramp/OR 224	5	2	-	3	-	-	-	-	3	2	5	0.11
4	SE 122nd Avenue/OR 212	34	24	1	6	3	-	-	-	11	23	34	0.56
5	SE 135th Avenue/OR 212	60	52	-	4	2	1	-	1	27	33	60	0.79
6	SE 142nd Avenue/OR 212	28	7	1	18	1	-	1	-	8	20	28	0.41
7	SE 152nd Avenue/OR 212	16	5	-	11	-	-	-	-	7	9	16	0.25
8	OR 224/OR 212	18	10	1	5	-	-	-	2	9	9	18	0.28
9	SE 172nd Avenue/OR 212	28	10	1	17	-	-	-	-	11	17	28	0.65
10	SE 122nd Avenue/SE Jennifer Street	8	-	1	2	4	-	-	1	5	3	8	0.42

Crash rate is calculated as the number of crashes per million entering vehicles. Average daily traffic volumes were estimated using PM peak hour total entering volume at the intersection.

Table 3. Non-Study Intersection Crash Frequency and Severity (January 2017 through December 2021)

Segment	Rear-End	Fixed Object	Turning	Angle	Head-On	Side-Swipe	Ped	Other	PDO	Injury	Fatal	Total
OR 224 from OR 213 off-ramp/I-205 on-ramp to SE 122nd Ave	26	16	8	1	2	20	-	1	28	45	1	74
OR 212 from SE McKinley Ave to SE 122nd Ave	58	8	31	1	2	4	2	2	50	56	2	108
OR 212 from SE 122nd Ave to SE 172nd Ave	120	18	20	-	-	34	-	2	80	111	3	194

OR 224 from OR 213 SB off-ramp/I-205 SB on-ramp to SE 122nd Avenue

The three most prominent crash types were rear-end (26 reported crashes), sideswipe (20 reported crashes), and fixed object (16 reported crashes). There were 12 other crashes outside of these three crash types, eight of which were turning movement crashes.

There has been one reported fatality crash on this segment of OR 224. On Friday, July 10th, 2023 at 7 p.m., a 32-year-old male driver heading westbound on OR 224 was passing another vehicle when he struck the median barrier, lost control, flipped the vehicle, and was ejected from the vehicle. The 32-year-old died in the crash. Another vehicle was involved in the crash, and the 19-year-old female driver in that vehicle suffered moderate injuries. The crash occurred east of the Minuteman Way overcrossing during the day and involved a fixed object.

OR 212 from SE McKinley Avenue to SE 122nd Avenue

As shown in the table, more than half of the crashes on this segment (31 reported crashes out of 58) are associated with rear-ends. Two fatal crashes were reported, one of which involved a pedestrian. There was another crash in this corridor where a pedestrian suffered a minor injury.

The fatal pedestrian crash occurred at 7 a.m. on Thursday, October 17th, 2019 at the SE 102nd Avenue/OR 212 intersection. The 20-year-old male pedestrian was crossing SE 102nd Avenue from east to west in the crosswalk but did not have the right-of-way and was struck and killed by a truck making an eastbound right-turn.

The other fatal vehicular crash occurred at 3 p.m. on Saturday, July 17th, 2021 on the OR 212 overcrossing over the railroad tracks east of SE 82nd Drive. An 80-year-old motor vehicle driver heading westbound on OR 212 was reported as following another motor vehicle too closely and rear-ended the vehicle in front of it. The 80-year-old driver was killed in the crash, and all six people in the vehicle that was rear-ended suffered moderate injuries. The force of the crash forced the second vehicle into a third vehicle, where the driver of that vehicle also suffered moderate injuries.

There was also a minor injury pedestrian crash at the I-205 southbound ramps/OR 212 intersection, which occurred at 6 p.m. on Sunday, October 17th, 2021. An eastbound right-turning vehicle failed to yield the right-of-way to the pedestrian who was walking westbound across the ramp access in the crosswalk, striking the pedestrian.

OR 212 from SE 122nd Avenue to SE 172nd Avenue

Roughly 60 percent of the total reported crashes on OR 212 from SE 122nd Avenue to SE 172nd Avenue are associated with rear-ends (120 out of 194). Three crashes out of the 194 reported crashes were fatal and are described in more detail below.

Two of the three fatal crashes occurred at the intersection of SE For Mor Court and OR 212, one in 2018 and one in 2021. At 4 p.m. on Sunday, April 22nd, 2018, a 25-year-old male on a motorcycle heading eastbound on OR 212 was traveling above the speed limit and ran into a stalled motor vehicle, which killed the motorcyclist. At 6pm on Sunday, June 28th, 2021, a 42-year-old male driving a motor vehicle heading westbound on OR 212 ran off the road and struck a tree, which killed the driver.

The third fatal crash occurred east of the OR 224/OR 212 intersection along the curve in OR 212. At 5 p.m. on Wednesday, September 16th, 2020, a 20-year-old male on a motorcycle heading eastbound on OR 212 lost control of their motorcycle and ran off the road and hit a guardrail, which killed the motorcyclist.

SPIS Segments

ODOT has developed the Safety Priority Index System (SPIS) across all state facilities to identify locations for safety improvements. A SPIS score incorporates three years of crash data and includes three elements: crash frequency, crash rate, and crash severity. Segments are analyzed in one-tenth of a mile segments for analysis, and all statewide facilities are analyzed on the same scale.

If a location falls within the top five percent of SPIS scores, then the Region Traffic office must conduct a safety investigation to identify safety improvements that can be made. ODOT's TransGIS site also identifies SPIS sites within the top 10 and top 15 percent.

As shown in Table 4 and Figure 6 below, there are several segments within the project area that fall within these percentile ranks:

Table 4. SPIS Segment Percentiles

Top 5 Percentile Rank	Top 10 Percentile Rank	Top 15 Percentile Rank
<ul style="list-style-type: none"> ■ Highway 212 at SE 82nd Drive ■ Highway 212/224 at SE 135th Avenue ■ Highway 212/224 at SE 142nd Avenue ■ Highway 212/224 at SE 152nd Avenue ■ Highway 212/224 at Rock Creek Junction ■ Highway 212 at SE 172nd Avenue 	<ul style="list-style-type: none"> ■ Highway 212 at I-205 southbound ramps ■ Highway 212 at SE 102nd Avenue ■ Highway 212/224 east of SE 142nd Avenue ■ Highway 212/224 west of SE 152nd Avenue ■ Highway 212/224 between SE 152nd Avenue and Rock Creek Junction ■ Highway 212 at SE 162nd Avenue 	<ul style="list-style-type: none"> ■ Highway 212 at the railroad overcrossing (east of SE 82nd Drive) ■ Highway 212 at Highway 224 and SE 122nd Avenue ■ Highway 212/224 west of SE 130th Avenue

The Safe Systems Approach

The Safe Systems Approach seeks to address and mitigate the risks inherent in our enormous and complex transportation system. Its implementation will be arranged around five objectives:

- Safer People,
- Safer Roads,
- Safer Vehicles,
- Safer Speeds, and
- Post-Crash Care

This project will seek to implement Safe Systems Approach guidance as it develops goals and assesses future scenarios. More information can be found here:

<https://www.transportation.gov/NRSS/SafeSystem>

Figure 5. Crash Severity

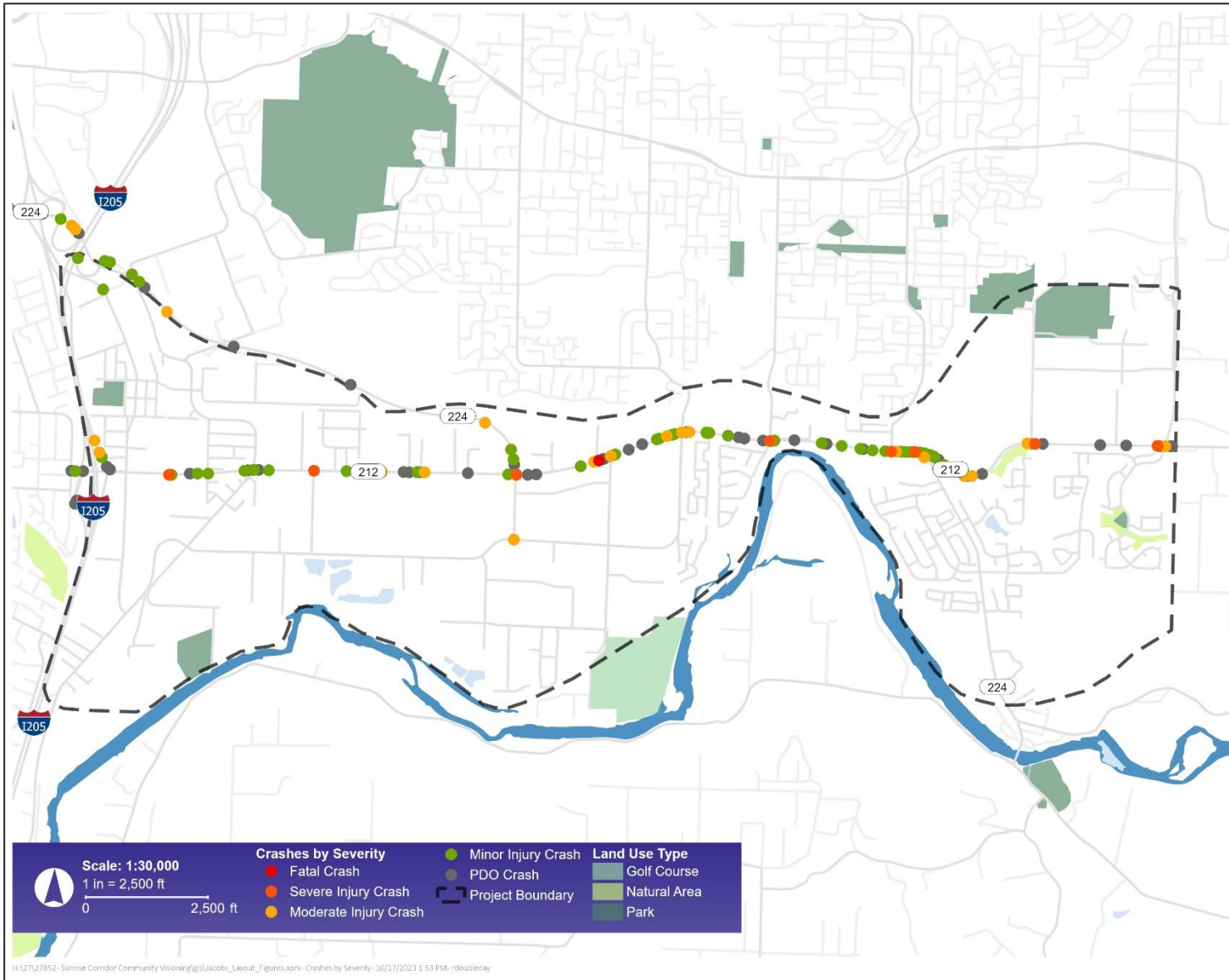
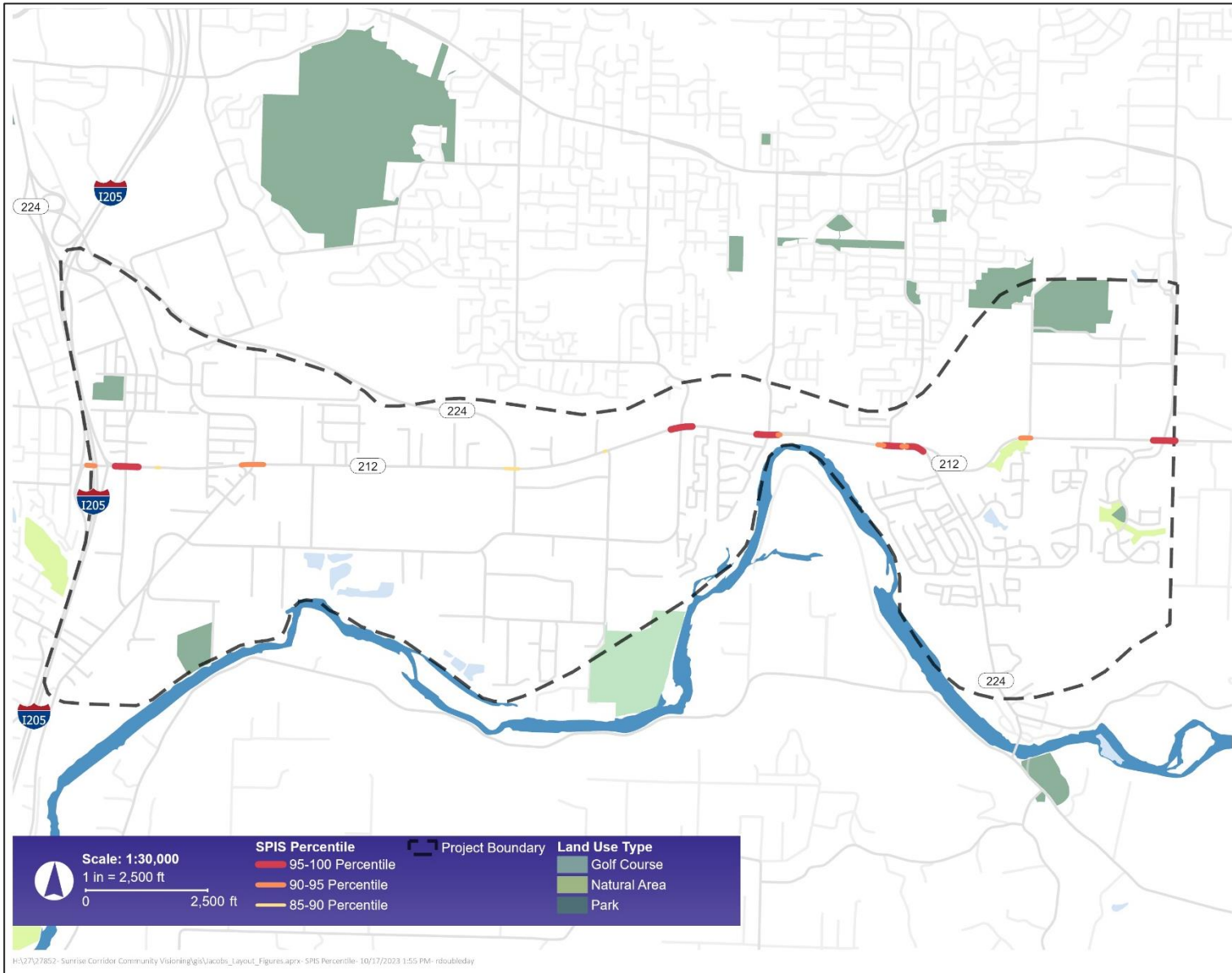


Figure 6. Safety Priority Index System



Existing Transit Services

The Sunrise Corridor, located near the Clackamas Town Center Transit Center, has two different transit service providers: TriMet (with 4 existing routes and 2 planned routes), and Clackamas County (its own Clackamas Industrial Area Shuttle and operation of the Clackamas Community College [CCC] Xpress). Table 5 summarizes the service frequency and ridership of bus routes in the study area.

Table 5. Service Frequency and Ridership of Bus Routes along Sunrise Corridor¹

Route	Weekday Service Span / Headway	Weekend Service Span / Headway	Riders per Revenue Hour – Weekday Spring 2019	Riders per Revenue Hour – Weekday Spring 2023
TriMet 30	6:30 AM – 8:30 PM / 1 hour	8:30 AM – 6:30 PM / 1 hour	16.3	14.9
TriMet 79	6:15 AM – 10:35 PM / 20 – 40 mins	8:15 AM – 10:35 PM / 40 mins	25.9	22.7
TriMet 145*	1 hour	1 hour	--	--
TriMet 150*	1 hour	1 hour	--	--
TriMet 155	5:30 AM – 11:00 PM / 30 mins	6:45 AM – 11:00 PM / 30 – 60 mins	24.6	19.8
TriMet 156	5:30 AM – 7:50 PM / 1 hour 20 minutes	No service	18.1	12.2
Clackamas Industrial Area Shuttle	4:50 AM – 8:35 PM / 1 hour	4:50 AM – 11:25 AM / 1 hour	Not in Operation	4.2
CCC Xpress	6:00 AM – 6:50 PM (Southbound); 6:35 AM – 7:10 PM (Northbound) / 1 hour	No service	--	--

Source/Notes: * Proposed new service; -- Missing data for service

A map of the existing transit service routes and stops with weekday boarding and alighting data within the Sunrise Corridor is shown in Figure 7. Where stops are across the street from each other, the westbound activity is shown above the eastbound activity. The *Clackamas County Transit Development Plan* (TDP – Reference 3), which identifies 20-year transit needs for the county, provides short-term, medium-term, and long-term recommendations for new and additional transit services (Figure 8 through Figure 10). This includes the recently-launched Clackamas Industrial Area Shuttle with 15 runs per day. The TDP recommends gradually increasing service to 17 to 32 runs per day in the medium- and long-term. In addition, recommendations, relevant to the project area and its vicinity, are shown in Table 6.

¹ (Sources: TriMet's *Forward Together* plan; TriMet Bus Service; TriMet Ridership and Performance Statistics; Clackamas County Connects Shuttle Service)

Figure 7. Weekday Transit Services

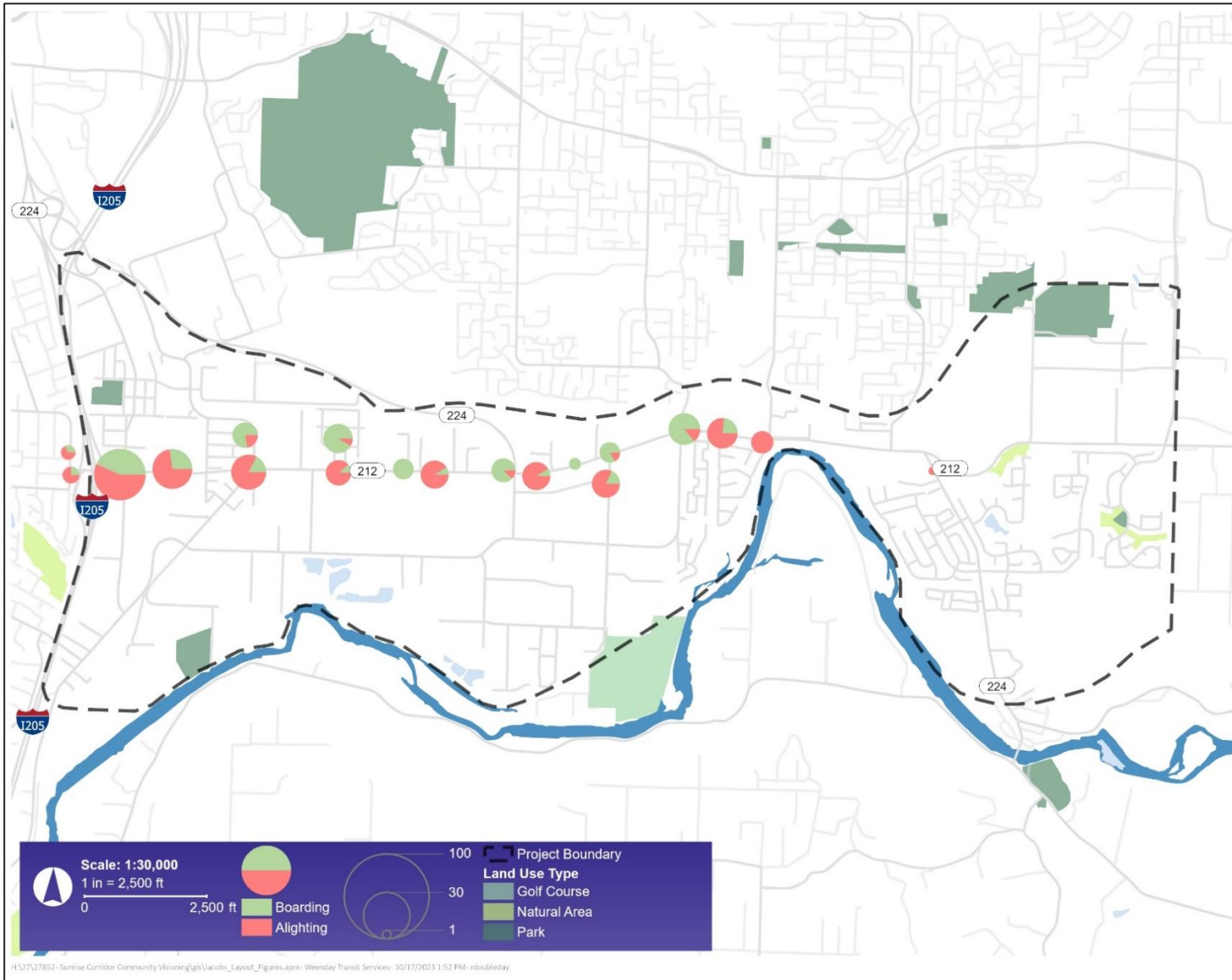


Table 6. Clackamas County TDP Recommendations (Source: Clackamas County TDP 2021)

ID	Corridor or Area	Existing Runs per Day	Additional Transit Run Demand	Recommendation	District/ Provider	Vehicle Size	Status
MT-6	Happy Valley	16	19	Establish hourly service (about 10 runs per day)	TriMet	Larger	Established Need
MT-9	Damascus	0	19	Establish hourly service (about 10 runs per day)	TBD	Smaller	Established Need
MT-11	Highway 212: I-205 to US26	0	14	Establish hourly service (about 8 runs per day); triggers Mobility Hub in Boring	SAM	Larger	In Provider Plan
LT-6	Happy Valley	26	9	Evaluate service; consider increased service span and frequency to add about 10 runs per day	TriMet	Larger	Established Need
LT-8	Damascus	10	9	Evaluate service; consider increased service span and frequency to add about 10 runs per day	TBD	Smaller	Established Need
LT-10	Highway 212: I-205 to US26	8	6	Evaluate service; consider increased service span and frequency to add about 10 runs per day	SAM	Larger	In Provider Plan
N/A	Highway 224: Highway 212 to Estacada	Monitor potential increases to transit demand			N/A	N/A	N/A

Source/Notes: MT= Medium-term; LT: Long-term; SAM: Sandy Area Metro

TriMet's *Forward Together* plan (Reference 4) focuses service in areas with high ridership that serve lower-income people and their needs more equitably. By mapping ridership changes between 2019 and 2021, job locations and access to transit, and using a composite equity index, TriMet was able to create a new regional service concept. TriMet is continuing to refine this plan through evolutions such as their FX planning for frequent service lines and other programs.

Within the project area and the Clackamas Industrial Area, the *Forward Together* plan results in a net service increase. Figure 11 below shows the revised transit concept for the project area and the Clackamas Industrial Area. The existing Route 79, running along 82nd Drive across OR 224, would be elevated to a frequent service route (15-minute headways or better) in the long-term, an improvement over its 40-minute headways currently. Two new routes would serve different areas within the project area Corridor:

- **Route 145** would run between Clackamas Town Center and Oregon City, with service on SE 102nd Avenue and SE Evelyn Street at OR 224
- **Route 150** would run between Milwaukie and Powell Boulevard in Gresham, with services along SE Jennifer Street and on OR 212 before turning north onto SE 172nd Avenue and the C2C corridor.
- The *Forward Together* plan proposes removing **Route 156**, which runs between Clackamas Town Center and Sunnyside Road, with service on OR 212 between SE 135th Avenue and SE 152nd Avenue.

Figure 8. Clackamas County TDP Short-Term Recommendations (Map Source: Clackamas County TDP 2021)

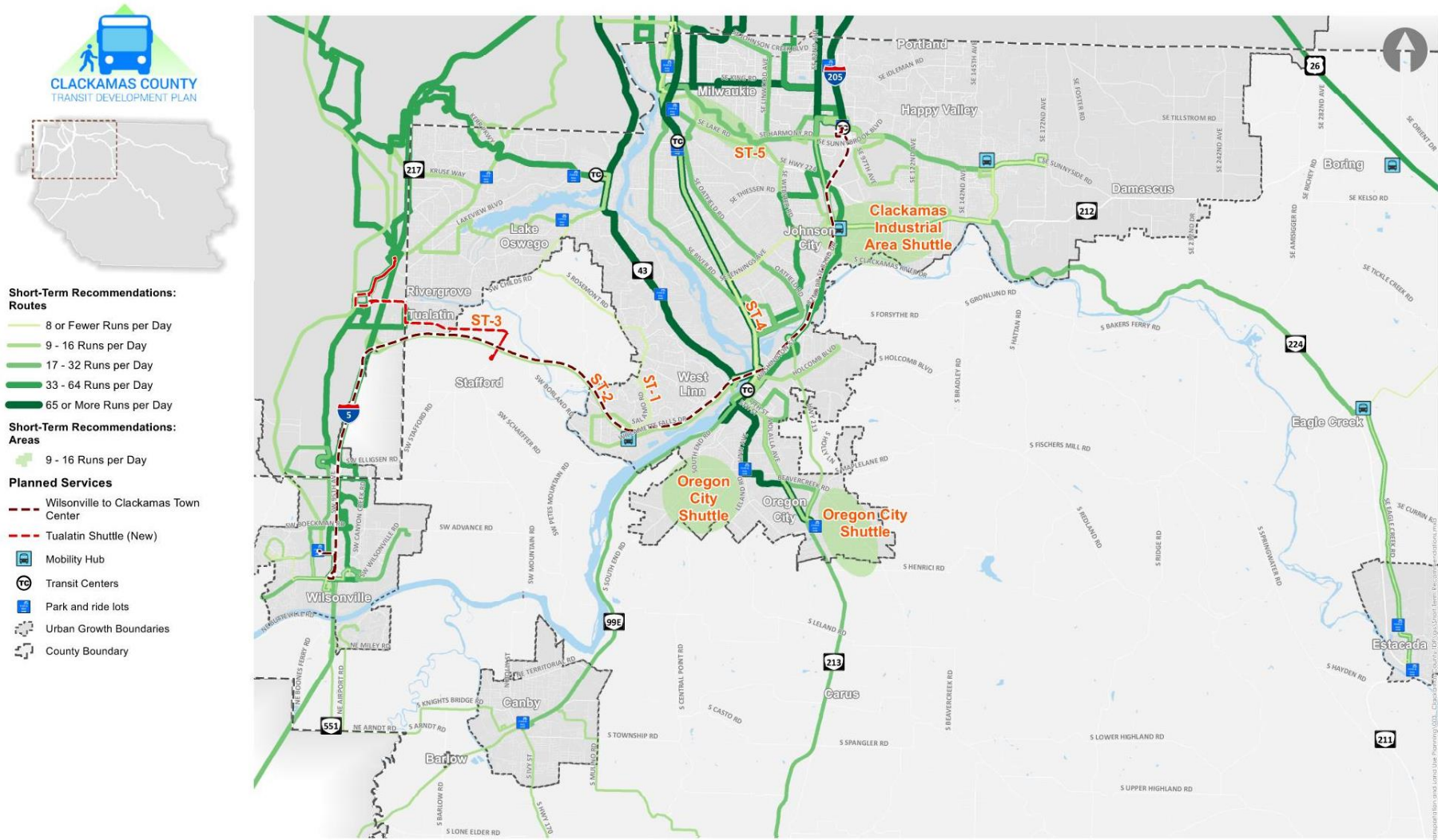


Figure 9. Clackamas County TDP Medium-Term Recommendations (Map Source: Clackamas County TDP 2021)

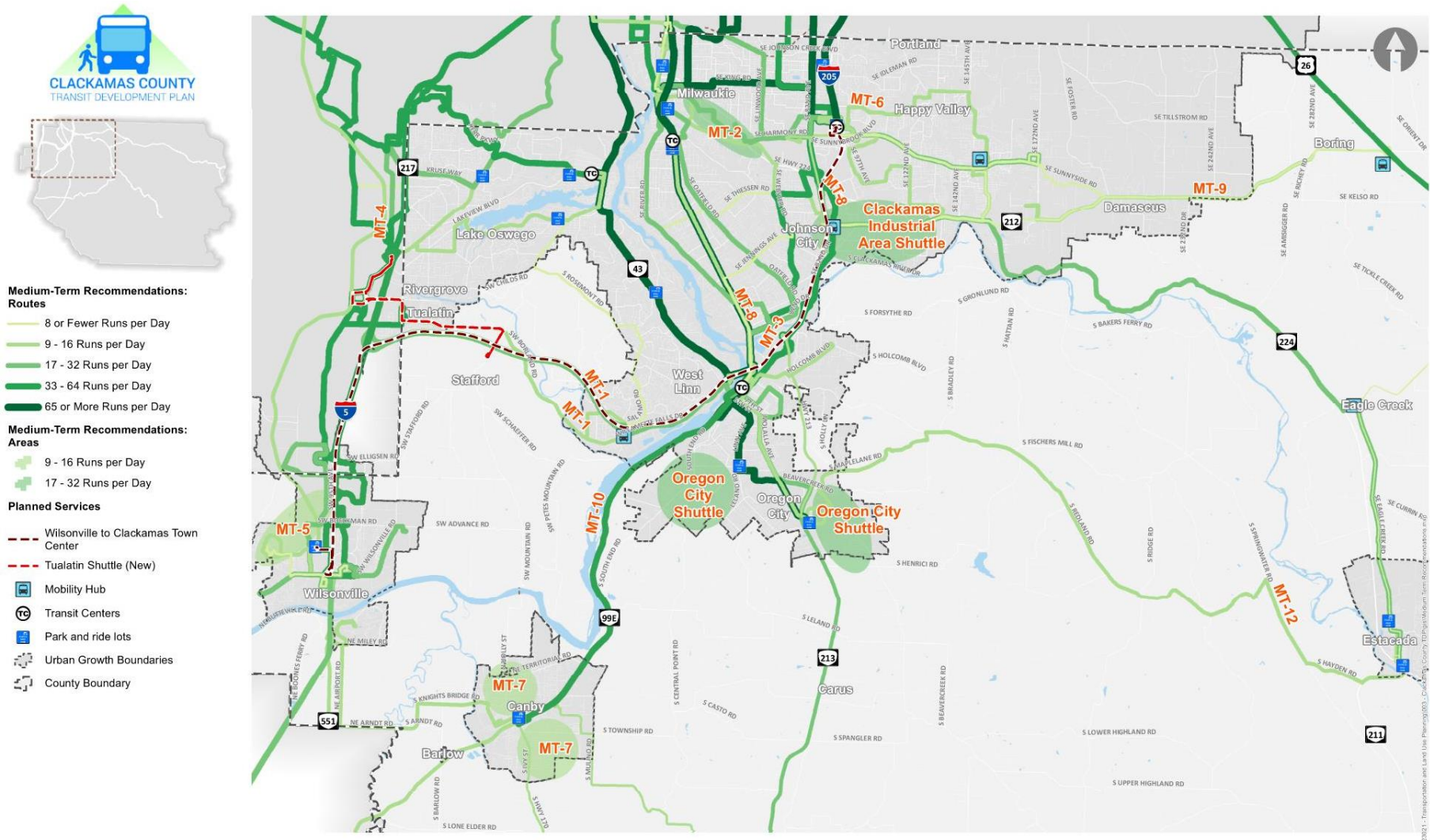


Figure 10. Clackamas County TDP Long-Term Recommendations (Map Source: Clackamas County TDP 2021)

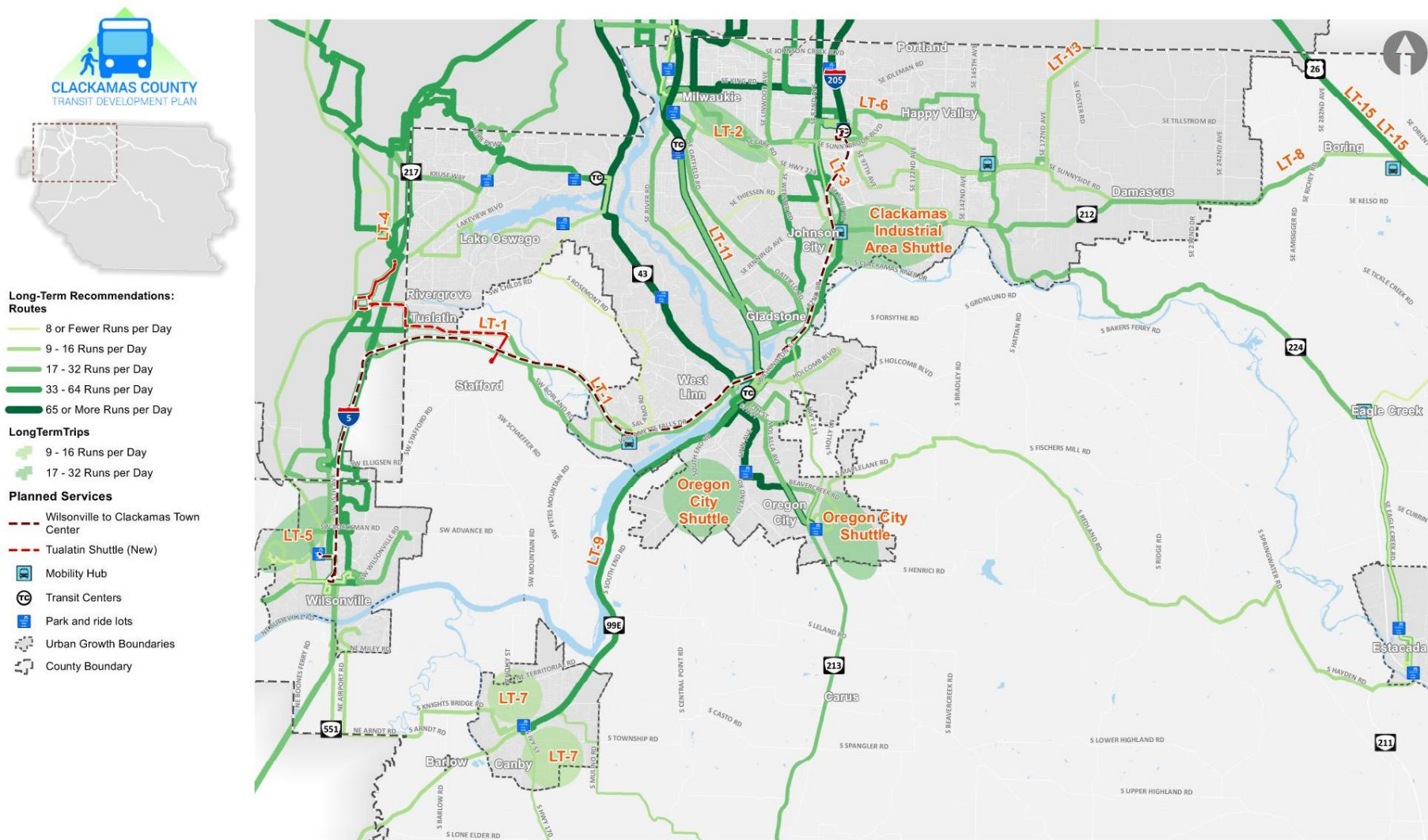
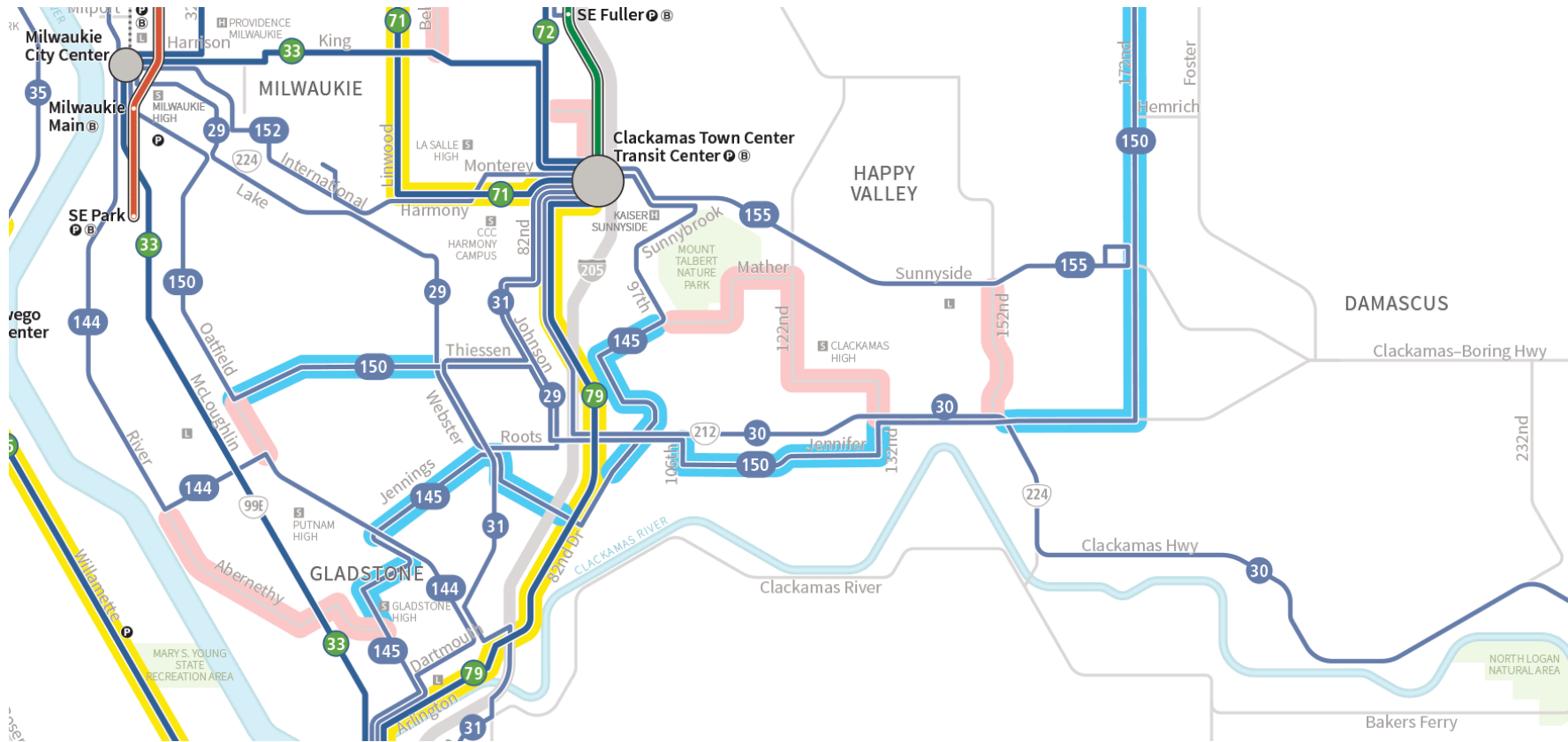


Figure 11. Forward Together Plan for the Sunrise Corridor Area (Map Source: TriMet's Forward Together Plan 2023)



Bus Service Changes

- Service loss
- New Service
- New Frequent Service

Bus Service

- 2 Frequent Express Service
- 4 Frequent Service
- 17 Standard Service
- 18 Rush-Hour Service
- 291 Night Service

Existing Intersection Operations

Turning movement data were collected in May 2023. The traffic counts were seasonally adjusted following Chapter 5 in ODOT's *Analysis Procedures Manual* (APM – Reference 5), and vehicle volumes were balanced for the through movements between the OR 213 southbound off-ramp/I-205 southbound on-ramp/OR 224 and SE 122nd Avenue/OR 224/OR 212 intersections, as well as between the SE 152nd Avenue/OR 212 and OR 224/OR 212 intersections, where access points between intersections are limited.

Appendix B includes the intersection turning movement counts.

Performance Thresholds

The *Oregon Highway Plan* (OHP – Reference 6) identifies operating standards for I-205, OR 212, OR 224 for the weekday AM and PM peak hours. At unsignalized intersections, the v/c ratio threshold of 0.99 applies to state highway approaches. At signalized intersections other than interchange ramp terminals, the 0.99 v/c threshold applies to the overall intersection. At signalized interchange ramp terminals, a v/c threshold of 0.85 applies to the overall intersection or up to 0.90 if ramp vehicle queues would not extend onto the mainline per OHP guidelines.

Clackamas County uses level of service (LOS) for its operating standards and sets a threshold of LOS E for unsignalized intersections (i.e., SE 122nd Avenue/SE Jennifer Street).

Traffic Operations Results

Figure 12 shows the existing lane configurations and weekday AM and PM peak hour operations for the study intersections and includes the following operations results:

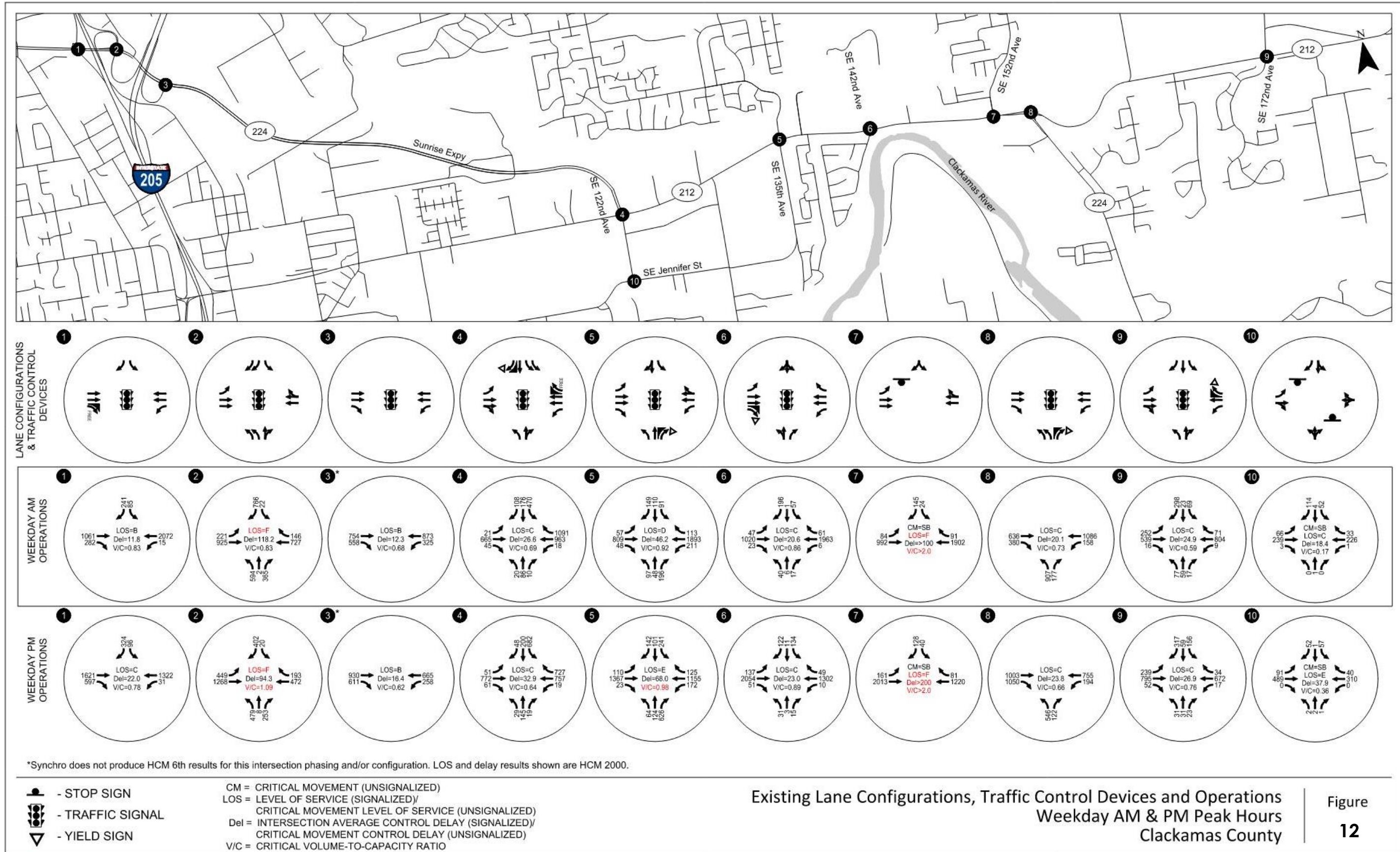
- The SE 152nd Avenue/OR 212 intersection is over capacity during both the weekday AM and PM peak hour periods.
- The OR 213 northbound access/I-205 southbound off-ramp/OR 224 intersection has a v/c ratio of 1.09 during the weekday PM peak hour. The queues at this intersection are not projected to reach the mainline.
- The critical southbound left-turn movement for the SE 122nd Avenue/SE Jennifer Street intersection is LOS E in the weekday PM peak hour, which is right at the Clackamas County standard.

Appendix C includes the intersection operations worksheets. The v/c ratios and delay numbers are being reported from Vistro 2024, while the 95th percentile queues are being reported from Synchro 12.

What is volume-to-capacity (v/c) ratio?

Volume-to-capacity (v/c) ratio measures congestion on a roadway by dividing the amount of traffic by the roadway's available space.

- A v/c ratio of 0.90 suggests the roadway is fairly congested but not yet over capacity.
- A v/c ratio of 1.0 is at capacity.
- Over 1.0 is over capacity.



Intersection Queuing

Intersection queues were analyzed to determine if there is adequate queue storage for each lane group across all 10 study intersections. The 95th percentile queue represents a common figure for measuring peak queue lengths. Table 7 below identifies the 95th percentile queues during peak hours, available storage or distance to next intersection, and whether storage adequately handles queues.

As shown, there are 95th percentile queues that exceed the available storage capacity at four of the 10 study intersections. These include queues on ramp terminals connecting to I-205 and OR 213.

- At the OR 213 southbound off-ramp/I-205 southbound on-ramp/OR 224 intersection, the southbound right-turning movement exceeds the available storage capacity during both the weekday AM and PM peak hours. The queue does not spill back onto OR 213 but does impact the southbound left-turn movement.
- At the OR 213 northbound access/I-205 southbound off-ramp/OR 224 intersection, the westbound through movement blocks the intersection with SE Ambler Road during both peak hours, and the eastbound left-turn queue exceeds the available storage during the weekday PM peak hour. Most critically, the northbound right-turn queue blocks the northbound left-turn lane and nearly reaches southbound I-205.
- At the SE 135th Avenue/OR 212 intersection, the southbound right-turn queues exceed the turn lane capacity during both peak hours and blocks the southbound left-turn lane. During the weekday PM peak hour, the westbound queue will block the two driveways on the north and south sides of OR 212.
- At the OR 224/OR 212 intersection, the northbound left-turn lane exceed the storage capacity during both peak hours, blocking access to the northbound right-turn lane. The eastbound right-turn lane exceeds capacity as well, but it reaches SE 152nd Avenue during the weekday PM peak hour.

Table 7. 95th Percentile Queue Lengths – Weekday AM and PM Peak Hours

ID	Intersection	Movement	Storage Length (feet)	95 th Percentile Queue (feet)	Adequate?
Weekday AM Peak Hour					
1	OR 213 southbound off-ramp/I-205 southbound on-ramp/OR 224	EBT	1,075	275	Yes
		WBL	75	25	Yes
		WBT	700	50	Yes
		SBL	250	125	Yes
		SBR	250	400	No
2	OR 213 northbound access/I-205 southbound off-ramp/OR 224	EBL	375	250	Yes
		EBT	600	25	Yes
		WBT	300	375	No
		NBL	800	425	Yes
		NBR	800	1,125	No
		SBL	175	50	Yes

ID	Intersection	Movement	Storage Length (feet)	95 th Percentile Queue (feet)	Adequate?
5	SE 135th Avenue/OR 212	EBL	425	100	Yes
		EBT	725	25	Yes
		EBR	75	25	Yes
		WBL	225	275	Yes
		WBT	350	175	Yes
		NBL	250	175	Yes
		NBT	N/A	100	Yes
		SBL	325	150	Yes
		SBTR	325	700	No
8	OR 224/OR 212 (Rock Creek Junction)	EBT	650	250	Yes
		EBR	150	300	No
		WBL	225	200	Yes
		WBT	5,000	300	Yes
		NBL	200	350	No
Weekday PM Peak Hour					
1	OR 213 southbound off-ramp/I-205 southbound on-ramp/OR 224	EBT	1,075	600	Yes
		WBL	75	50	Yes
		WBT	700	25	Yes
		SBL	250	125	Yes
		SBR	250	450	No
2	OR 213 northbound access/I-205 southbound off-ramp/OR 224	EBL	375	450	No
		EBT	600	25	Yes
		WBT	300	450	No
		NBL	800	350	Yes
		NBR	800	750	Yes
		SBL	175	50	Yes

ID	Intersection	Movement	Storage Length (feet)	95 th Percentile Queue (feet)	Adequate?
5	SE 135th Avenue/OR 212	EBL	425	100	Yes
		EBT	725	50	Yes
		EBR	75	0	Yes
		WBL	225	275	No
		WBT	350	750	No
		NBL	250	125	Yes
		NBT	N/A	200	Yes
		SBL	325	525	No
		SBTR	325	350	No
8	OR 224/OR 212 (Rock Creek Junction)	EBT	650	575	Yes
		EBR	150	2,100	No
		WBL	225	225	Yes
		WBT	5,000	175	Yes
		NBL	200	375	No

Travel Patterns

The corridor travel pattern analysis is based on Streetlight mobile device data to analyze travel patterns and volume profiles. The data queried encompassed all days and all hours between May 13th and 19th, 2023, to represent a typical travel week consistent with analysis informer studies. There are some limitations inherent in travel demand data. In this case, Streetlight data is derived from smartphone applications and other mobile sources, resulting in potential to disproportionately represent smartphone users rather than the total population. Second, data availability constraints can lead to incomplete information across time and locations. More information is available upon request.

Origin-destination analyses were conducted for the 14 zones located in and surrounding the project area, as depicted in Figure 13, then grouped zones into five major areas, including the Clackamas Industrial Area (7, 9, 10, 11), Happy Valley residential (2, 3, 4, 6), Damascus/low-density residential (8, 12), and Clackamas Town Center (1) and four manufactured home developments grouped together (5, 13, 14). Figure 14 below shows the origin-destination data trip volumes from the Clackamas Industrial Area to other areas near the study area. The most common destinations from the Clackamas Industrial Area are other locations within the industrial area and Happy Valley (yellow bar). The most common origins into the Clackamas Industrial area are also from the industrial area and Happy Valley. Damascus is the least comment destination and origin point for the Clackamas Industrial Area. Among the OD trips, around 28 to 29% of trips pass through the study area, while the 71% of trips either start or end within the study area (Figure 15). Notably, a greater number of pass-through trips occur overnight, specifically between 10 pm and 6 am, with a peak at around 4 to 5 am (Figure 16).

A detailed description of the origin-destination data between these zones is found in Appendix D.

Figure 13. Origin-Destination Zone Map

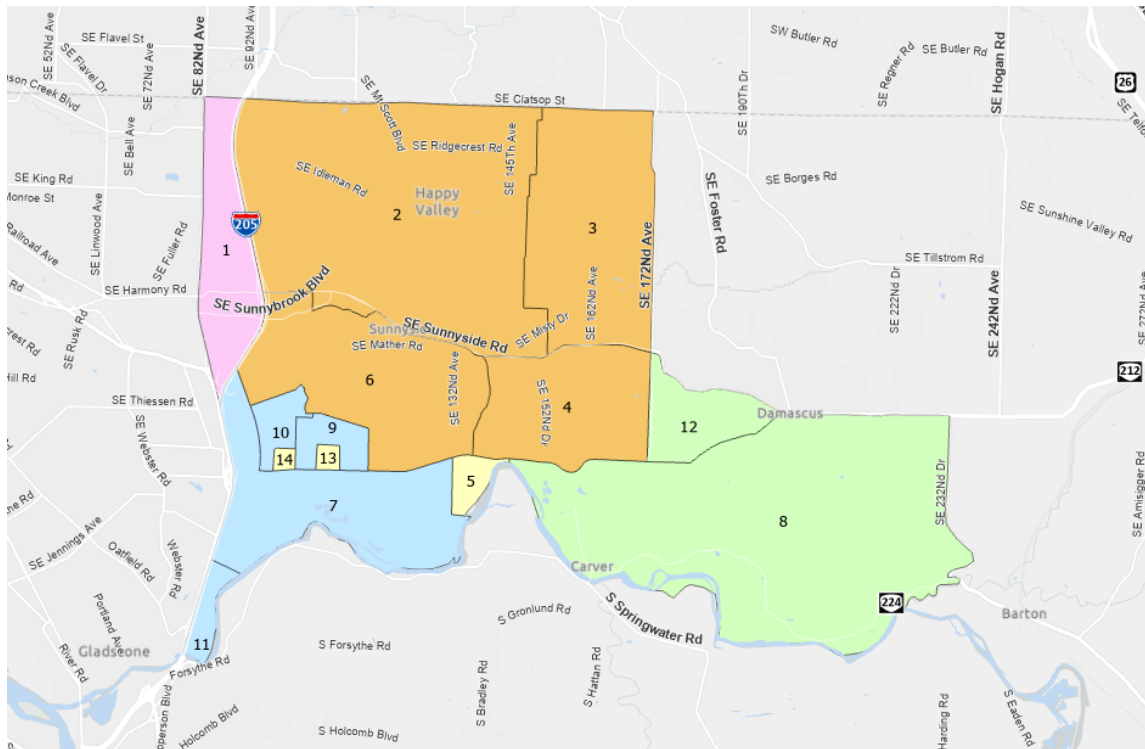
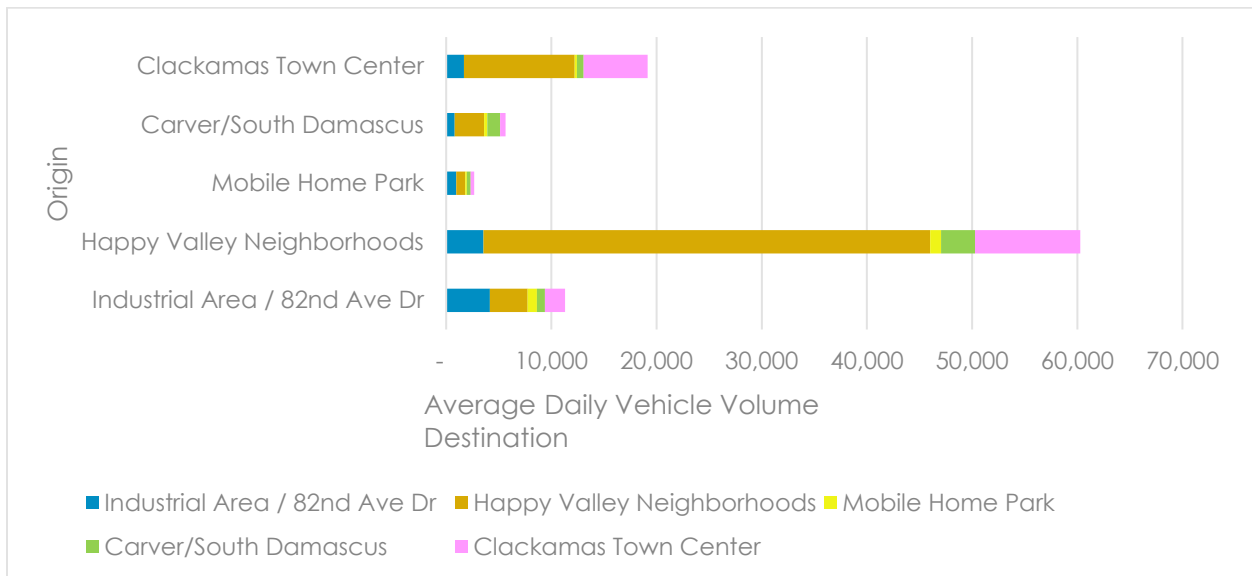


Figure 14. Origin-Destination by Analysis Zones –Sunrise Corridor Study Area



Note/Sources: The four mobile home parks are Riverbend, Shadowbrook, and Oak Acres located at 10701 OR 212, and the housing complex bounded by OR 212 to the south, SE 102nd Avenue to the east, SE Clackamas Road to the north, and SE 98th Avenue to the west.

Figure 15. Proportion of Pass-Through Trips

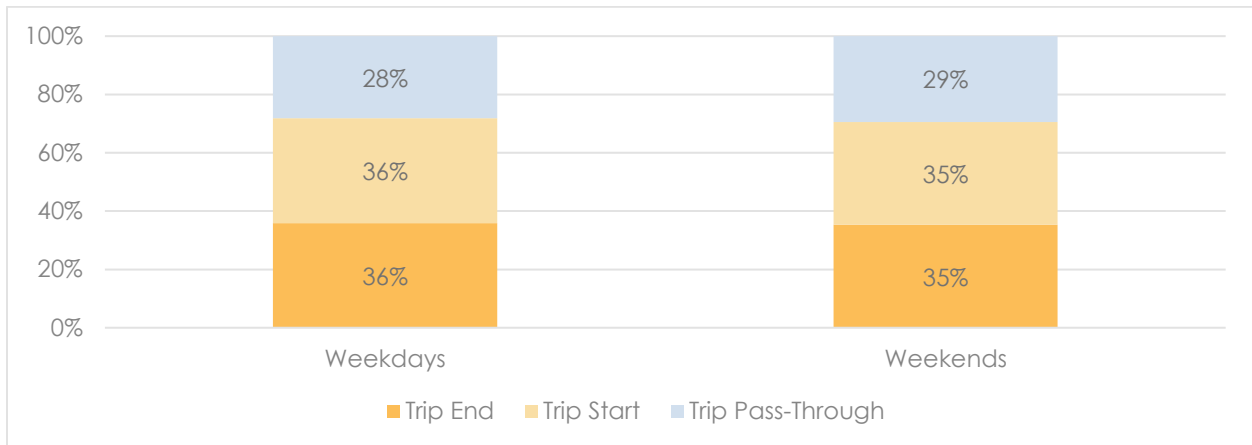
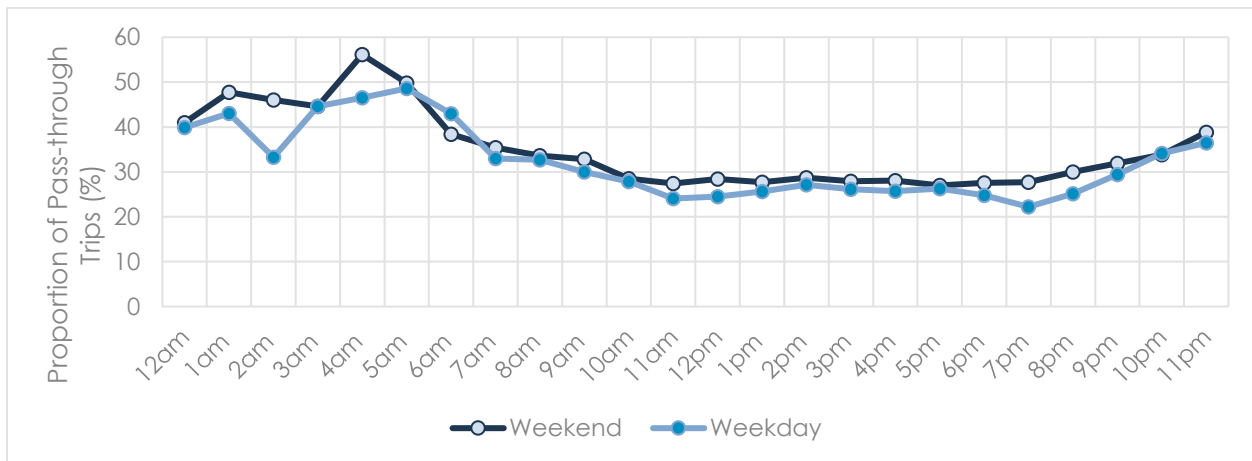


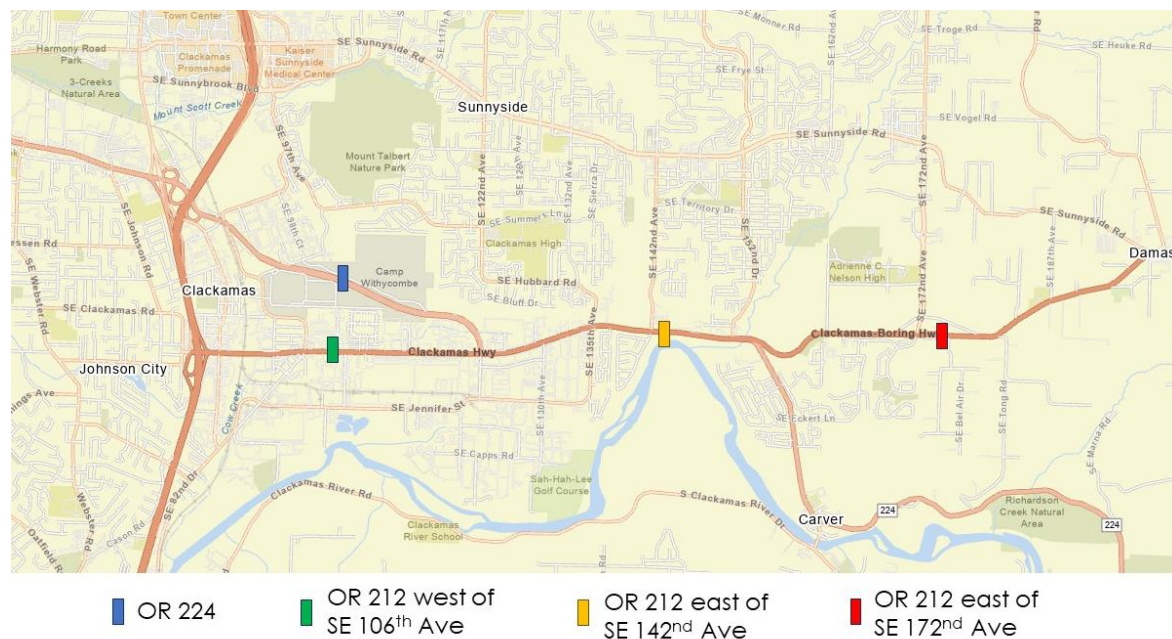
Figure 16. Average Portion of Pass-Through Trips Per Hour (Data source: Streetlight Data, Inc.)



Motorized Vehicle Origin-Destination by Location

Select route analyses of origin-destination data were performed at four key locations for eastbound and westbound travel, shown in Figure 17. The results of the origin-destination analyses for the OR 224 location are shown in Figure 18 through Figure 33 below. Only links with complete five-day weekday data are included in these figures.

Figure 17. Key Origin-Destination Locations



May Weekday Snapshot

Eastbound Weekday Traffic on OR 224 (Sunrise Expressway)

- Origins
 - 59% from OR 224 west of I-205, 40% from I-205 north of OR 224.
- Destinations
 - 11% travels south via SE 122nd Ave to Clackamas Industrial Area.
 - 6% goes towards Happy Valley through SE 142nd Ave and SE 152nd Dr.
 - 35% travels south on OR 224, 3% north on SE 172nd Ave toward Damascus.
 - 20% remains on OR 212 heading east.

Eastbound Weekday Traffic on OR 212 near 106th Ave:

- Origins
 - 48% originates from I-205 south of OR 212.
- Destinations
 - 2% travels south through SE 122nd Ave to Clackamas Industrial Area.
 - 9% goes towards Happy Valley via SE 142nd Ave and SE 152nd Dr.
 - 15% moves south on OR 224, 5% north on SE 172nd Ave.
 - 32% continues east on OR 212.

Westbound OR 212 Traffic East of SE 172nd Ave:

- Origins
 - 20% originates from OR 26.
 - 13% from SE 242nd Ave.
 - 9% from SE 282nd Ave.

- 6% from SE 222nd Dr.
- Destinations
 - 10% travels south (5% on OR 224), 5% north (on SE 172nd Ave).
 - 26% proceeds west on OR 224 past I-205.
 - 33% remains on OR 212, with 26% diverting south onto I-205.

Figure 18. OR 224 Westbound Origin-Destination Select Link Analysis(Clackamas Industrial Area; Data source: Streetlight Data, Inc.)

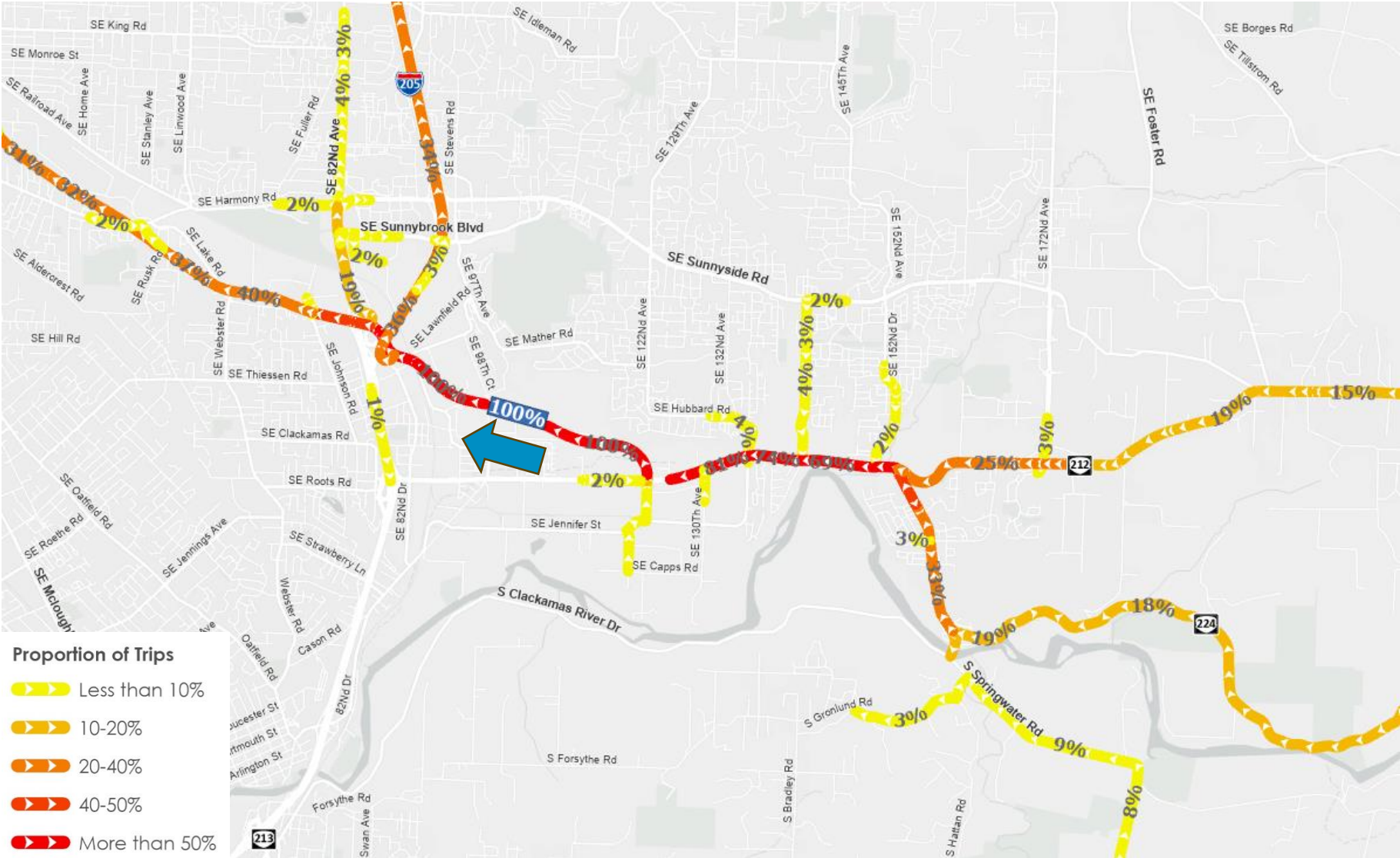


Figure 19. OR 224 Westbound Origin-Destination Select Link Analysis (Portland Metro Region; Data source: Streetlight Data, Inc.)

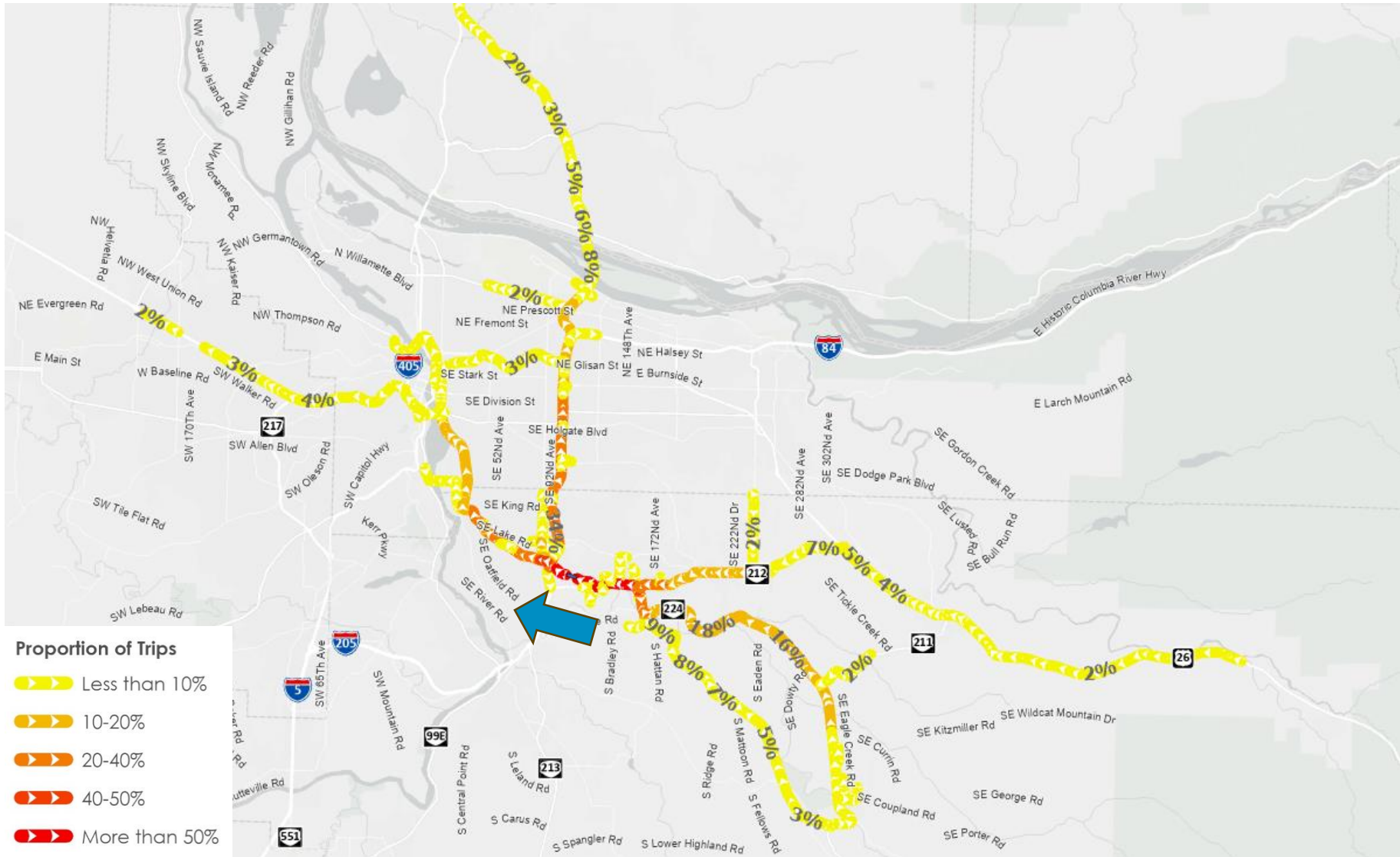


Figure 20. OR 224 Eastbound Origin-Destination Select Link Analysis (Local Area; Data source: Streetlight Data, Inc.)

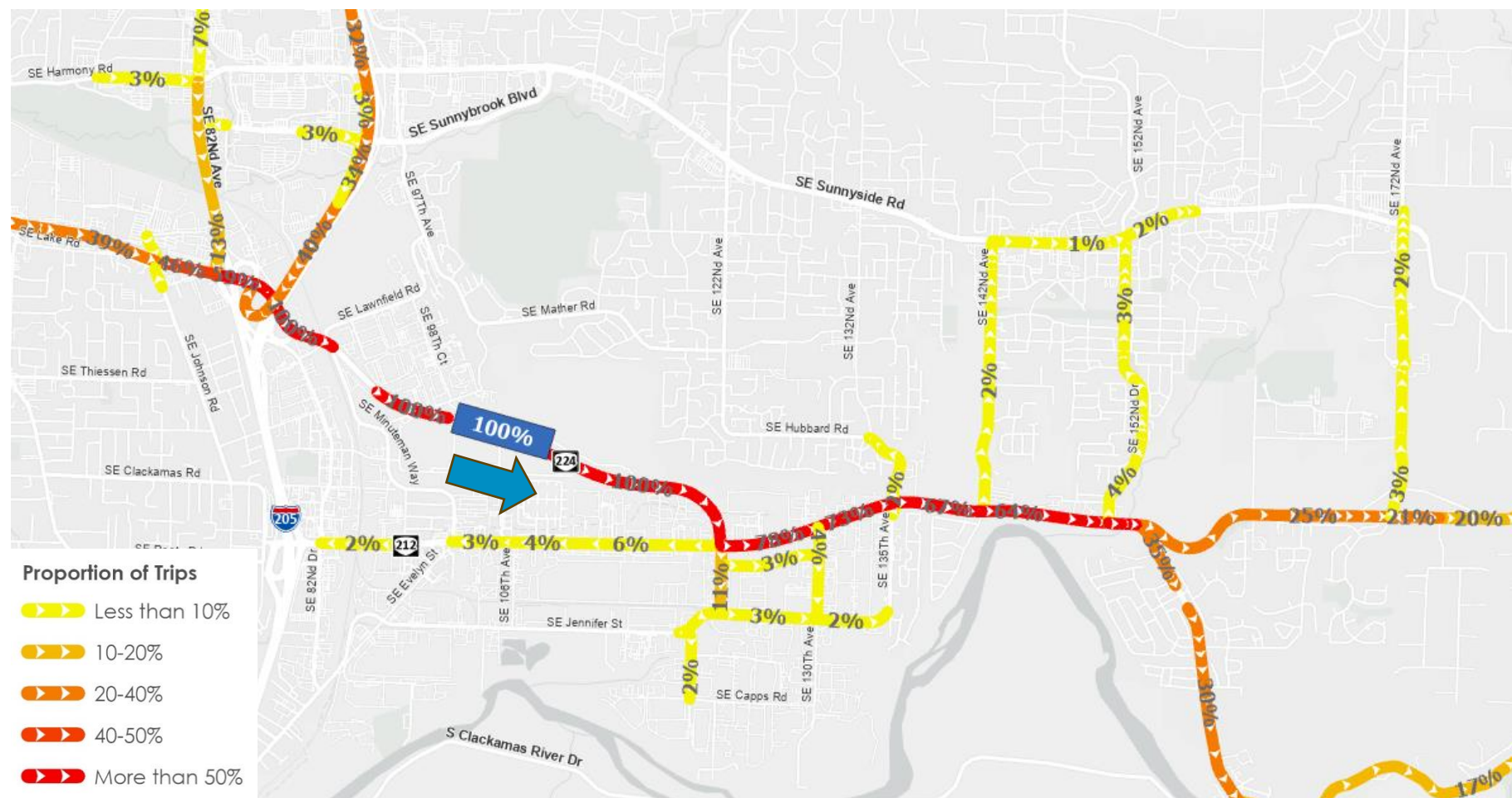


Figure 21. OR 224 Eastbound Origin-Destination Select Link Analysis (Regional Area; Data source: Streetlight Data, Inc.)

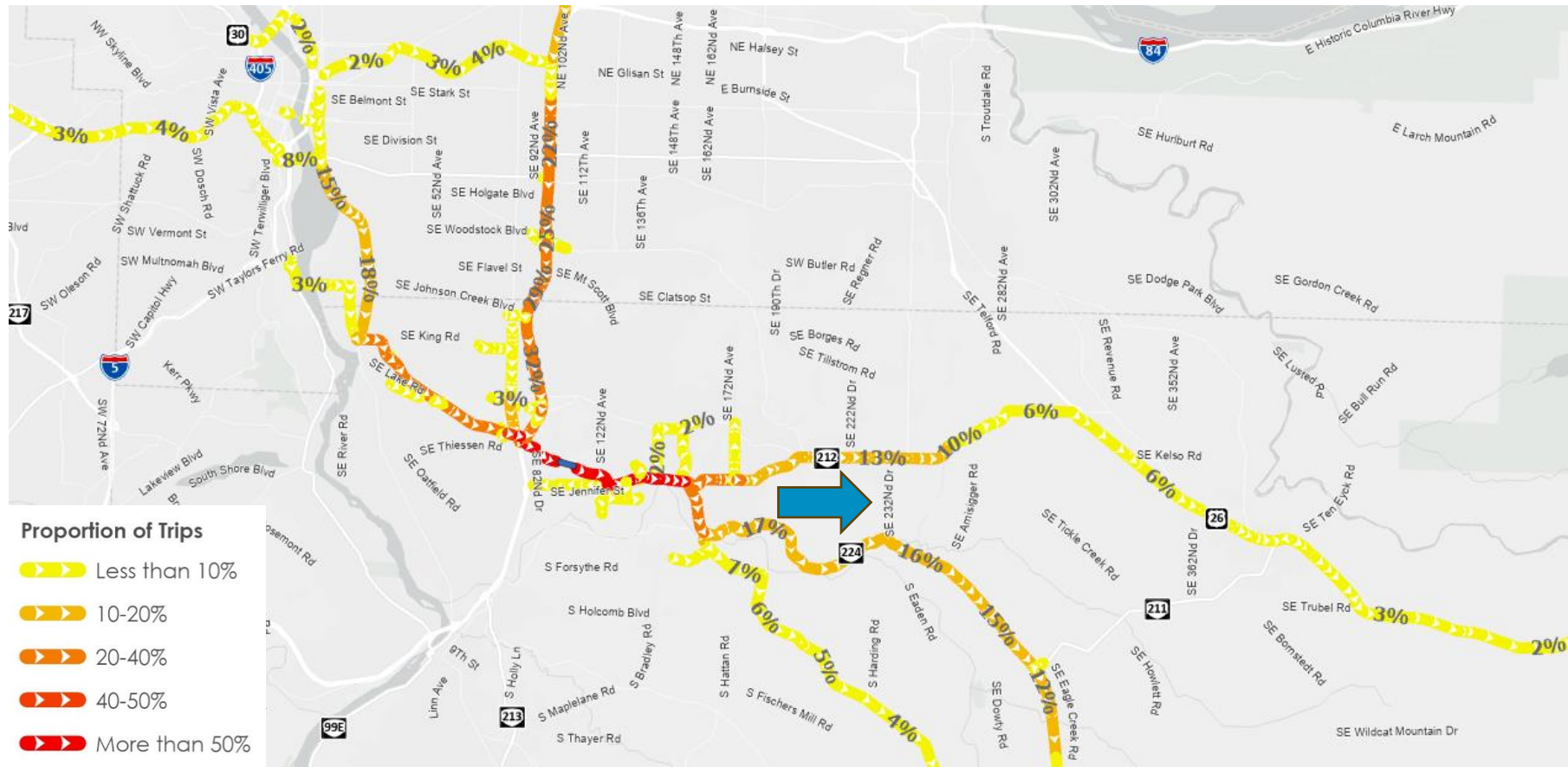


Figure 22. OR 212 at 106th Street Westbound Origin-Destination Select Link Analysis (Local Area; Data source: Streetlight Data, Inc.)

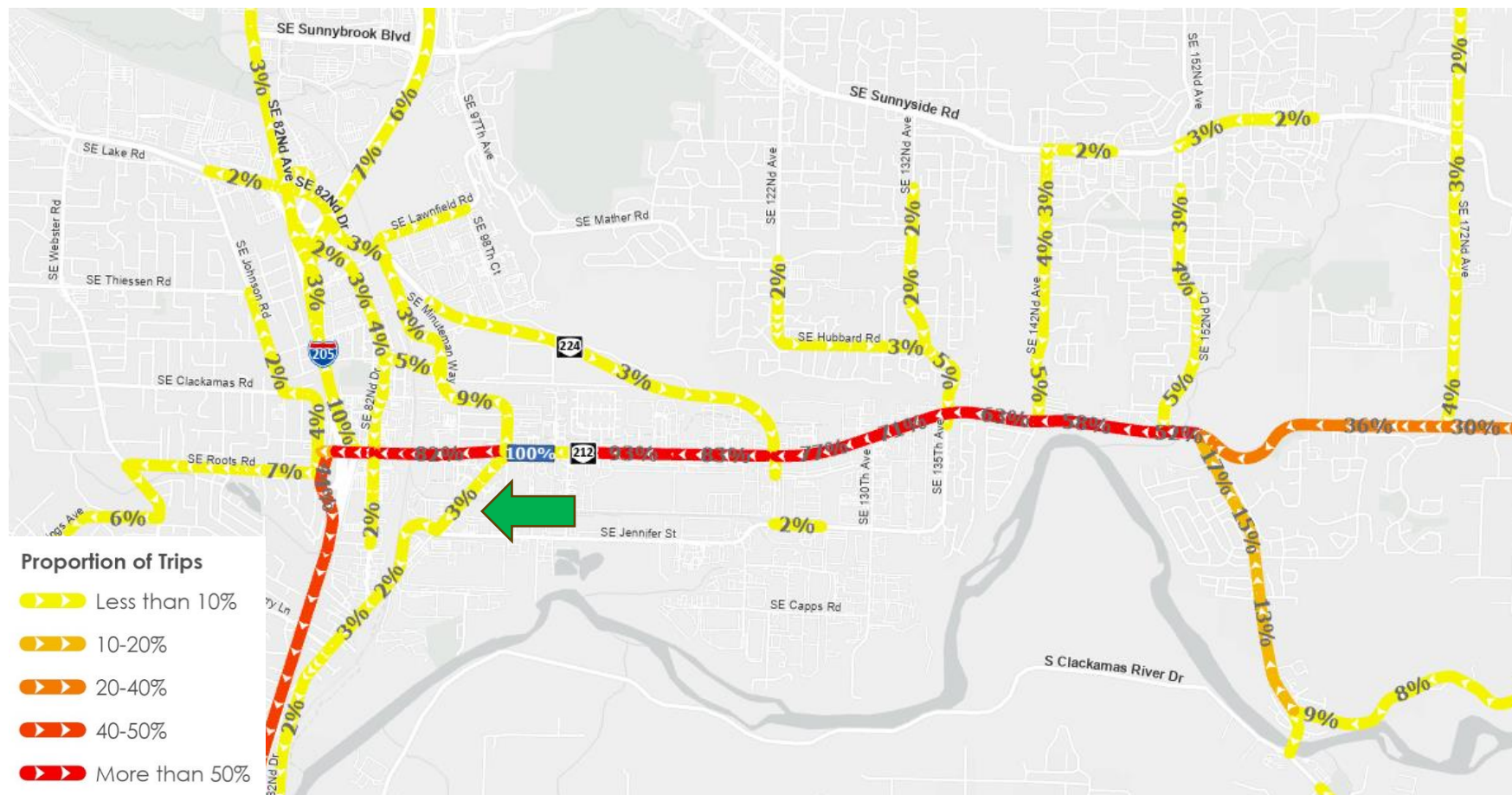


Figure 25. OR 212 at 106th Street Eastbound Origin-Destination Select Link Analysis (Regional Area; Data source: Streetlight Data, Inc.)

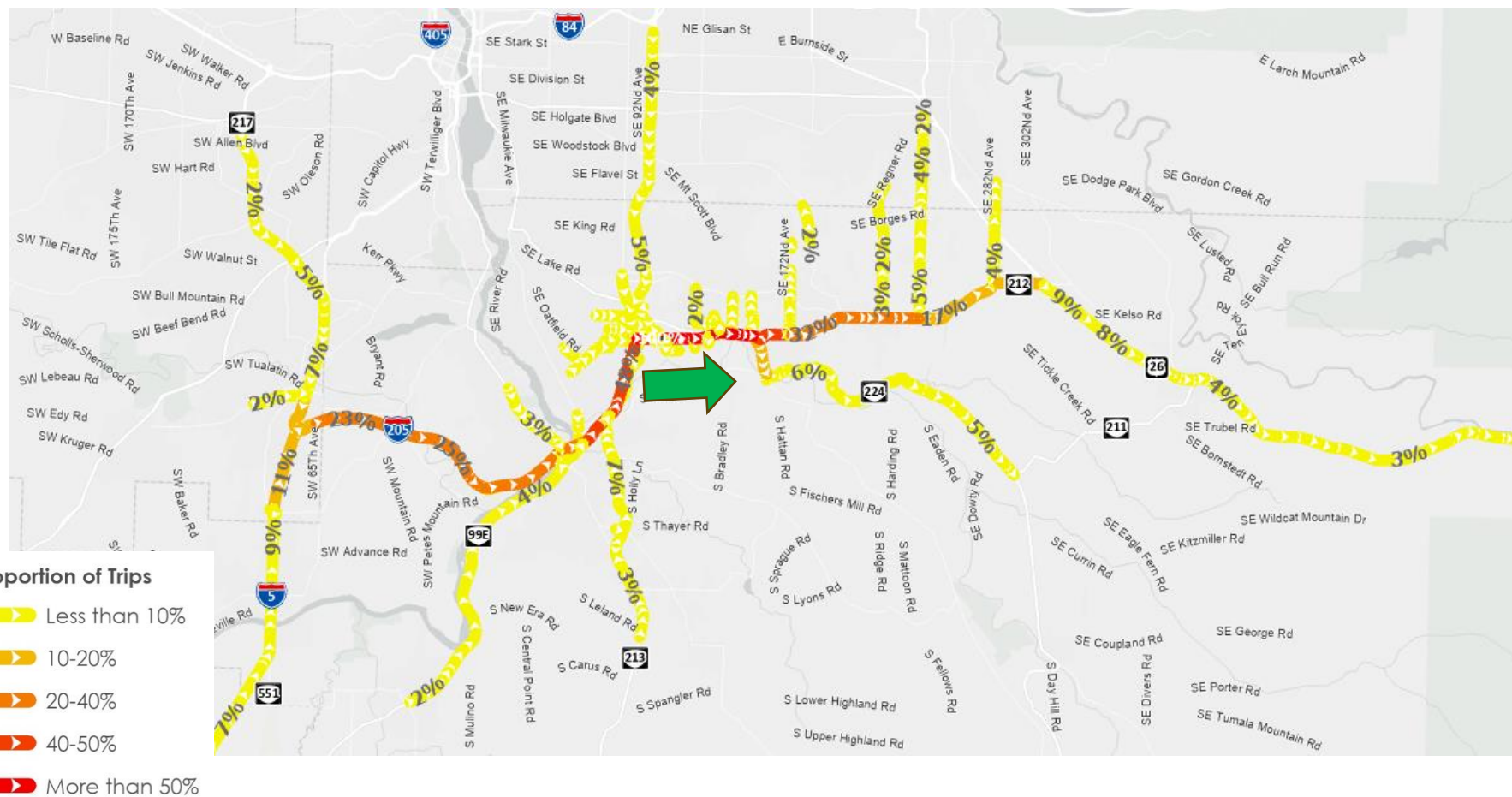


Figure 26. OR 212 at 142nd Street Westbound Origin-Destination Select Link Analysis (Local Area; Data source: Streetlight Data, Inc.)

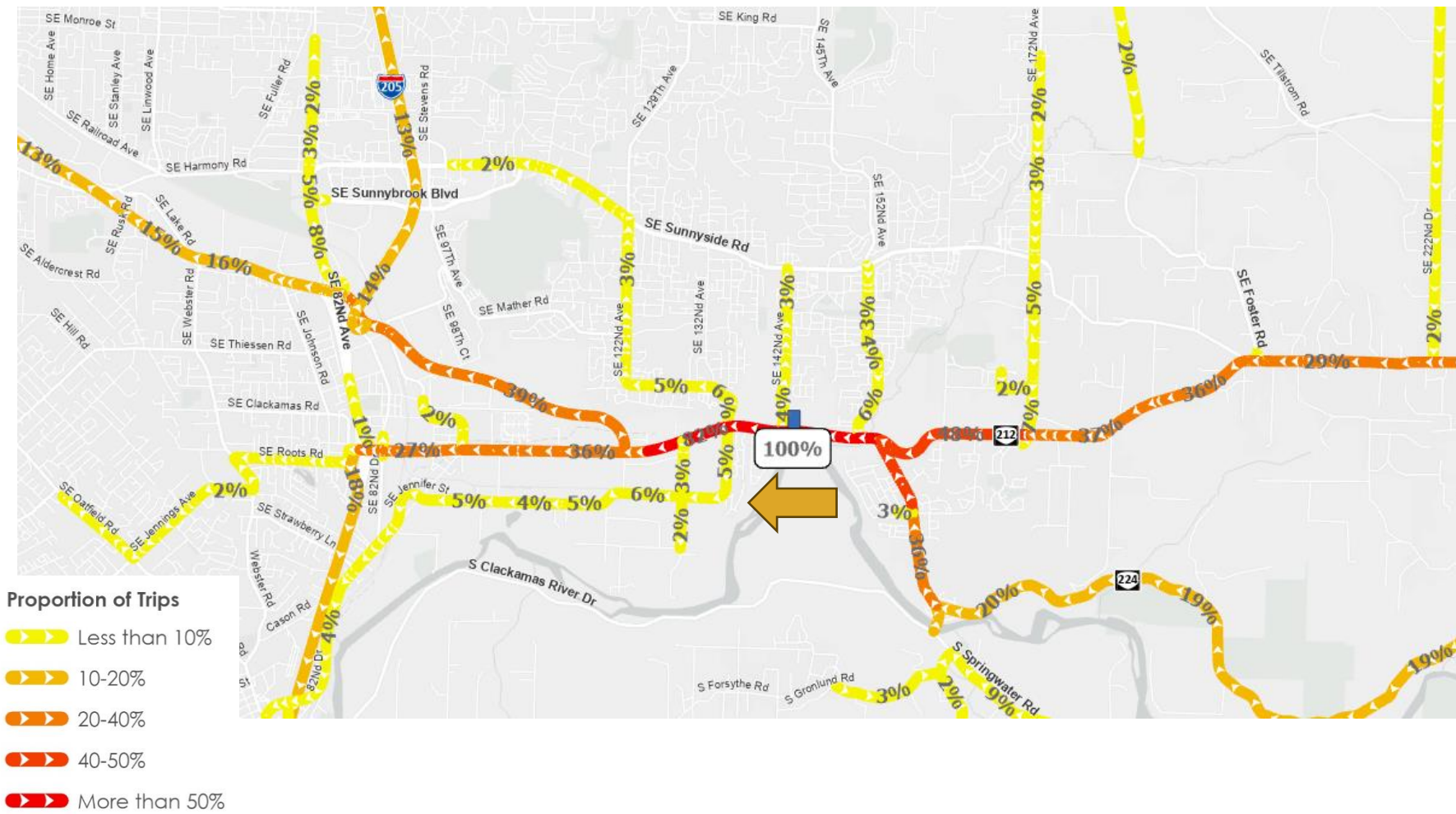


Figure 27. OR 212 at 142nd Street Westbound Origin-Destination Select Link Analysis (Regional Area; Data source: Streetlight Data, Inc.)

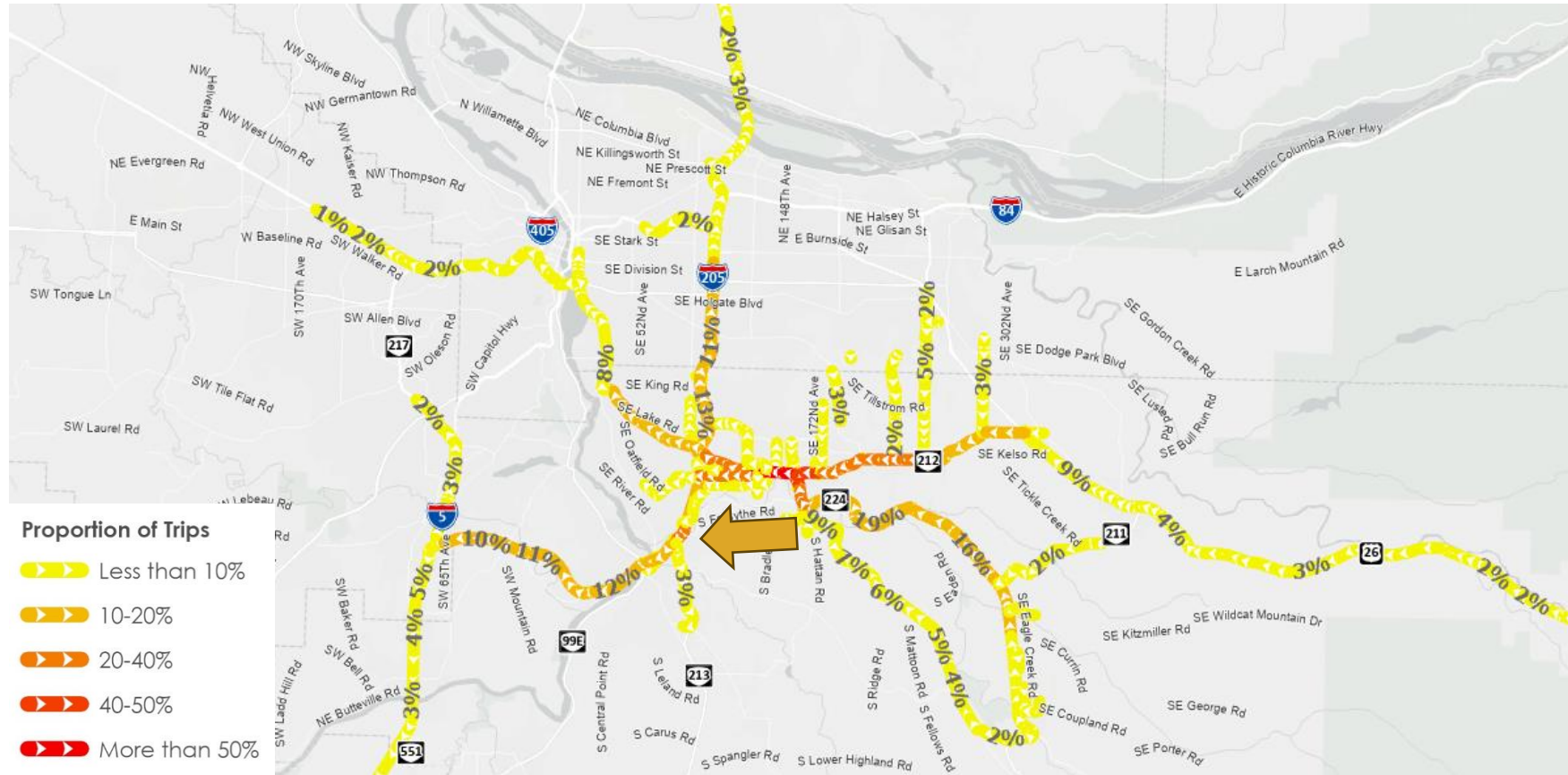


Figure 28. OR 212 at 142nd Street Eastbound Origin-Destination Select Link Analysis (Local Area; Data source: Streetlight Data, Inc.)

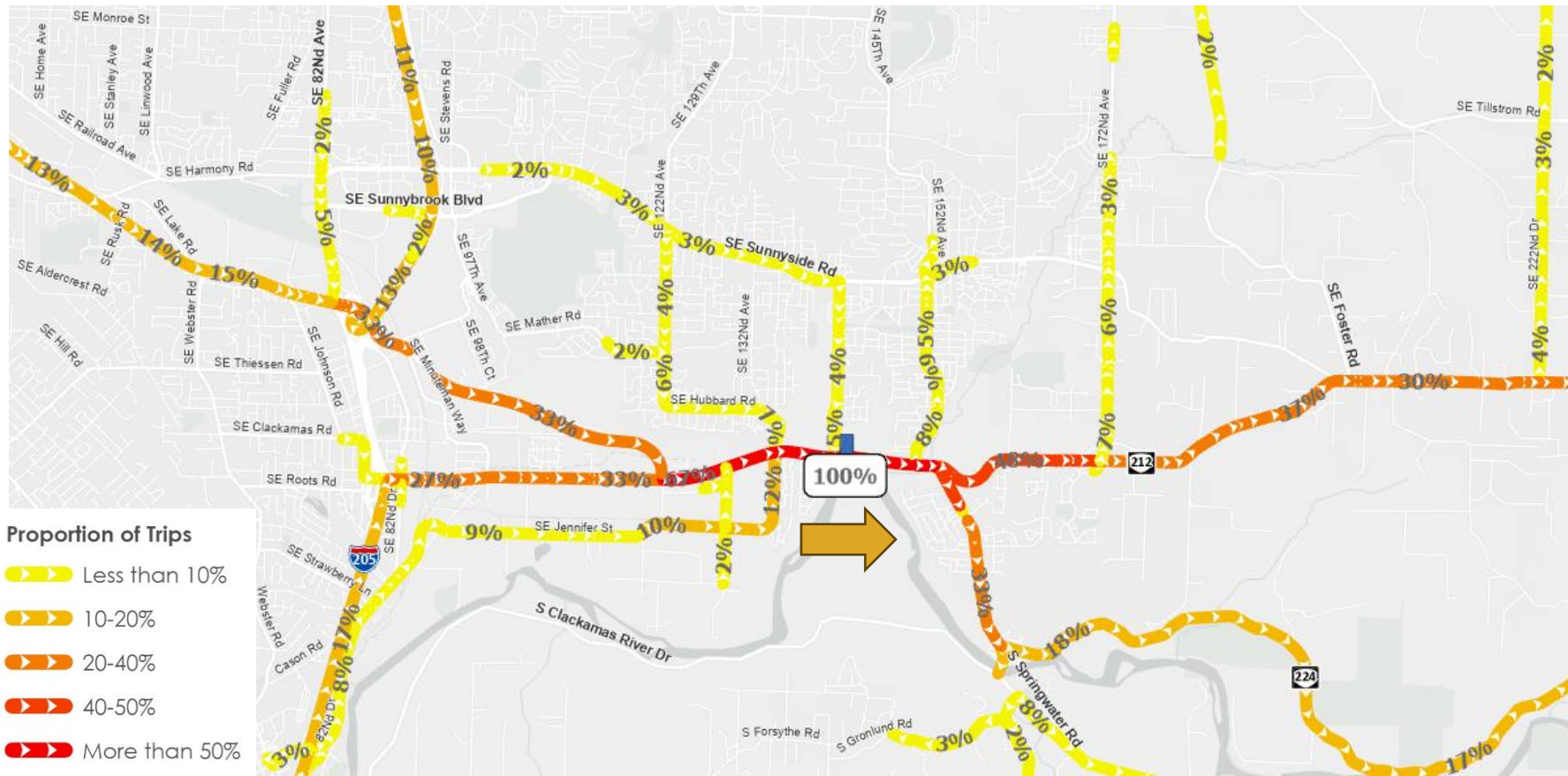


Figure 29. OR 212 at 142nd Street Eastbound Origin-Destination Select Link Analysis (Regional Area; Data source: Streetlight Data, Inc.)

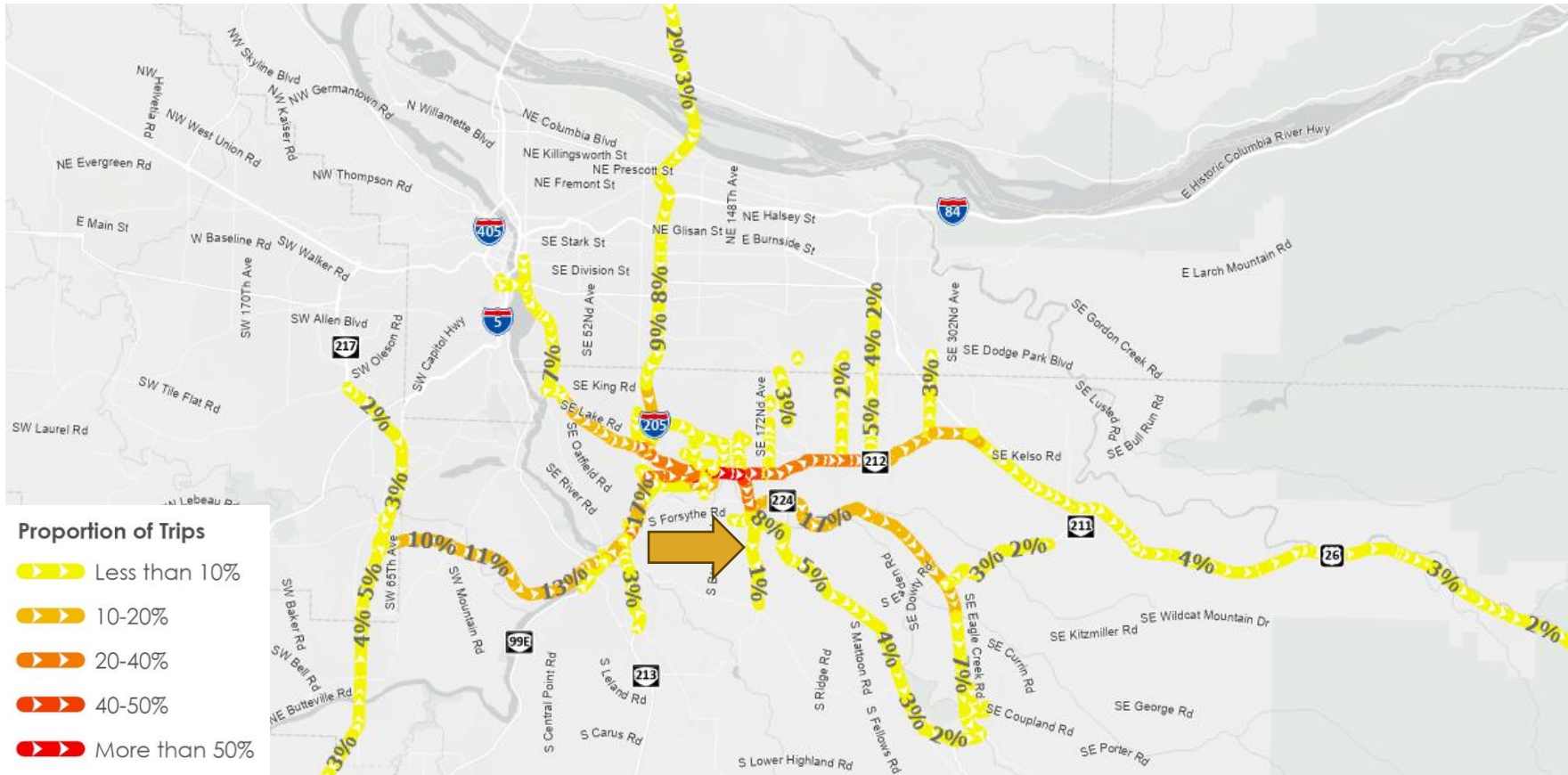


Figure 30. OR 212 at 172nd Street Westbound Origin-Destination Select Link Analysis (Local Area; Data source: Streetlight Data, Inc.)

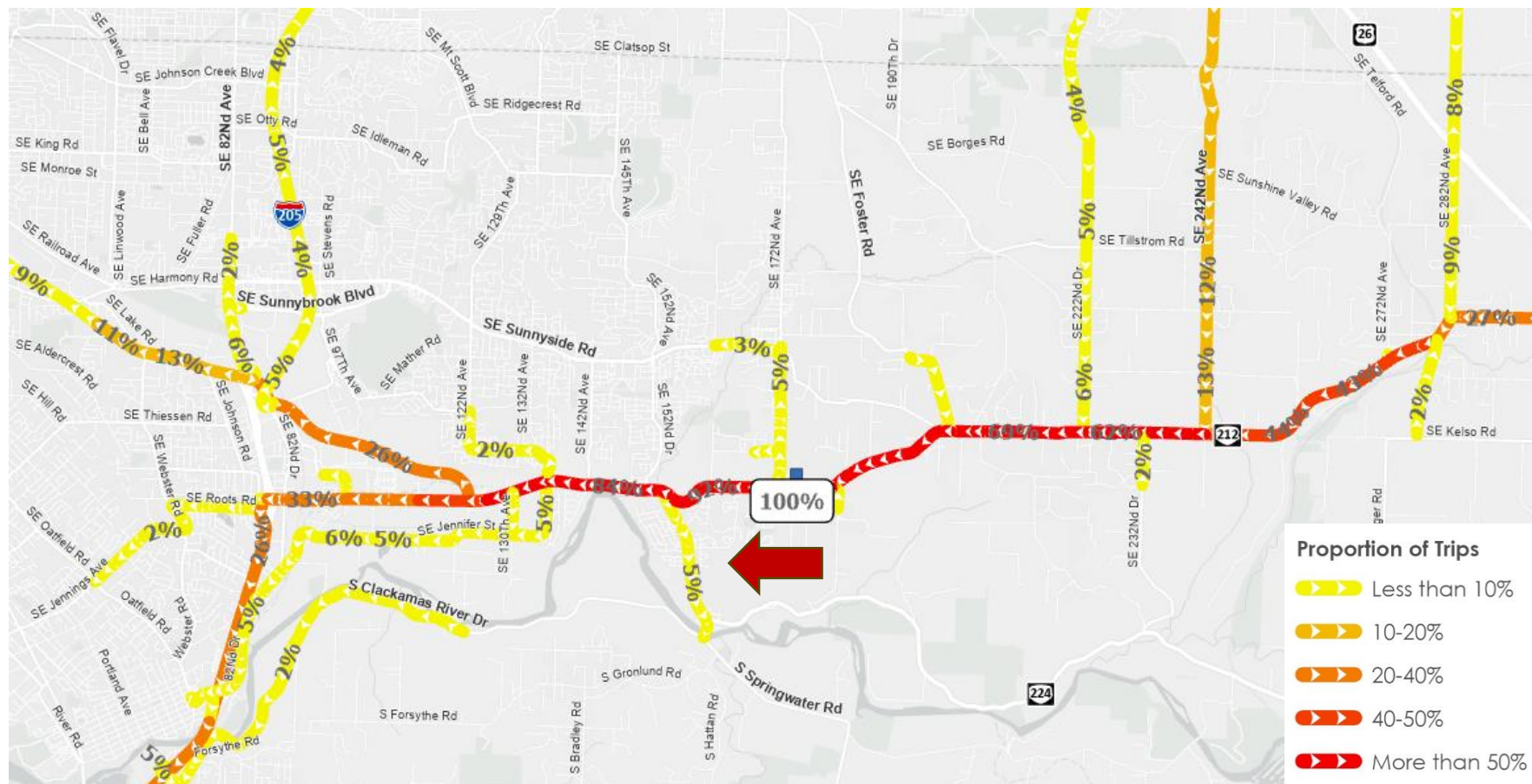


Figure 31. OR 212 at 172nd Street Westbound Origin-Destination Select Link Analysis (Regional Area; Data source: Streetlight Data, Inc.)

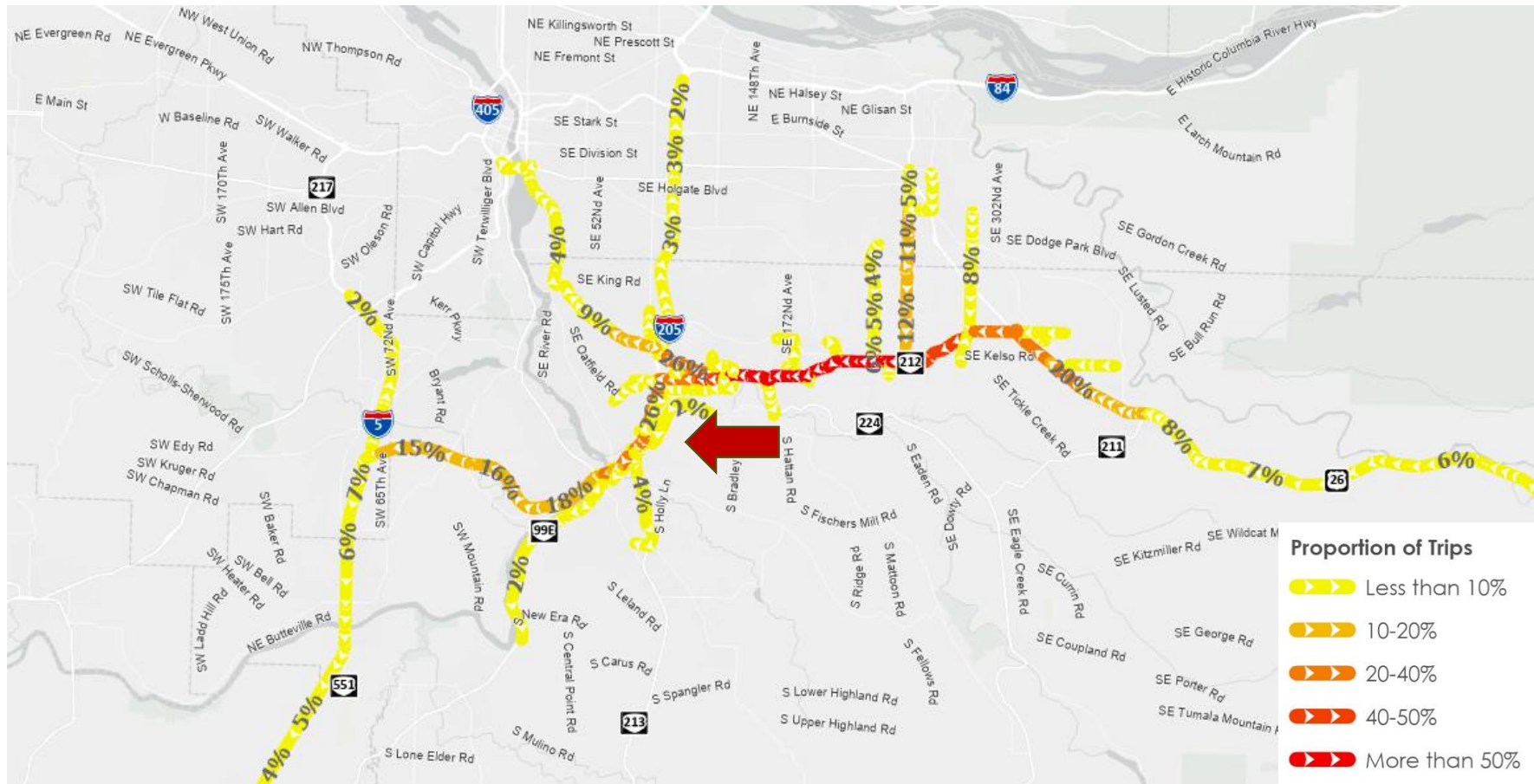
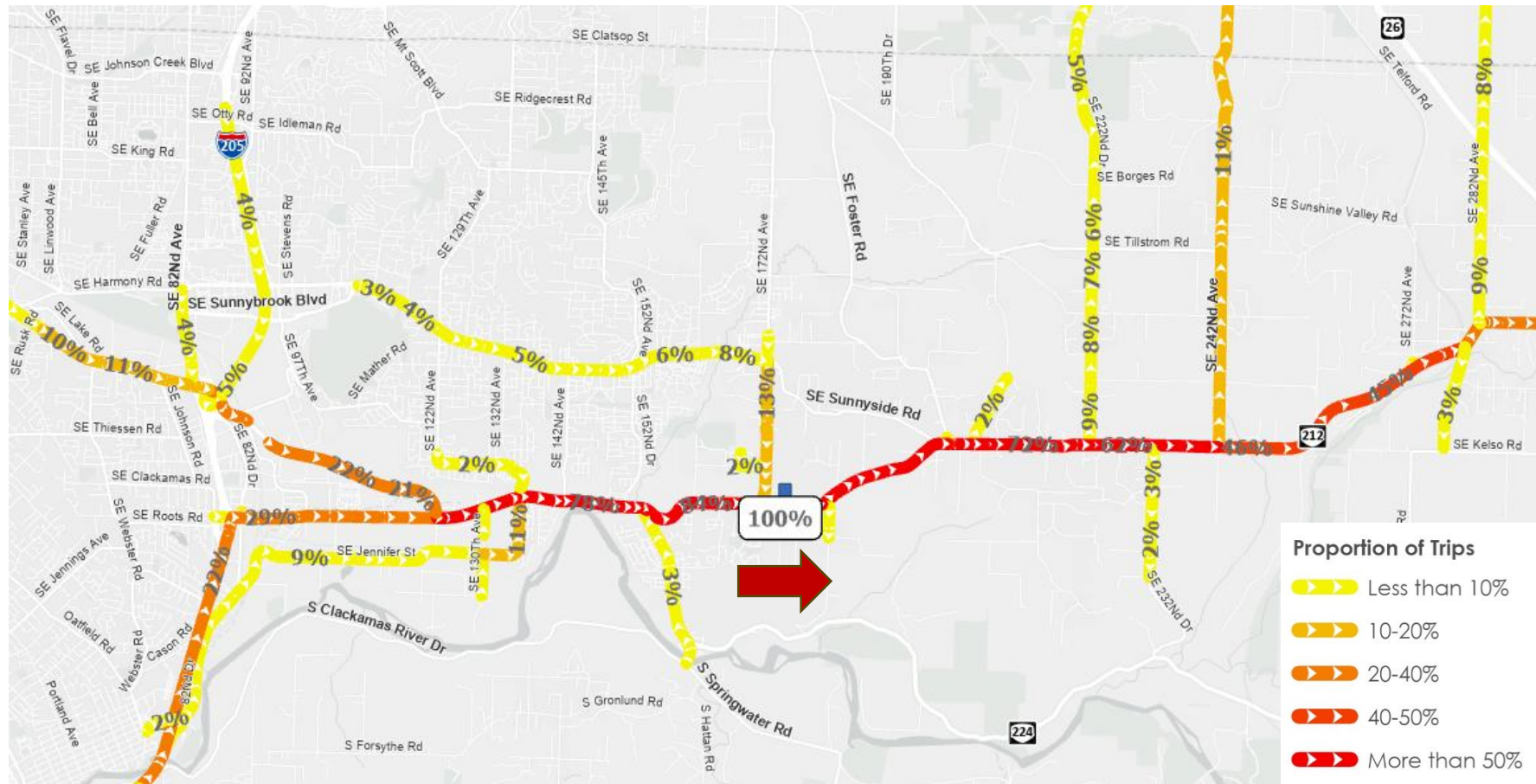


Figure 32. OR 212 at 172nd Street Eastbound Origin-Destination Select Link Analysis (Local Area; Data source: Streetlight Data, Inc.)



Daily Volume Profile

The study team developed a daily vehicle volume profile at four key locations along the Sunrise Corridor (shown in Figure 17) using the same Streetlight data described in the previous section. The volume profiles for traffic for weekday and weekends are shown in Figure 34 through Figure 37.

Westbound traffic on both OR 224 and OR 212 exhibits morning peak hours between 7 AM and 9 AM during weekdays. In contrast, weekday eastbound peak volumes occur between approximately 3 PM and 5 PM. On weekends, the distinction in peak direction is less pronounced, with peak hours appearing midday from 10 AM to 3 PM.

Figure 34. Average Portion of Weekday Daily Volume Per Hour (OR 212; Data source: Streetlight Data, Inc.)

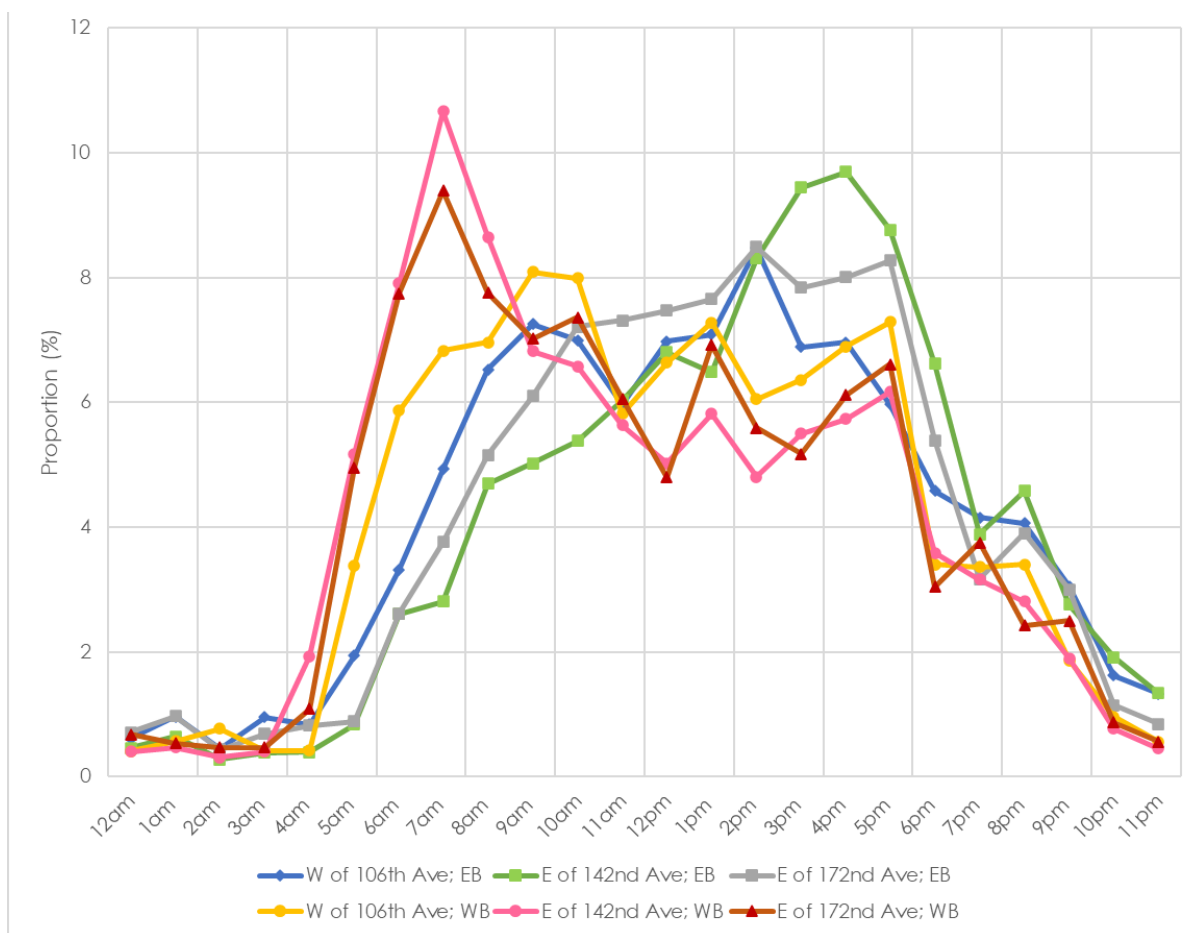


Figure 35. Average Portion of Weekday Daily Volume Per Hour (OR 224 at Sunrise Expressway; Data source: Streetlight Data, Inc.)

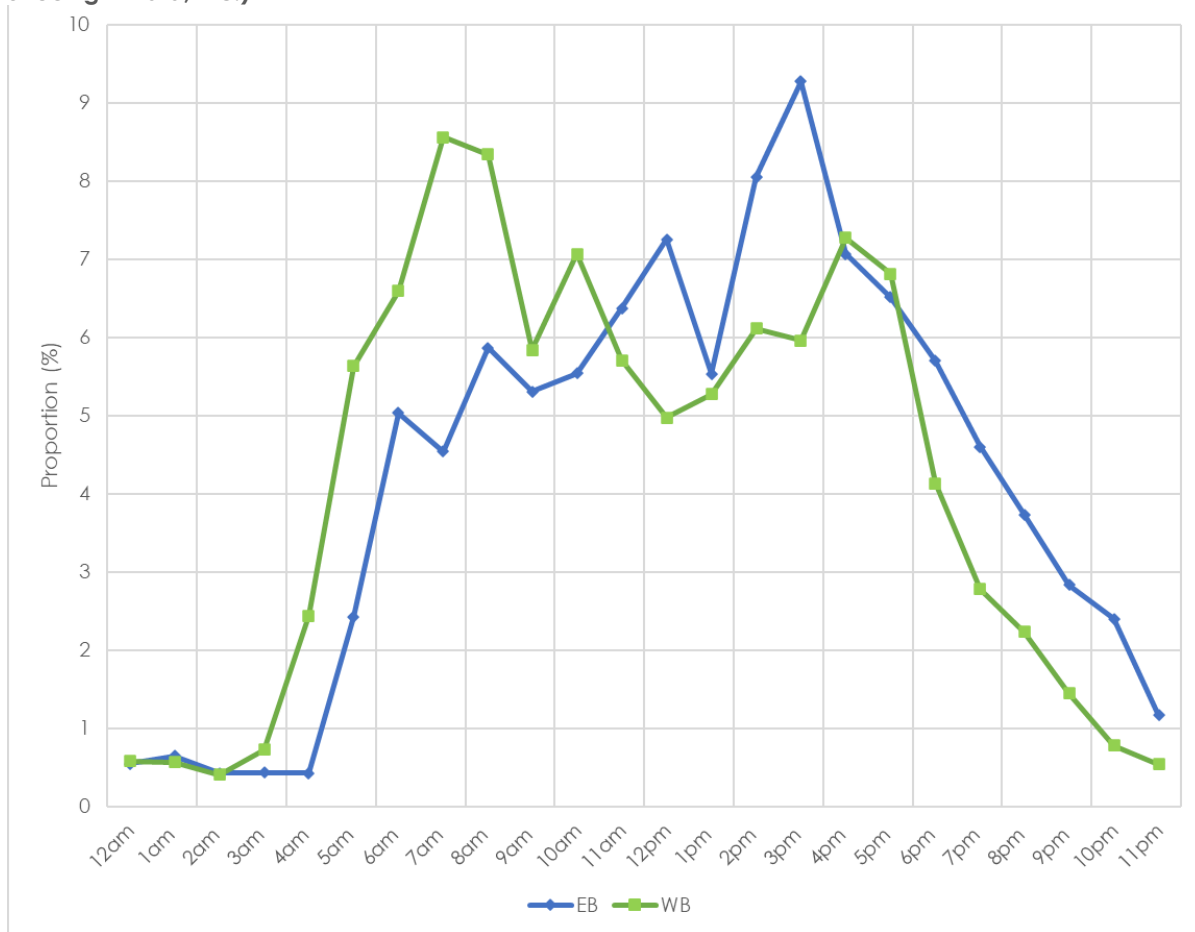


Figure 36. Average Portion of Weekend Daily Volume Per Hour (OR 212; Data source: Streetlight Data, Inc.)

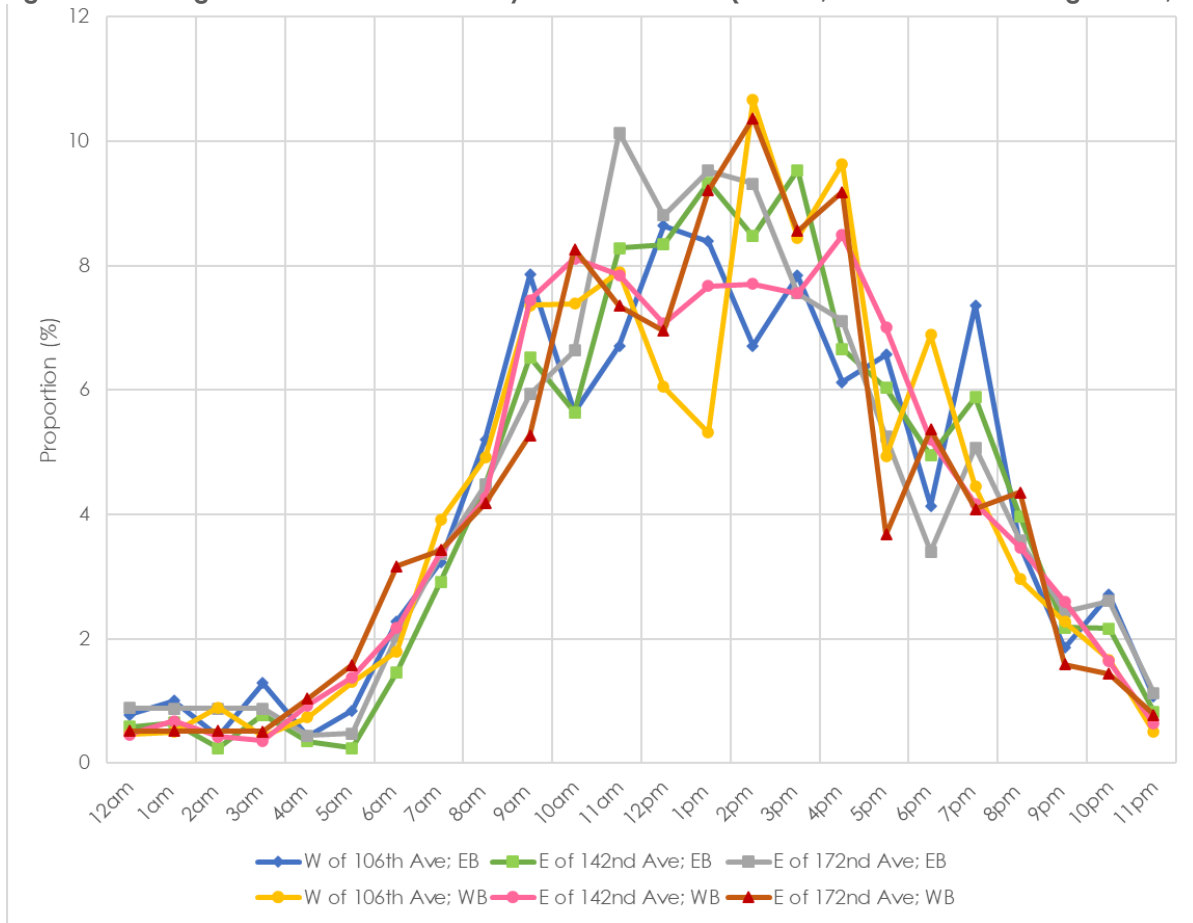
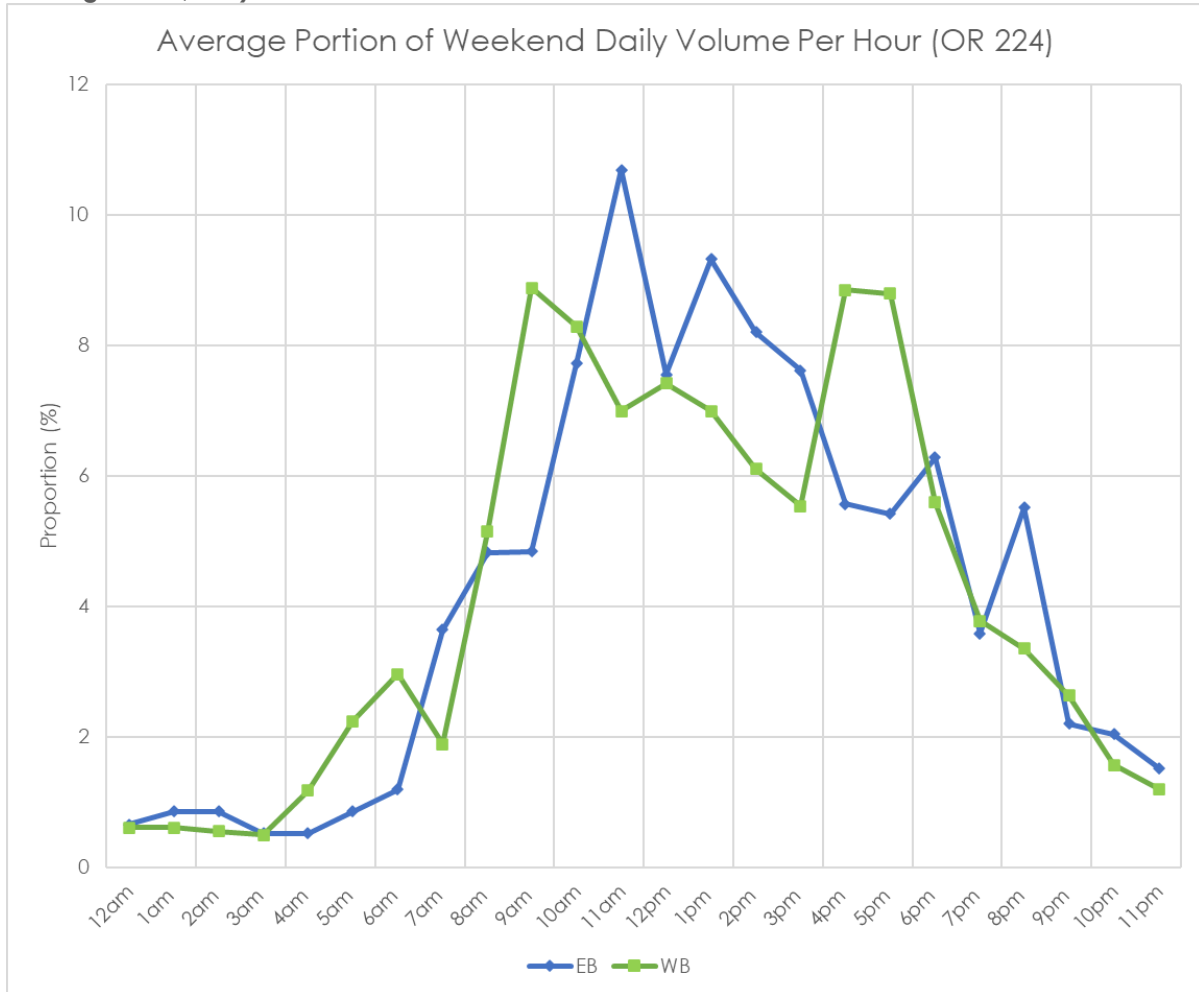


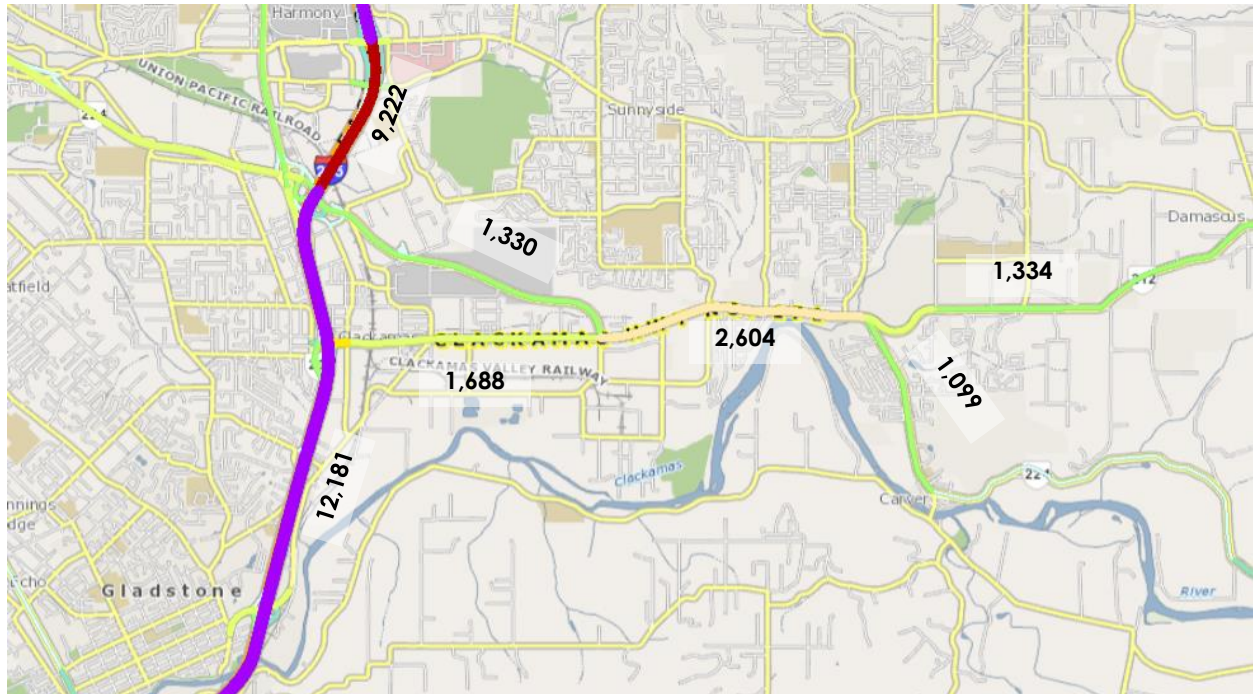
Figure 37. Average Portion of Weekend Daily Volume Per Hour (OR 224 at Sunrise Expressway; Data source: Streetlight Data, Inc.)



Freight Traffic

Figure 38 shows the average annual daily traffic of trucks near the study area. As shown, the existing OR 212 serves as a key corridor for freight activity locally and regionally.

Figure 38. Truck Flow (AADT, Source: ODOT TransGIS)



Applying the volume data from select route analyses, the project team analyzed proportions of heavy vehicles. The results for each location are shown in Figure 39 through Figure 46 below. Heavy vehicles include vehicles above 26,000 pounds (GVWR Class 7+).

May Weekday Snapshot

For eastbound traffic passing through OR 212 at 172nd Avenue, heavy vehicles make up approximately 1% of the total. On the westbound route to SE 172nd Avenue and SE Thiessen Road consists of heavy vehicles. Additionally, more than 5% of the traffic bound for SE Clackamas Road comprises freight vehicles.

As for eastbound traffic on OR 212 at 106th Avenue, about 10% of vehicles on I-205 are heavy vehicles. Roughly 4 to 6% of traffic to and from the Clackamas Industrial Area falls into the heavy vehicle category. For westbound traffic on OR 212 at 106th Avenue, 6.2% of traffic from SE Kelso Road consists of heavy vehicles.

Similarly, both eastbound and westbound traffic passing through OR 224 at Sunrise Expressway shows that around 10% of the vehicles are either from or accessing the Clackamas Industrial Area.

Figure 39. OR 212 at 172nd Street Eastbound Heavy Vehicle Proportion (Local Area; Data source: Streetlight Data, Inc.)

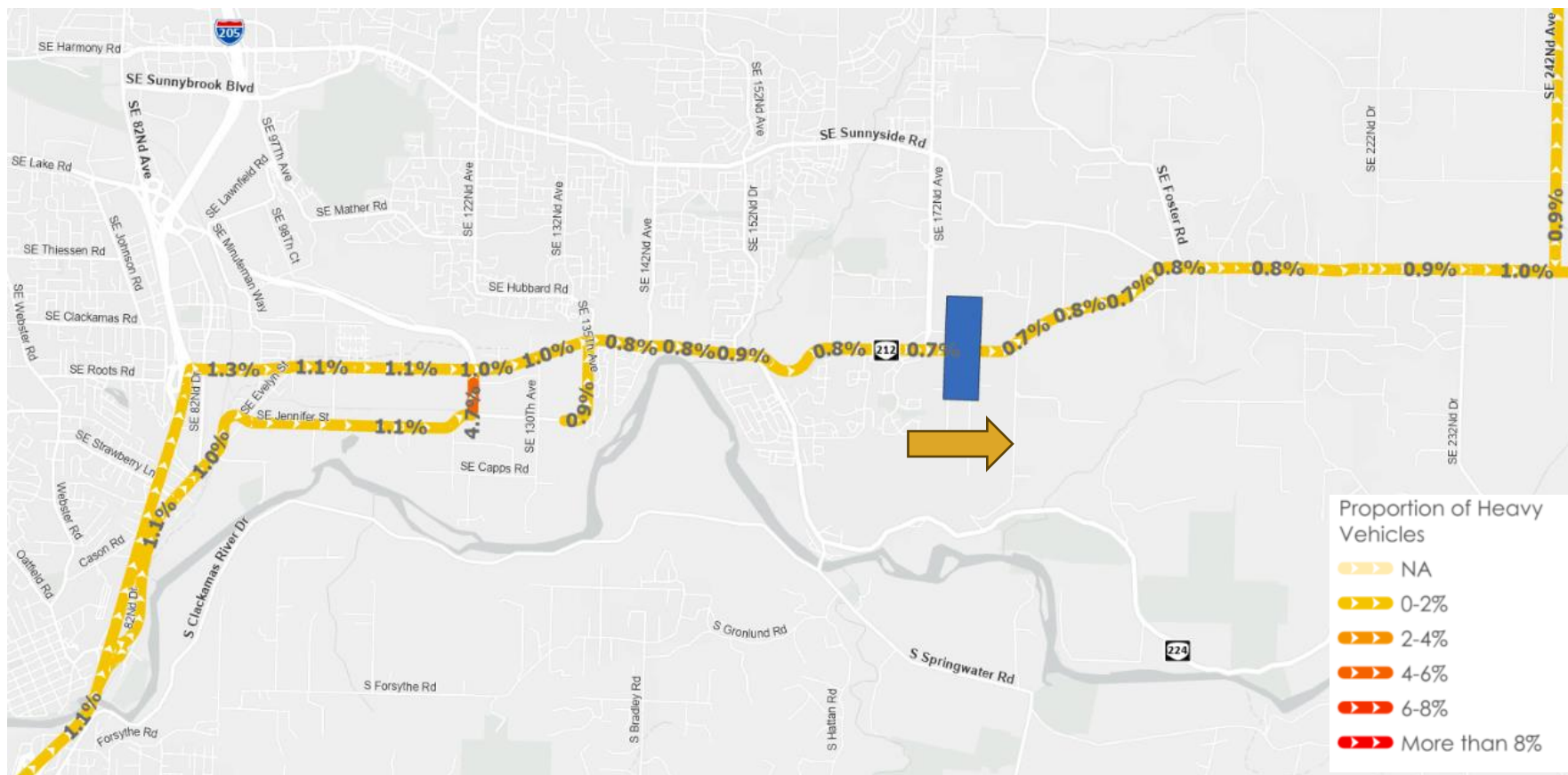


Figure 41. OR 212 at 142nd Street Eastbound Heavy Vehicle Proportion (Local Area; Data source: Streetlight Data, Inc.)

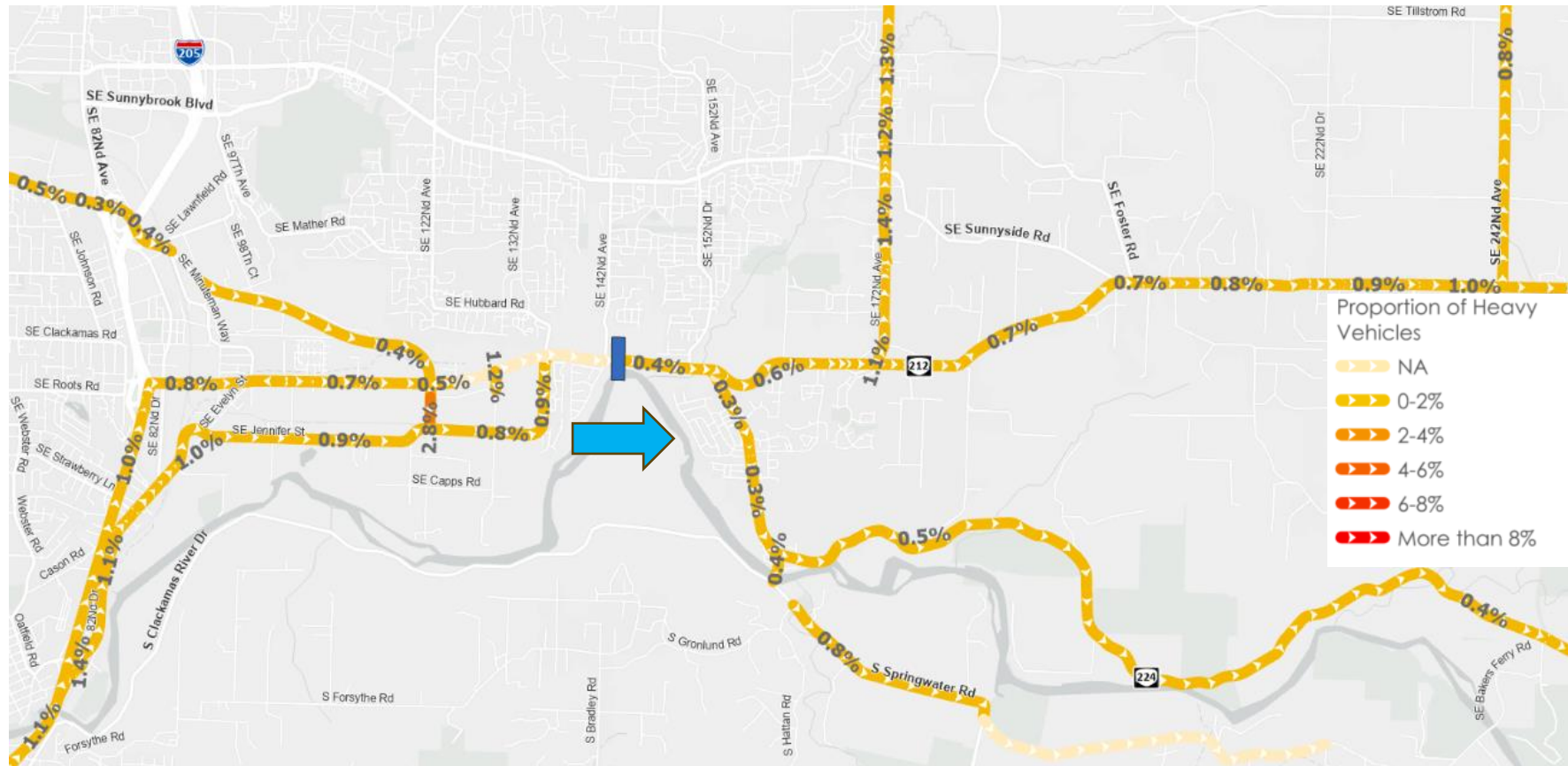


Figure 42. OR 1212 at 142nd Street Westbound Heavy Vehicle Proportion (Local Area; Data source: Streetlight Data, Inc.)

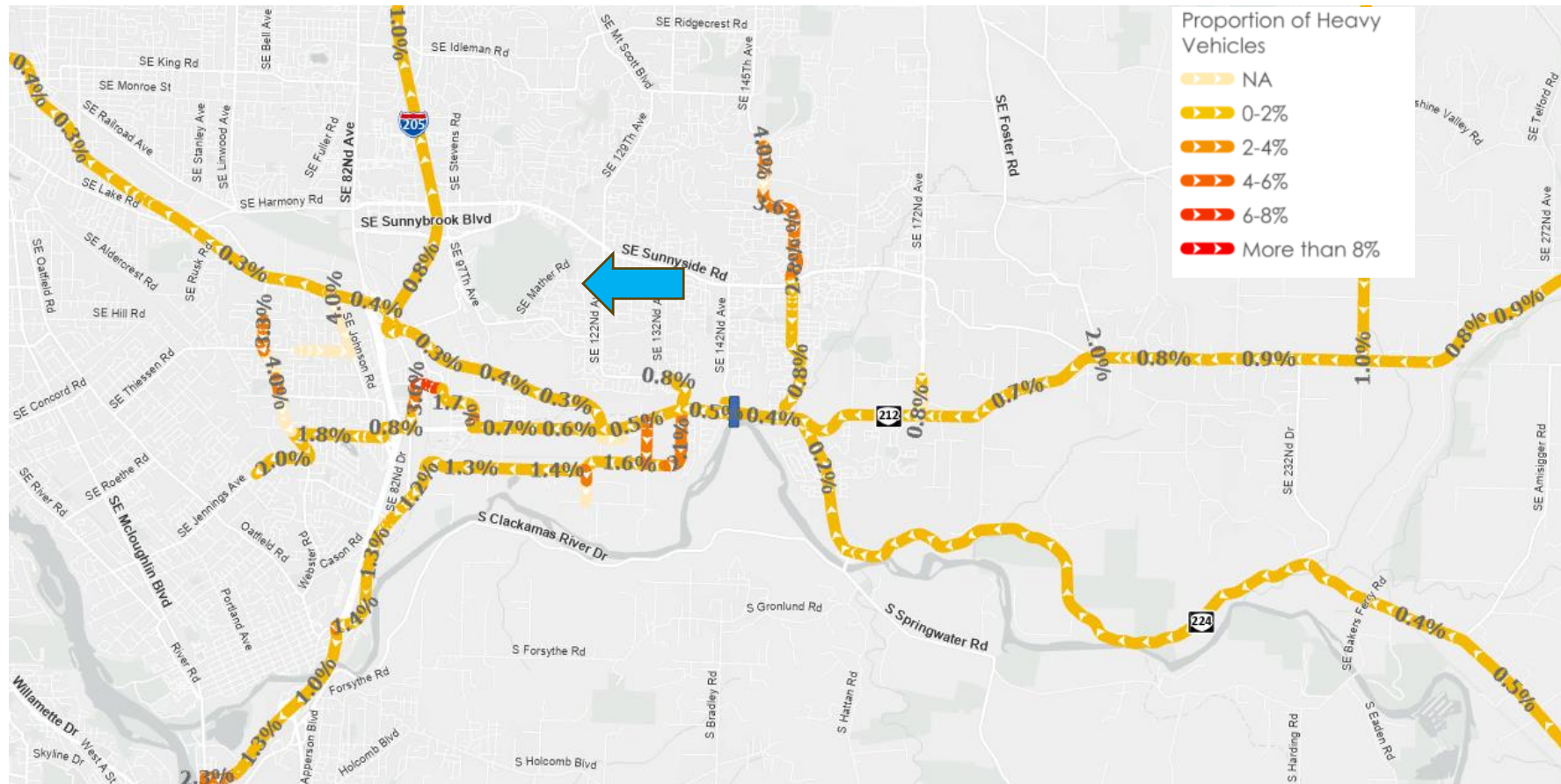


Figure 43. OR 212 at 106th Street Eastbound Heavy Vehicle Proportion (Local Area; Data source: Streetlight Data, Inc.)

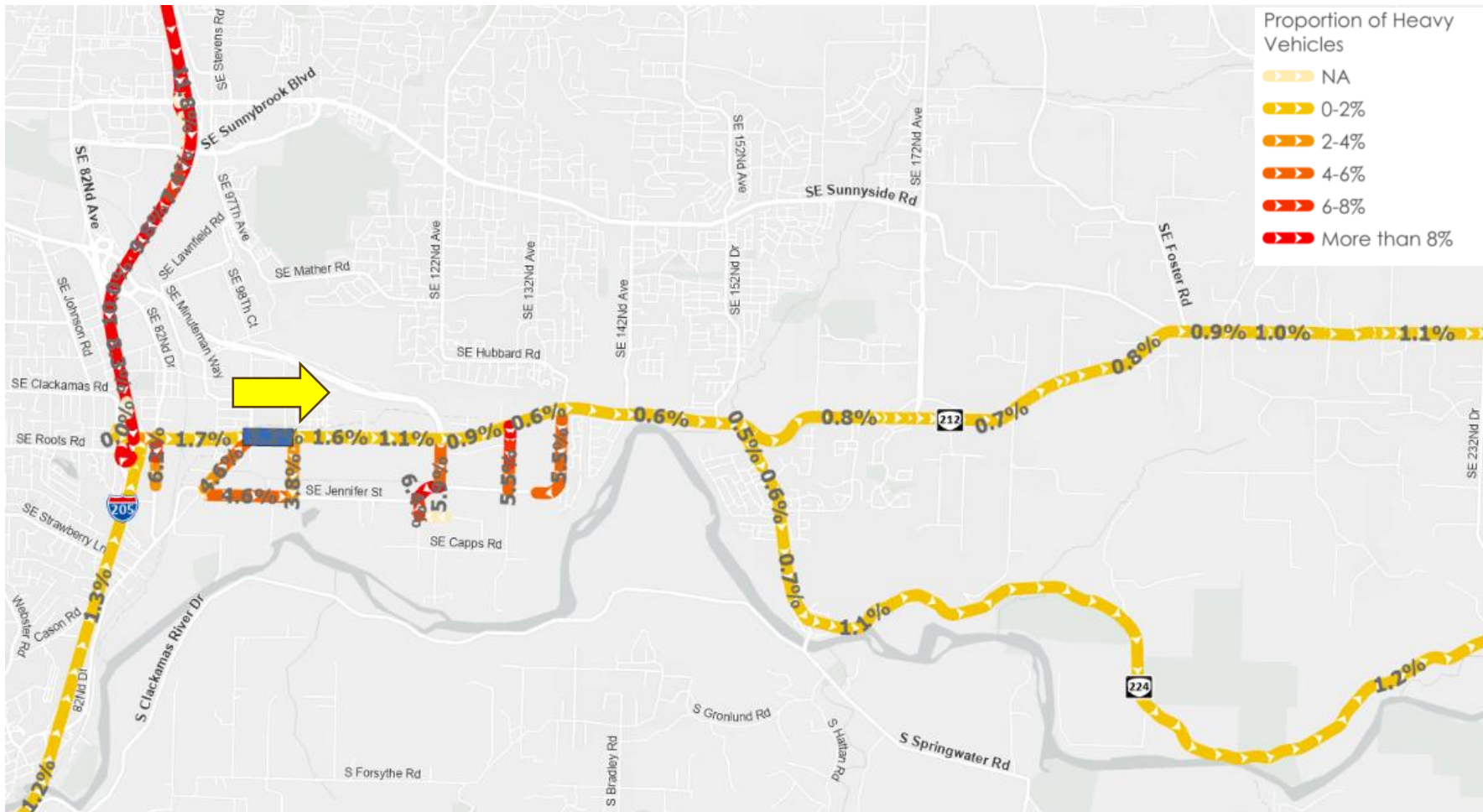


Figure 45. OR 224 Eastbound Heavy Vehicle Proportion (Local Area; Data source: Streetlight Data, Inc.)

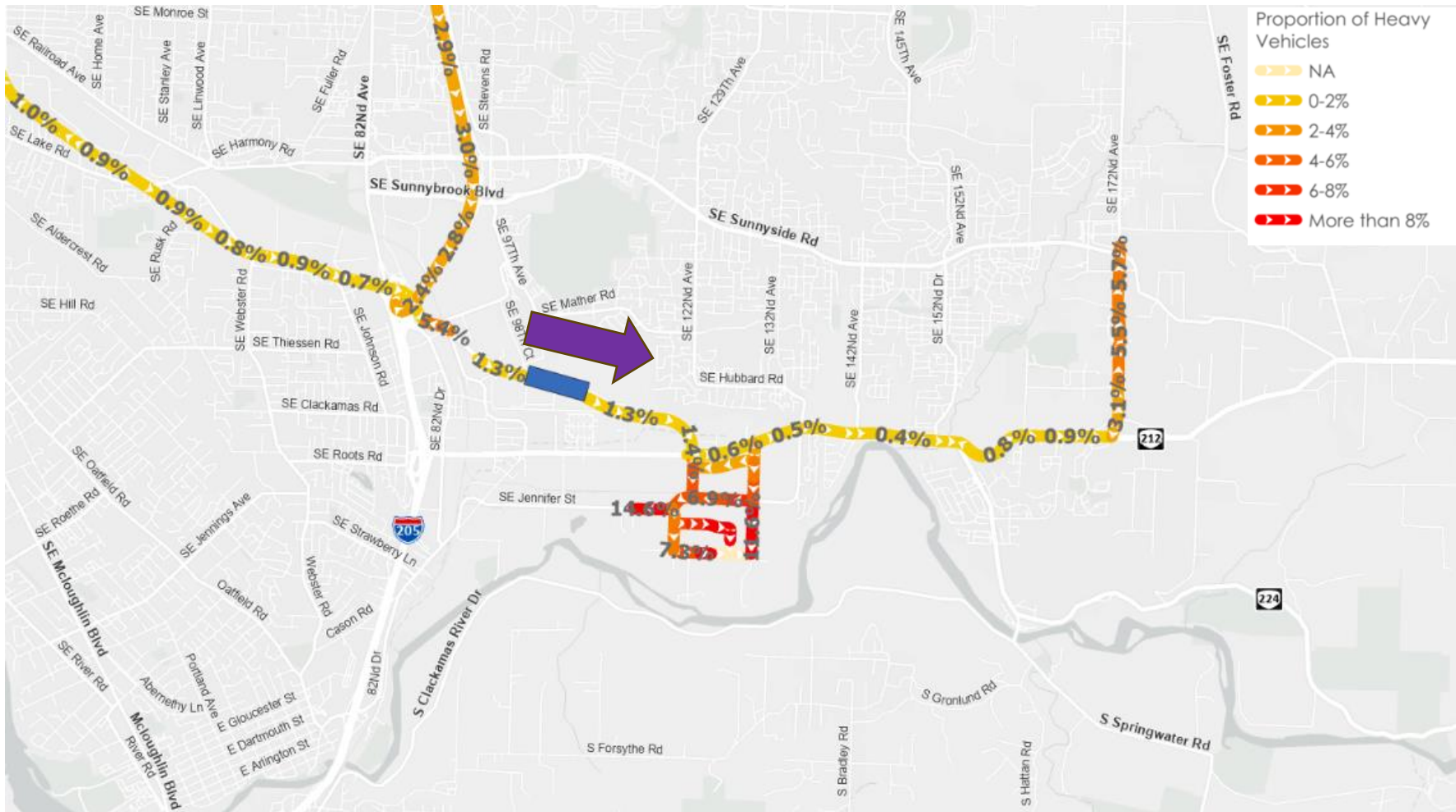
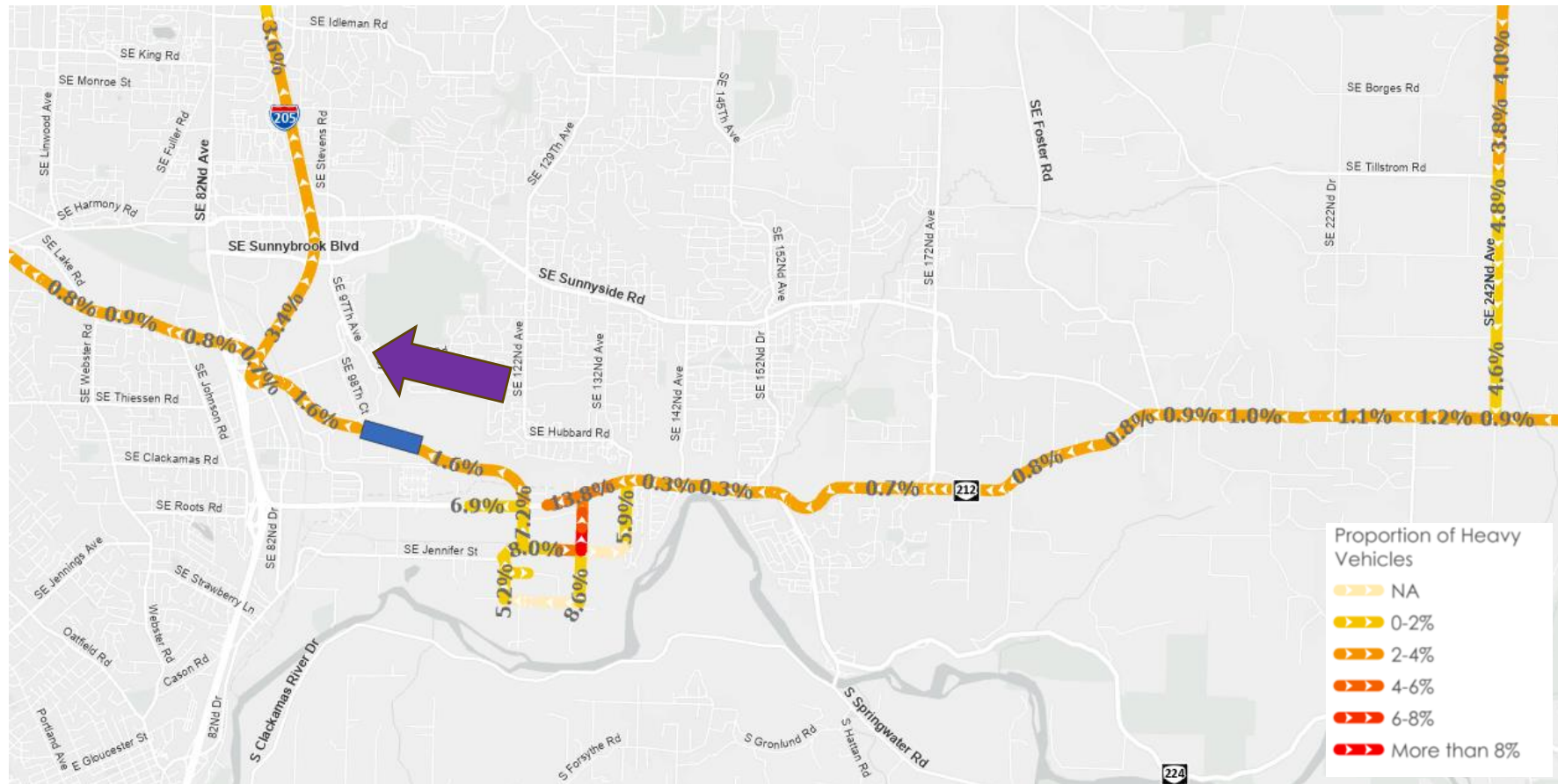


Figure 46. OR 224 Westbound Heavy Vehicle Proportion (Local Area; Data source: Streetlight Data, Inc.)



References

1. Oregon Department of Transportation. *TDS Crash Reports*. 2023.
2. Oregon Department of Transportation. *TransGIS*. 2023.
3. Clackamas County. *Transit Development Plan*. March 2021.
4. TriMet. *Forward Together – Revised Service Concept*. December 2022.
5. Oregon Department of Transportation. *Analysis Procedures Manual*. September 2023.
6. Oregon Department of Transportation. *Oregon Highway Plan*. November 1999.

Appendix A

Crash Data

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	TURNE 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	PURSUIING 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 CODE	SHORT 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 RO
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 CLOTHIN
20	IMP PKNG	VEHICLE IMPROPERLY PARKED
21	DEF STER	DEFECTIVE STEERING MECHANISM
22	DEF BRKE	INADEQUATE OR NO BRAKES
24	LOADSHFT	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

LIC CODE	SHORT DESC	LONG DESCRIPTION
0	NONE	NOT LICENSED (HAD NEVER BEEN LICENSED)
1	OR-Y	VALID OREGON LICENSE
2	OTH-Y	VALID LICENSE, OTHER STATE OR COUNTRY
3	SUSP	SUSPENDED/REVOKED
4	EXP	EXPIRED
8	N-VAL	OTHER NON-VALID LICENSE
9	UNK	UNKNOWN IF DRIVER WAS LICENSED AT TIME OF CRASH

DRIVER RESIDENCE CODE TRANSLATION LIST

RES CODE	SHORT DESC	LONG DESCRIPTION
1	OR<25	OREGON RESIDENT WITHIN 25 MILE OF HOME
2	OR>25	OREGON RESIDENT 25 OR MORE MILES FROM HOME
3	OR-?	OREGON RESIDENT - UNKNOWN DISTANCE FROM HOME
4	N-RES	NON-RESIDENT
9	UNK	UNKNOWN IF OREGON RESIDENT

ERROR CODE TRANSLATION LIST

ERROR CODE	SHORT 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 CODE	SHORT 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/ VEHIC
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	JACKKNIFE	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	IRRGL 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 CODE	SHORT 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 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 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 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	OFCCR/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 RAMPS
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

075: SUNRISE EXPRESSWAY

Highway 075 ALL ROAD TYPES, MP 4.11 to 6.26 01/02/2017 to 12/31/2021, Both Add and Non-Add mileage

075: SUNRISE EXPRESSWAY

Highway 075 ALL ROAD TYPES, MP 4.11 to 6.26 01/02/2017 to 12/31/2021, Both Add and Non-Add mileage

TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT

CONTINUOUS SYSTEM CRASH LISTING

075: SUNRISE EXPRESSWAY

Highway 075 ALL ROAD TYPES, MP 4.11 to 6.26 01/02/2017 to 12/31/2021, Both Add and Non-Add mileage

10 - 14 of 85 Crash records shown.

SER#	P	R	J	S	W	DATE	COUNTY	RD#	FC	CONN#	RD CHAR	INT-TYPE	SPCL USE	MOVE	A	S	INJ	G	E	LICNS	PED	ERROR	ACT	EVENT	CAUSE		
INVEST	E	A	U	I	C	O	CITY	COMPNT	FIRST STREET	DIRECT	(MEDIAN)	INT-REL	OFFRD	WTHR	CRASH	TRLR	QTY	MOVE									
RD DPT	E	L	G	N	H	R	URBAN AREA	MLG	TYP	SECOND STREET	LOCTN	LEGS	TRAF-	RNDBT	SURF	COLL	OWNER	FROM	PRTC	INJ	G	E	LICNS	PED			
UNLOC?	D	C	S	V	L	K	LONG	MILEPNT	LRS		(#LANES)	CONTL	DRVWY	LIGHT	SVRTY	V#	TYPE	TO	P#	TYPE	SVRTY	E	X	RES	LOC		
04856	N	N	N	N	N	N	CLACKAMAS	1	12		INTER	CROSS	N	N	CLD	ANGL-OTH	01	NONE	9							04	
STATE								MN	0		CN															000	
N							PORTLAND UA	4.11			04	1		DAY	PDO		PSNGR	CAR		01	DRVR	NONE	00	Unk	UNK	000	
N							-122 34 28.44			007500100S00																000	
																											000
																											000
																											000
																											000
82870	N	N	N	N	N	N	CLACKAMAS	1	11		INTER	CROSS	N	N	CLR	ANGL-OTH	01	NONE	9							04	
NO RPT								MN	0		CN															000	
N							PORTLAND UA	4.11			04	0		DAY	PDO		PSNGR	CAR		01	DRVR	NONE	00	Unk	UNK	000	
N							-122 34 28.42			007500100S00																000	
																											000
																											000
																											000
02046	N	N	N	N	N	N	CLACKAMAS	1	12		INTER	CROSS	N	N	CLR	ANGL-OTH	01	NONE	0							04	
STATE								MN	0		CN															000	
N							PORTLAND UA	4.11			04	1		DAY	INJ		PSNGR	CAR		01	DRVR	INJC	56	F	OR-Y	020	
N							-122 34 28.42			007500100S00																026	
																											000
																											000
																											000
																											000
03759	N	N	N	N	N	N	CLACKAMAS	1	12		CURVE		N	Y	CLD	FIX OBJ	01	NONE	0							054	
COUNTY								MN	0		UN	(NONE)	NONE	N	DRY	FIX		PRVTE								000	
Y							PORTLAND UA	4.15			08			DAY	INJ		PSNGR	CAR		01	DRVR	NONE	75	F	OR-Y	001	
N							-122 34 25.81			007500100S00		(03)														038	
																											000
																											000
																											000
																											000
00894	N	N	N	N	N	N	CLACKAMAS	1	12		STRGHT		N	N	CLR	BIKE										110	
STATE								MN	0		UN	(NONE)	UNKNOWN	N	DRY	ANGL										000	
N							PORTLAND UA	4.16			03			DAY	INJ											037	
N							-122 34 25.25			007500100S00		(04)														028	
																											000
																											000
																											000
																											000
02104	N	N	N	N	N	N	CLACKAMAS	1	12		STRGHT		N	N	CLR	S-1STOP	01	NONE	0							004	
STATE								MN	0		UN	(NONE)	NONE	N	DRY	REAR		PRVTE								000	
N							PORTLAND UA	4.16			03			DAY	INJ		PSNGR	CAR		01	DRVR	INJC	54	M	OR-Y	026	
N							-122 34 25.24			007500100S00		(03)														038	
																											000
																											000
																											000
																											000
																											000

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075: SUNRISE EXPRESSWAY

Highway 075 ALL ROAD TYPES, MP 4.11 to 6.26 01/02/2017 to 12/31/2021, Both Add and Non-Add mileage

OREGON DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION

TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT

CONTINUOUS SYSTEM CRASH LISTING

075: SUNRISE EXPRESSWAY

Highway 075 ALL ROAD TYPES, MP 4.11 to 6.26 01/02/2017 to 12/31/2021, Both Add and Non-Add mileage

15 - 22 of 85 Crash records shown.

SER#	DM	DATE	COUNTY	RD# FC	CONN#	RD CHAR	INT-TYPE	SPCL USE														
INVEST	E A U I C O DAY		CITY	COMPNT	FIRST STREET	DIRECT	(MEDIAN) INT-REL	TRLR QTY	MOVE	A S												
RD DPT	E L G N H R TIME		URBAN AREA	MLG TYP	SECOND STREET	LOCTN	LEGS TRAF-	OWNER	FROM	PRTC	INJ	G E LICNS	PED									
UNLOC?	D C S V L K LAT		LONG	MILEPNT	LRS		(#LANES) CONTL	V# TYPE	TO	P# TYPE	SVRTY	E X RES	LOC	ERROR	ACT	EVENT	CAUSE					
								02 NONE	0 STOP													
								PRVTE	NW-SE								011	00				
								PSNGR	CAR	02	PSNG	INJC	69	M			000	000	00			
02455	N N N N	08/23/2021	CLACKAMAS	1	12	CURVE	Y	01 NONE	0 STRGHT									29				
NONE		MO		MN	0	UN	(NONE) UNKNOWN	PRVTE	W -E									000	00			
N		8A	PORTLAND UA	4.17		03		PSNGR	CAR	01	DRVR	NONE	38	F	OR-Y			026	000	29		
N		45 25 16.02	-122 34 24.67		007500100S00		(04)													026		
								02 NONE	0 STOP													
								PRVTE	W -E										011	00		
								PSNGR	CAR	01	DRVR	INJC	24	F	OR-Y			000	000	00		
																					000	
																						000
03854	N N N N	10/24/2018	CLACKAMAS	1	12	INTER	3-LEG	01 NONE	0 STRGHT										29			
NO RPT		WE		MN	0	SE	UNKNOWN	PRVTE	SE-NW										000	00		
N		6A	PORTLAND UA	4.18		06	0	PSNGR	CAR	01	DRVR	NONE	52	M	OR-Y			026	000	29		
N		45 25 15.66	-122 34 24.17		007500100S00																026	
								02 NONE	0 STOP													
								PRVTE	SE-NW											011	00	
								PSNGR	CAR	01	DRVR	INJC	56	F	OR-Y			000	000	00		
																						000
																						000
01173	N N N N N	05/06/2021	CLACKAMAS	1	12	INTER	3-LEG	01 NONE	9 STRGHT											02		
STATE		TH		MN	0	CN	STOP SIGN	N/A	E -W											000	00	
N		2P	PORTLAND UA	4.18		01	0	PSNGR	CAR	01	DRVR	NONE	00	Unk	UNK			000	000	00		
N		45 25 15.65	-122 34 24.16		007500100S00																	000
								02 NONE	9 TURN-L													
								N/A	N -E											015	00	
								PSNGR	CAR	01	DRVR	NONE	00	Unk	UNK			000	000	00		
																						000
																						000
03660	N N N N N	10/11/2018	CLACKAMAS	1	12	INTER	3-LEG	01 NONE	0 STRGHT												02	
STATE		TH		MN	0	CN	STOP SIGN	PRVTE	SE-NW											000	00	
N		8A	PORTLAND UA	4.18		02	0	PSNGR	CAR	01	DRVR	INJC	48	M	OR-Y			000	000	00		
N		45 25 15.66	-122 34 24.17		007500100S00																	000
								02 NONE	0 TURN-L													
								PRVTE	NE-SE											015	00	
								PSNGR	CAR	01	DRVR	INJB	30	F	OTH-Y			028	000	000	02	
																						000
																						000
01370	Y Y N N N	04/11/2017	CLACKAMAS	1	12	CURVE	N	01 NONE	9 STRGHT												043	01,05
STATE		TU		MN	0	UN	(NONE) UNKNOWN	N/A	W -E											000	00	
Y		3A	PORTLAND UA	4.20		07		PSNGR	CAR	01	DRVR	NONE	00	Unk	UNK			000	000	00		
N		45 25 14.84	-122 34 23.24		007500100S00		(04)															000
03888	Y N N N	12/14/2021	CLACKAMAS	1	12	BRIDGE	N	01 NONE	9 STRGHT												119,044	01
NONE		TU		MN	0	UN	(NONE) UNKNOWN	N/A	W -E											000	00	
Y		5A	PORTLAND UA	4.21		01		PSNGR	CAR	01	DRVR	NONE	00	Unk	UNK			000	000	00		
N		45 25 14.42	-122 34 22.84		007500100S00		(04)															000
																						000
																						000
03902	N N N N N	12/14/2021	CLACKAMAS	1	12	STRGHT	N	01 NONE	9 STRGHT												124,043	06
STATE		TU		MN	0	UN	(NONE) NONE	N/A	E -W											000	00	
Y		6A	PORTLAND UA	4.28		01		PSNGR	CAR	01	DRVR	NONE	00	Unk	UNK			000	000	00		
N		45 25 11.15	-122 34 20.65		007500100S00		(04)															000
																						000

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075: SUNRISE EXPRESSWAY

Highway 075 ALL ROAD TYPES, MP 4.11 to 6.26 01/02/2017 to 12/31/2021, Both Add and Non-Add mileage

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TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT

CONTINUOUS SYSTEM CRASH LISTING

075: SUNRISE EXPRESSWAY

Highway 075 ALL ROAD TYPES, MP 4.11 to 6.26 01/02/2017 to 12/31/2021, Both Add and Non-Add mileage

29 - 33 of 85 Crash records shown.

SER#	P	R	J	S	W	DATE	COUNTY	RD#	FC	CONN#	RD CHAR	INT-TYPE	SPCL USE	TRLR	QTY	MOVE	A	S	ERROR	ACT	EVENT	CAUSE											
INVEST	E	A	U	I	C	O	CITY	COMPNT	FIRST	STREET	DIRECT	(MEDIAN)	INT-REL	OFFRD	WTHR	CRASH	OWNER	FROM	PRTC	INJ	G	E	LICNS	PED									
RD DPT	E	L	G	N	H	R	URBAN AREA	MLG	TYP	SECOND	STREET	LOCTN	LEGS	TRAF-	RNDBT	SURF	COLL	TO	P#	TYPE	SVRTY	E	X	RES	LOC								
UNLOC?	D	C	S	V	L	K	LONG	MILEPNT	LRS			(#LANES)	CONTL	DRVWY	LIGHT	SVRTY	V#	TYPE															
														02	NONE	0	STOP																
														PRVTE		W -E										011	00						
														PSNGR	CAR				01	DRVR	INJC	37	M	OR-Y		000	000	00					
														02	NONE	0	STOP										011	00					
														PRVTE		W -E											000	000	00				
														PSNGR	CAR				02	PSNG	INJC	38	F			000	000	00					
														02	NONE	0	STOP										011	00					
														PRVTE		W -E											000	000	00				
														PSNGR	CAR				03	PSNG	INJC	66	F			000	000	00					
01155	N	N	N	N	N	03/26/2017	CLACKAMAS	1	12		INTER	3-LEG	N			CLD	S-1STOP	01	NONE	0	STRGHT							013	07				
STATE						SU					E					WET	REAR		PRVTE		E -W						000	00					
N						5P	PORTLAND UA	4.36			06	0				DAY	INJ		PSNGR	CAR					01	DRVR	INJC	47	F	OR-Y	043,026	000	00
N						45 25 9.42	-122 34 15.45			007500100S00																							
														02	NONE	0	STOP																
														PRVTE		E -W												011	013	00			
														PSNGR	CAR				01	DRVR	NONE	24	F	OR-Y		000	000	00	00				
														03	NONE	0	STOP																
														PRVTE		E -W												022	00				
														PSNGR	CAR				01	DRVR	NONE	34	M	OR-Y		000	000	00	00				
00891	N	N	N	N	N	03/08/2020	CLACKAMAS	1	12		INTER	3-LEG	N			CLR	S-1STOP	01	NONE	9	STRGHT												
NONE						SU					NW					DRY	REAR		N/A		NW-SE							000	00				
N						1P	PORTLAND UA	4.36			06	0				DAY	PDO		PSNGR	CAR					01	DRVR	NONE	00	Unk	UNK	000	000	00
N						45 25 8.19	-122 34 16.66			007500100S00																							
														02	NONE	9	STOP																
														N/A		NW-SE												011	00				
														PSNGR	CAR				01	DRVR	NONE	00	Unk	UNK		000	000	00	00				
04904	N	N	N	N	N	11/20/2017	CLACKAMAS	1	12		INTER	3-LEG	N			CLR	O-OTHER	01	NONE	9	TURN-R												
NONE						MO					CN					DRY	TURN		N/A		NW-SW							000	00				
N						5P	PORTLAND UA	4.36			03	0				DLIT	PDO		PSNGR	CAR					01	DRVR	NONE	00	Unk	UNK	000	000	00
N						45 25 9.42	-122 34 15.45			007500100S00																							
														02	NONE	9	TURN-L																
														N/A		SE-SW													000	00			
														PSNGR	CAR				01	DRVR	NONE	00	Unk	UNK		000	000	00	00				
02866	N	N	N	N	N	10/23/2020	CLACKAMAS	1	12		INTER	3-LEG	N			CLR	O-1 L-TURN	01	NONE	0	STRGHT												
NO RPT						FR					CN					DRY	TURN		PRVTE		NW-SE							000	00				
N						5A	PORTLAND UA	4.36			03	0				DLIT	INJ		PSNGR	CAR					01	DRVR	NONE	54	F	OR-Y	020	000	04
N						45 25 8.16	-122 34 16.61			007500100S00																							
														02	NONE	0	TURN-L																
														PRVTE		SE-SW													000	00			
														PSNGR	CAR				01	DRVR	INJC	18	M	OR-Y		000	000	00	00				

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Highway 075 ALL ROAD TYPES, MP 4.11 to 6.26 01/02/2017 to 12/31/2021, Both Add and Non-Add mileage

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CONTINUOUS SYSTEM CRASH LISTING

075: SUNRISE EXPRESSWAY

Highway 075 ALL ROAD TYPES, MP 4.11 to 6.26 01/02/2017 to 12/31/2021, Both Add and Non-Add mileage

57 - 61 of 85 Crash records shown.

Table with columns: SER#, INVEST, RD DPT, UNLOC?, S, D, M, P, R, J, S, W DATE, COUNTY, RD# FC, CONN#, RD CHAR, INT-TYPE, SPCL USE, INT-REL, OFFRD, WTHR, CRASH, TRLR QTY, MOVE, A, S, G, E, LICNS, PED, ACT, EVENT, CAUSE. Rows include crash records for 03475, 00610, 02016, 04005, 00371, and 03992.

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Highway 075 ALL ROAD TYPES, MP 4.11 to 6.26 01/02/2017 to 12/31/2021, Both Add and Non-Add mileage

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Highway 075 ALL ROAD TYPES, MP 4.11 to 6.26 01/02/2017 to 12/31/2021, Both Add and Non-Add mileage

62 - 66 of 85 Crash records shown.

SER#	P	R	J	S	W	DATE	COUNTY	RD#	FC	CONN#	RD CHAR	INT-TYPE	SPCL USE	MOVE	A	S	ERROR	ACT	EVENT	CAUSE										
INVEST	E	A	U	I	C	O	CITY	COMPNT	FIRST STREET	DIRECT	(MEDIAN)	INT-REL	OFFRD	WTHR	CRASH	TRLR	QTY													
RD DPT	E	L	G	N	H	R	URBAN AREA	MLG	TYP	SECOND STREET	LOCTN	LEGS	TRAF-	RNDBT	SURF	COLL	OWNER	FROM	PRTC	INJ										
UNLOC?	D	C	S	V	L	K	LONG	MILEPNT	LRS		(#LANES)	CONTL	DRVWY	LIGHT	SVRTY	V#	TYPE	TO	P#	TYPE	SVRTY	E	X	RES	LOC					
																02	NONE	STOP												
																	PRVTE	S -N										011	013	00
																	PSNGR	CAR	01	DRVR	INJC	46	F	OR-Y		000	000	00	00	
																	03	NONE	STOP									022	00	
																	PRVTE	S -N									000	022	00	
																	PSNGR	CAR	01	DRVR	NONE	17	M	OR-Y		000	022	00	00	
04622	N	N	N	N	N	12/14/2018	CLACKAMAS	1	12		STRGHT	N			RAIN	S-STRGHT	01	NONE	9	STRGHT									13	
NONE						FR				MN	0	(RSDMD)	NONE		N	WET	SS-O	N/A		N -S								000	00	
N						7P	PORTLAND UA	6.22		04					N	DLIT	PDO	PSNGR	CAR	01	DRVR	NONE	00	Unk	UNK		000	000	00	
N						45 24 30.4	-122 32 16.49					(03)																		
																	02	NONE	9	STRGHT									000	00
																	N/A		N -S									000	00	
																	PSNGR	CAR	01	DRVR	NONE	00	Unk	UNK		000	000	00	00	
03407	N	N	N	N	N	12/15/2020	CLACKAMAS	1	12		STRGHT	N			RAIN	S-STRGHT	01	NONE	9	STRGHT									13	
NONE						TU				MN	0	(RSDMD)	TRF SIGNAL		N	WET	SS-O	N/A		N -S								000	00	
N						4P	PORTLAND UA	6.22		04					N	DAY	PDO	SEMI	TOW	01	DRVR	NONE	00	Unk	UNK		000	000	00	
N						45 24 30.4	-122 32 16.51					(05)																		
																	02	NONE	9	STRGHT									000	00
																	N/A		N -S									000	00	
																	PSNGR	CAR	01	DRVR	NONE	00	Unk	UNK		000	000	00	00	
02210	N	N	N	N	N	06/06/2017	CLACKAMAS	1	12		INTER	CROSS	N		CLR	S-1STOP	01	NONE	9	STRGHT									29	
NONE						TU	HAPPY VALLEY			MN	0	TRF SIGNAL			N	DRY	REAR	N/A		N -S								000	00	
N						3P	PORTLAND UA	6.26		SUNRISE EXWY HWY	03	2			N	DAY	PDO	PSNGR	CAR	01	DRVR	NONE	00	Unk	UNK		000	000	00	
N						45 24 28.35	-122 32 15.91																							
																	02	NONE	9	STOP									011	00
																	N/A		N -S									000	00	
																	PSNGR	CAR	01	DRVR	NONE	00	Unk	UNK		000	000	00	00	
01274	N	N	N	N	N	04/05/2017	CLACKAMAS	1	12		INTER	CROSS	N		CLR	S-1STOP	01	NONE	0	STRGHT									29	
NONE						WE	HAPPY VALLEY			MN	0	TRF SIGNAL			N	DRY	REAR	PRVTE		N -S								000	00	
N						7A	PORTLAND UA	6.26		SUNRISE EXWY HWY	06	0			N	DAY	INJ	PSNGR	CAR	01	DRVR	NONE	26	M	OR-Y		026	000	29	
N						45 24 28.35	-122 32 15.91																							
																	02	NONE	0	STOP									011	00
																	PRVTE		N -S									000	000	00
																	PSNGR	CAR	01	DRVR	INJC	29	F	OR-Y		000	000	00	00	
02352	N	N	N	N	N	08/28/2020	CLACKAMAS	1	12		INTER	3-LEG	N		CLR	S-1STOP	01	NONE	0	STRGHT									29	
STATE						FR	HAPPY VALLEY			MN	0	TRF SIGNAL			N	DRY	REAR	UNKN		N -S								000	00	
N						9P	PORTLAND UA	6.26		SUNRISE EXWY HWY	06	2			N	DLIT	INJ	PSNGR	CAR	01	DRVR	NONE	00	F	UNK		026	000	29	
N						45 24 28.36	-122 32 15.91																							

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075: SUNRISE EXPRESSWAY

Highway 075 ALL ROAD TYPES, MP 4.11 to 6.26 01/02/2017 to 12/31/2021, Both Add and Non-Add mileage

075: SUNRISE EXPRESSWAY

Highway 075 ALL ROAD TYPES, MP 4.11 to 6.26 01/02/2017 to 12/31/2021, Both Add and Non-Add mileage

TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT

CONTINUOUS SYSTEM CRASH LISTING

075: SUNRISE EXPRESSWAY

Highway 075 ALL ROAD TYPES, MP 4.11 to 6.26 01/02/2017 to 12/31/2021, Both Add and Non-Add mileage

72 - 77 of 85 Crash records shown.

SER#	P	R	J	S	W	DATE	COUNTY	RD#	FC	CONN#	RD CHAR	INT-TYPE	SPCL USE	VEH#	TYPE	QTY	MOVE	A	S	E	LICNS	PED	ERROR	ACT	EVENT	CAUSE		
INVEST	E	A	U	I	C	O	CITY	COMPNT	FIRST STREET	DIRECT	(MEDIAN)	INT-REL	OFFRD	WTHR	CRASH	TRLR	QTY	MOVE			G	E	LOC					
RD DPT	E	L	G	N	H	R	URBAN AREA	MLG	TYP	SECOND STREET	LOCTN	LEGS	TRAF-	RNDBT	SURF	COLL	OWNER	FROM	PRTC	INJ								
UNLOC?	D	C	S	V	L	K	LONG	MILEPNT	LRS	(#LANES)	CONTL	DRVWY	LIGHT	SVRTY	V#	TYPE	TO	P#	TYPE	SVRTY	E	X	RES	LOC	ERROR	ACT	EVENT	CAUSE
																02	NONE	0										
																PRVTE	NE-SW										011	00
																PSNGR	CAR	01	DRVR	INJC	58	F	OR-Y		000	000	00	
04726	N	N	N	N	N	12/21/2018	CLACKAMAS	1	12		INTER	CROSS				01	NONE	0									04	
CITY						FR	HAPPY VALLEY	MN	0	CARVER RD	CN		TRF SIGNAL	N	DRY	TURN	PRVTE	E	-W						000	00		
N						2A	PORTLAND UA	6.26		SUNRISE EXWY HWY	01	2		N	DLIT	INJ	PSNGR	CAR		01	DRVR	NONE	19	M	OR-Y	020	000	04
N						45 24 28.35	-122 32 15.92			007500100S00																		
																02	NONE	0										
																PRVTE	TURN-L									000	00	
																PSNGR	CAR	01	DRVR	INJC	30	F	OTH-Y		000	000	00	
																02	NONE	0								000	00	
																PRVTE	TURN-L									000	00	
																PSNGR	CAR	02	PSNG	INJC	33	M			000	000	00	
01771	N	N	N	N	N	06/28/2021	CLACKAMAS	1	12		INTER	CROSS				01	NONE	0									04	
NO RPT						MO	HAPPY VALLEY	MN	0	CARVER RD	CN		TRF SIGNAL	N	DRY	ANGL	PRVTE	N	-S						000	00		
N						6A	PORTLAND UA	6.26		SUNRISE EXWY HWY	01	2		N	DAY	INJ	PSNGR	CAR		01	DRVR	INJC	34	M	OR-Y	000	000	00
N						45 24 28.35	-122 32 15.91			007500100S00																		
																02	NONE	0										
																PRVTE	STRGHT									000	00	
																PSNGR	CAR	01	DRVR	NONE	20	Unk	OR-Y		020	000	04	
02017	N	N	N	N	N	07/17/2021	CLACKAMAS	1	12		INTER	CROSS				01	NONE	9									08,14	
STATE						SA	HAPPY VALLEY	MN	0	CARVER RD	CN		TRF SIGNAL	N	DRY	TURN	N/A		E	-N					000	00		
N						6P	PORTLAND UA	6.26		SUNRISE EXWY HWY	02	2		N	DAY	PDO	PSNGR	CAR		01	DRVR	NONE	00	Unk	UNK	000	000	00
N						45 24 28.36	-122 32 15.91			007500100S00																		
																02	NONE	9										
																N/A	STRGHT									000	00	
																PSNGR	CAR	01	DRVR	NONE	00	Unk	UNK		000	000	00	
03772	N	Y	N	N	N	10/27/2019	CLACKAMAS	1	12		INTER	CROSS				01	NONE	9									050,058 08	
STATE						SU	HAPPY VALLEY	MN	0	CARVER RD	CN		TRF SIGNAL	N	WET	FIX	N/A		E	-N					000	00		
N						12A	PORTLAND UA	6.26		SUNRISE EXWY HWY	09	2		N	DLIT	PDO	PSNGR	CAR		01	DRVR	NONE	00	Unk	UNK	000	000	00
N						45 24 28.36	-122 32 15.91			007500100S00																		
02659	N	N	N	N	N	07/05/2017	CLACKAMAS	1	14		INTER	3-LEG				01	NONE	0									121	17
COUNTY						WE		FR	0		E		STOP SIGN	N	DRY	FIX	PRVTE	E	-W						000	121	00	
N						11P	PORTLAND UA	4.34			06	0		N	DARK	INJ	PSNGR	CAR		01	DRVR	INJC	32	M	OR-Y	081	028	17
N						45 25 3.63	-122 34 15.77			0075AA100S00																		
03874	N	N	N	N	N	11/04/2019	CLACKAMAS	1	11	1	STRGHT					01	NONE	9									14	
NONE						MO		CN	0		UN	(NONE)	RAMP METER	N	DRY	SS-O	N/A		S	-N					000	00		
N						8A	PORTLAND UA	4.49			03			N	DAWN	PDO	SEMI	TOW		01	DRVR	NONE	00	Unk	UNK	000	000	00
N						45 25 8.63	-122 34 23.46			0075AD100S00		(01)																

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075: SUNRISE EXPRESSWAY

Highway 075 ALL ROAD TYPES, MP 4.11 to 6.26 01/02/2017 to 12/31/2021, Both Add and Non-Add mileage

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075: SUNRISE EXPRESSWAY

Highway 075 ALL ROAD TYPES, MP 4.11 to 6.26 01/02/2017 to 12/31/2021, Both Add and Non-Add mileage

171: CLACKAMAS

Highway 171 ALL ROAD TYPES, MP 3.70 to 3.96 01/01/2017 to 12/31/2021, Both Add and Non-Add mileage

171: CLACKAMAS

Highway 171 ALL ROAD TYPES, MP 3.70 to 3.96 01/01/2017 to 12/31/2021, Both Add and Non-Add mileage

171: CLACKAMAS

Highway 171 ALL ROAD TYPES, MP 3.70 to 3.96 01/01/2017 to 12/31/2021, Both Add and Non-Add mileage

11 - 17 of 74 Crash records shown.

SER#	S D M	P R J S W DATE	COUNTY	RD# FC CONN#	RD CHAR	INT-TYPE	SPCL USE					MOVE	A S					ERROR	ACT	EVENT	CAUSE	
INVEST	E A U I C O DAY	CITY	COMPNT	FIRST STREET	DIRECT	(MEDIAN)	INT-REL	OFFRD	WTHR	CRASH	TRLR	QTY	FROM	PRTC	INJ	G E LICNS	PED					
RD DPT	E L G N H R TIME	URBAN AREA	MLG TYP	SECOND STREET	LOCTN	LEGS	TRAF-	RNDBT	SURF	COLL	OWNER	TO	FROM	INJ	RES	LOC	ERROR	ACT	EVENT	CAUSE		
UNLOC?	D C S V L K LAT	LONG	MILEPNT	LRS	(#LANES)	CONTL	DRVWY	LIGHT	SVRTY	V#	TYPE	TO	P#	TYPE	SVRTY	E X RES	LOC	ERROR	ACT	EVENT	CAUSE	
											02 NONE	0	STOP									
											PRVTE		E -W							011	00	
											PSNGR	CAR		01 DRVR	INJC	38 M	OR-Y	000	000		00	
																					OR<25	
01145	N N N N	04/19/2020	CLACKAMAS	1 12	INTER	CROSS	N	N	CLR	S-1STOP	01 NONE	0	STRGHT								29	
NO RPT		SU		MN 0	E		TRF SIGNAL	N	DRY	REAR	PRVTE		E -W								000	00
N		10A	PORTLAND UA	3.73	06	0		N	DAY	INJ	PSNGR	CAR		01 DRVR	INJB	25 F	OR-Y	026	000		29	
N		45 25 21.54	-122 34 55.69																			OR>25
											02 NONE	0	STOP									011
											PRVTE		E -W								000	00
											PSNGR	CAR		01 DRVR	NONE	26 F	OR-Y	000	000		00	
																						OR<25
02392	Y N N N	07/23/2021	CLACKAMAS	1 12	INTER	CROSS	N	N	CLR	S-1STOP	01 NONE	0	STRGHT								29,01	
NONE		FR		MN 0	E		TRF SIGNAL	N	DRY	REAR	PRVTE		E -W								000	00
N		5P	PORTLAND UA	3.73	06	1		N	DAY	INJ	PSNGR	CAR		01 DRVR	NONE	18 M	OR-Y	026,047	000		29,01	
N		45 25 21.54	-122 34 55.69																			OR<25
											02 NONE	0	STOP									011
											PRVTE		E -W								000	00
											PSNGR	CAR		01 DRVR	NONE	66 M	OR-Y	000	000		00	
																						OR<25
											02 NONE	0	STOP									011
											PRVTE		E -W								000	00
											PSNGR	CAR		02 PSNG	INJC	66 F		000	000		00	
02675	N N N N N N	09/10/2021	CLACKAMAS	1 12	INTER	CROSS	N	N	CLD	ANGL-OTH	01 NONE	9	TURN-R								04,08	
STATE		FR		MN 0	E		TRF SIGNAL	N	DRY	TURN	N/A		S -E								016	
N		6P	PORTLAND UA	3.73	06	0		N	DAY	PDO	PSNGR	CAR		01 DRVR	NONE	00	Unk UNK	000	000		00	
N		45 25 21.55	-122 34 55.69																			UNK
											02 NONE	9	STRGHT									000
											N/A		W -E								000	00
											PSNGR	CAR		01 DRVR	NONE	00	Unk UNK	000	000		00	
																						UNK
03602	N N N N N N	12/29/2020	CLACKAMAS	1 12	INTER	CROSS	N	Y	CLR	FIX OBJ	01 NONE	9	TURN-L								091	
STATE		TU		MN 0	SE		TRF SIGNAL	N	DRY	FIX	N/A		N -E								000	
N		5A	PORTLAND UA	3.73	06	0		N	DLIT	PDO	PSNGR	CAR		01 DRVR	NONE	00	Unk UNK	000	000		00	
N		45 25 21.55	-122 34 55.71																			UNK
01796	N N N N N N	05/09/2017	CLACKAMAS	1 12	INTER	CROSS	N	N	CLR	S-1STOP	01 NONE	9	STRGHT								29,07	
COUNTY		TU		MN 0	SW		TRF SIGNAL	N	DRY	REAR	N/A		S -N								000	
N		10A	PORTLAND UA	3.73	06	0		N	DAY	PDO	PSNGR	CAR		01 DRVR	NONE	00	Unk UNK	000	000		00	
N		45 25 21.54	-122 34 55.69																			UNK
											02 NONE	9	STOP									011
											N/A		S -N								000	00
											PSNGR	CAR		01 DRVR	NONE	00	Unk UNK	000	000		00	
																						UNK
00769	N N N N N N	03/12/2021	CLACKAMAS	1 12	INTER	CROSS	N	N	CLR	FIX OBJ	01 NONE	9	STRGHT								064	
STATE		FR		MN 0	W		TRF SIGNAL	N	DRY	FIX	N/A		E -W								000	
N		10A	PORTLAND UA	3.73	05	0		N	DAY	PDO	SEMI	TOW		01 DRVR	NONE	00	Unk UNK	000	000		00	
N		45 25 21.54	-122 34 55.69																			UNK

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171: CLACKAMAS

Highway 171 ALL ROAD TYPES, MP 3.70 to 3.96 01/01/2017 to 12/31/2021, Both Add and Non-Add mileage

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Highway 171 ALL ROAD TYPES, MP 3.70 to 3.96 01/01/2017 to 12/31/2021, Both Add and Non-Add mileage

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Highway 171 ALL ROAD TYPES, MP 3.70 to 3.96 01/01/2017 to 12/31/2021, Both Add and Non-Add mileage

OREGON DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT
CONTINUOUS SYSTEM CRASH LISTING

171: CLACKAMAS

Highway 171 ALL ROAD TYPES, MP 3.70 to 3.96 01/01/2017 to 12/31/2021, Both Add and Non-Add mileage

38 - 43 of 74 Crash records shown.

SER#	P	R	J	S	W	DATE	COUNTY	RD#	FC	CONN#	RD CHAR	INT-TYPE	SPCL USE	MOVE	A	S	UNLOC?	D	C	S	V	L	K	LAT	LONG	MILEPNT	LRS	ACT	EVENT	CAUSE	
INVEST	E	A	U	I	C	O	DAY	COMPNT	FIRST STREET	DIRECT	(MEDIAN)	INT-REL	OFFRD	WTHR	CRASH	TRLR	QTY	MOVE	P#	TYPE	SVRTY	E	X	RES	LOC	ERROR	ACT	EVENT	CAUSE		
RD DPT	E	L	G	N	H	R	TIME	URBAN AREA	MLG TYP	SECOND STREET	LOCTN	LEGS	TRAF-	RNDBT	SURF	COLL	OWNER	FROM	PRTC	INJ	G	E	LICNS	PED	ERROR	ACT	EVENT	CAUSE			
UNLOC?	D	C	S	V	L	K	LAT	LONG	MILEPNT	LRS	(#LANES)	CONTL	DRVWY	LIGHT	SVRTY	V#	TYPE	TO	P#	TYPE	SVRTY	E	X	RES	LOC	ERROR	ACT	EVENT	CAUSE		
03907	N	N	N	N	N	N	11/06/2019	CLACKAMAS	1	12		STRGHT	Y	N	CLR	S-1STOP	01	NONE	0	STRGHT									27		
STATE							WE		MN	0	UN	(NONE)	TRF SIGNAL	N	DRY	REAR	PRVTE	E -W									000		00		
N							7A	PORTLAND UA	3.78		06		N	DAY	INJ	SEMI TOW			01	DRVR	NONE					016,026	038	27			
N							45 25 21.02	-122 34 52.14		017100100S00		(05)																			
																	02	NONE	0	STOP											
																	PRVTE	E -W										011		00	
																	PSNGR CAR			01	DRVR	INJC				000	000		00		
03117	N	N	N	N	N	N	11/17/2020	CLACKAMAS	1	12		STRGHT	N	N	RAIN	S-STRGHT	01	NONE	0	STRGHT								27,29			
STATE							TU		MN	0	UN	(NONE)	UNKNOWN	N	WET	REAR	PRVTE	E -W									000		00		
N							5P	PORTLAND UA	3.78		07		N	DLIT	INJ	PSNGR CAR			01	DRVR	INJC					016,042	038	27,29			
N							45 25 21.02	-122 34 52.12		017100100S00		(05)																			
																	02	NONE	0	STOP											
																	PRVTE	E -W										011		00	
																	PSNGR CAR			01	DRVR	INJC				000	000		00		
																	02	NONE	0	STOP											
																	PRVTE	E -W										011		00	
																	PSNGR CAR			02	PSNG	INJC				000	000		00		
02584	N	Y	N	N	N	N	09/25/2020	CLACKAMAS	1	12		STRGHT	N	N	CLD	S-1STOP	01	NONE	0	STRGHT								013	27,07		
STATE							FR		MN	0	UN	(NONE)	NONE	N	DRY	REAR	PRVTE	E -W										000		00	
N							4P	PORTLAND UA	3.79		06		N	DAY	INJ	PSNGR CAR			01	DRVR	INJC					043,026	038	27,07			
N							45 25 20.94	-122 34 51.43		017100100S00		(05)																			
																	02	NONE	0	STOP											
																	PRVTE	E -W											011	013	00
																	PSNGR CAR			01	DRVR	NONE				000	000		00		
																	03	NONE	0	STOP											
																	PRVTE	E -W										022		00	
																	PSNGR CAR			01	DRVR	NONE				000	000		00		
03301	N	N	N	N	N	N	09/16/2019	CLACKAMAS	1	12		STRGHT	N	N	CLR	OVERTURN	01	NONE	0	STRGHT								07			
STATE							MO		MN	0	UN	(NONE)	NONE	N	DRY	OTH	PRVTE	W -E										007		00	
Y							1P	PORTLAND UA	3.80		03		N	DAY	INJ	MTRCYCLE			01	DRVR	INJB					080,083	000	07			
N							45 25 20.83	-122 34 50.7		017100100S00		(05)																			
00521	N	N	N	N	N	N	02/12/2019	CLACKAMAS	1	12		STRGHT	N	Y	RAIN	FIX OBJ	01	NONE	0	STRGHT								042	10		
STATE							TU		MN	0	UN	(NONE)	NONE	N	WET	FIX	PRVTE	W -E										000	042	00	
Y							1A	PORTLAND UA	3.82		01		N	DARK	INJ	PSNGR CAR			01	DRVR	INJB					080	000	10			
N							45 25 20.62	-122 34 49.27		017100100S00		(05)																			
02323	N	N	N	N			06/13/2017	CLACKAMAS	1	12		STRGHT	N	N	CLD	S-1STOP	01	NONE	9	STRGHT								29			
NONE							TU		MN	0	UN	(NONE)	UNKNOWN	N	DRY	REAR	N/A	W -E										000		00	
N							6P	PORTLAND UA	3.83		04		N	DAY	PDO	PSNGR CAR			01	DRVR	NONE					000	000		00		
N							45 25 20.52	-122 34 48.55		017100100S00		(05)																			
																	02	NONE	9	STOP											
																	N/A	W -E											011		00
																	PSNGR CAR			01	DRVR	NONE				000	000		00		

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171: CLACKAMAS

Highway 171 ALL ROAD TYPES, MP 3.70 to 3.96 01/01/2017 to 12/31/2021, Both Add and Non-Add mileage

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Highway 171 ALL ROAD TYPES, MP 3.70 to 3.96 01/01/2017 to 12/31/2021, Both Add and Non-Add mileage

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OREGON DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT
CONTINUOUS SYSTEM CRASH LISTING

171: CLACKAMAS

Highway 171 ALL ROAD TYPES, MP 3.70 to 3.96 01/01/2017 to 12/31/2021, Both Add and Non-Add mileage

63 - 68 of 74 Crash records shown.

Table with columns: SER#, P, R, J, S, W, DATE, COUNTY, RD# FC, CONN#, RD CHAR, INT-TYPE, SPCL USE, INVEST, E A U I C O DAY, CITY, COMPNT, FIRST STREET, DIRECT, (MEDIAN) INT-REL, OFFRD, WTHR, CRASH, TRLR QTY, MOVE, A S, RD DPT, E L G N H R TIME, URBAN AREA, MLG TYP, SECOND STREET, LOCTN, LEGS, TRAF-, RNDTB, SURF, COLL, OWNER, FROM, PRTC, INJ, G E LICNS, PED, UNLOC?, D C S V L K LAT, LONG, MILEPNT, LRS, (#LANES) CONTL, DRVWY, LIGHT, SVRTY, V# TYPE, TO, P# TYPE, SVRTY, E X RES, LOC, ERROR, ACT, EVENT, CAUSE. Contains 63 rows of crash data.

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171: CLACKAMAS

Highway 171 ALL ROAD TYPES, MP 3.70 to 3.96 01/01/2017 to 12/31/2021, Both Add and Non-Add mileage

CONTINUOUS SYSTEM CRASH LISTING

Highway 171 ALL ROAD TYPES, MP 3.70 to 3.96 01/01/2017 to 12/31/2021, Both Add and Non-Add mileage

69 - 72 of 74 Crash records shown.

SER#	PRJSWDATE	COUNTY	RD# FC	CONN#	RD CHAR	INT-TYPE	SPCL USE																				
INVEST	EAUCODAY	CITY	COMPNT	FIRST STREET	DIRECT	(MEDIAN) INT-REL	TRLR QTY	MOVE																			
RD DPT	ELGNHRTIME	URBAN AREA	MLG TYP	SECOND STREET	LOCTN	LEGS TRAF-	OWNER	FROM																			
UNLOC?	DCSVLKLAT	LONG	MILEPNT	LRS		(#LANES) CONTL	V# TYPE	TO																			
03527	NNNN	CLACKAMAS	2 12		STRGHT	N	01 NONE 0	STRGHT														013	29				
NO RPT	WE		MN 0		UN	(NONE) UNKNOWN		E -W														000	00				
N	7A	PORTLAND UA	3.87		06																	026	000	29			
N	45 25 18.83	-122 34 35.95		017100200S00		(04)																					
00851	NNNN	CLACKAMAS	2 12		BRIDGE	N	01 NONE 0	STRGHT															07				
STATE	FR		MN 0		UN	(NONE) UNKNOWN		W -E															000	00			
N	1P	PORTLAND UA	3.88		03																		043,026	000	07		
N	45 25 18.79	-122 34 35.54		017100200S00		(04)																					
05345	NNNN	CLACKAMAS	2 12		STRGHT	N	01 NONE 9	STRGHT																10			
STATE	FR		MN 0		UN	(NONE) UNKNOWN		E -W																000	00		
N	5P	PORTLAND UA	3.92		05																			000	000	00	
N	45 25 18.59	-122 34 33.77		017100200S00		(04)																					
00052	NNNN	CLACKAMAS	2 12		STRGHT	N	01 NONE 0	STRGHT																013	07		
STATE	TH		MN 0		UN	(NONE) NONE		E -W																000	00		
N	2P	PORTLAND UA	3.92		06																			043	000	07	
N	45 25 18.59	-122 34 33.77		017100200S00		(04)																					
01611	NNNN	CLACKAMAS	2 12		INTER	5-LEG	01 NONE 9	BACK																	10		
NONE	MO		MN 0		N	TRF SIGNAL		S -N																000	00		
N	8P	PORTLAND UA	3.93		06	0																			000	000	00
N	45 25 18.54	-122 34 33.33		017100200S00																							

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171: CLACKAMAS

Highway 171 ALL ROAD TYPES, MP 3.70 to 3.96 01/01/2017 to 12/31/2021, Both Add and Non-Add mileage

TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT

CONTINUOUS SYSTEM CRASH LISTING

171: CLACKAMAS

Highway 171 ALL ROAD TYPES, MP 3.70 to 3.96 01/01/2017 to 12/31/2021, Both Add and Non-Add mileage

73 - 74 of 74 Crash records shown.

SER#	P	R	J	S	W	DATE	COUNTY	RD#	FC	CONN#	RD CHAR	INT-TYPE	INT-REL	OFFRD	WTHR	CRASH	SPCL USE	TRLR	QTY	MOVE	A	S	INJ	G	E	LICNS	PED	ERROR	ACT	EVENT	CAUSE		
INVEST	E	A	U	I	C	O	CITY	COMPNT	FIRST	STREET	DIRECT	(MEDIAN)	INT-REL	RNDBT	SURF	COLL	OWNER	FROM	PRTC	INJ	G	E	LICNS	PED	ERROR	ACT	EVENT	CAUSE					
RD DPT	E	L	G	N	H	R	URBAN AREA	MLG	TYP	SECOND	STREET	LOCTN	LEGS	TRAF-	RNDBT	SURF	COLL	OWNER	FROM	PRTC	INJ	G	E	LICNS	PED	ERROR	ACT	EVENT	CAUSE				
UNLOC?	D	C	S	V	L	K	LONG	MILEPNT	LRS			(#LANES)	CONTL	DRVWY	LIGHT	SVRTY	V#	TYPE	TO	P#	TYPE	SVRTY	E	X	RES	LOC	ERROR	ACT	EVENT	CAUSE			
																	02	NONE	9	STOP													
																	N/A														011	00	
																	PSNGR	CAR			01	DRVR	NONE	00	Unk	UNK		000	000		00		
03803	N	N	N	N		12/09/2021	CLACKAMAS	2	12		BRIDGE		Y	N	CLR	S-1STOP	01	NONE	9	STRGHT											128,129	22,29	
NONE						TH					UN	(NONE)	ACCEL LANE	N	WET	REAR															006	00	
N						UNK	PORTLAND UA			3.96	04			N	DAY	PDO											000	000			00		
N						45 25 18.39	-122 34 30.89				017100200S00		(01)																				
																	02	NONE	9	STOP													
																	N/A															011	00
																	TRUCK				01	DRVR	NONE	00	Unk	UNK		000	000			00	

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171: CLACKAMAS

Highway 171 ALL ROAD TYPES, MP 3.70 to 3.96 01/01/2017 to 12/31/2021, Both Add and Non-Add mileage

171: CLACKAMAS

Highway 171 ALL ROAD TYPES, MP 4.88 to 6.55 01/01/2017 to 12/31/2021, Both Add and Non-Add mileage

OREGON DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT
CONTINUOUS SYSTEM CRASH LISTING

171: CLACKAMAS

Highway 171 ALL ROAD TYPES, MP 4.88 to 6.55 01/01/2017 to 12/31/2021, Both Add and Non-Add mileage

6 - 7 of 109 Crash records shown.

SER#	P	R	J	S	W	DATE	COUNTY	RD#	FC	CONN#	RD CHAR	INT-TYPE	SPCL USE	OWNER	FROM	MOVE	A	S	GE	LICNS	PED	ERROR	ACT	EVENT	CAUSE				
INVEST	E	A	U	I	C	O	CITY	COMPNT	FIRST STREET	DIRECT	(MEDIAN)	INT-REL	OFFRD	WTHR	CRASH	TRLR	QTY												
RD DPT	E	L	G	N	H	R	URBAN AREA	MLG	TYP	SECOND STREET	LOCTN	LEGS	TRAF-	RNDBT	SURF	COLL													
UNLOC?	D	C	S	V	L	K	LONG	MILEPNT	LRS		(#LANES)	CONTL	DRVWY	LIGHT	SVRTY	V#	TYPE	TO	P#	TYPE	SVRVTY	E	X	RES	LOC				
02014	N	N	N	N		07/17/2021	CLACKAMAS	1	14		STRGHT	Y		N	CLR	S-1STOP	01	NONE	1		STRGHT					013	07		
STATE						SA		MN	0		UN	(RSDMD)	TRF SIGNAL	N	DRY	REAR		PRVTE								001	00		
N						3P	PORTLAND UA	5.19		08	0			N	DAY	FAT		PSNGR CAR			01	DRVR	KILL	80	M	OR-Y	043,026	000	07
N						45 24 26.53	-122 33 57.72		017100100S00		(04)																		
02989	Y	N	N	N	N	08/29/2019	CLACKAMAS	1	14		STRGHT	N		N	CLR	S-1STOP	01	NONE	1		STRGHT					013	01,29,32		
STATE						TH		MN	0		UN	(RSDMD)	NONE	N	DRY	REAR		PRVTE								000	00		
N						12P	PORTLAND UA	5.20		06				N	DAY	INJ		SEMI TOW			01	DRVR	NONE	30	M	OR-Y	047,026,052	038	01,29,32
N						45 24 26.53	-122 33 56.98		017100100S00		(05)																		

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171: CLACKAMAS

Highway 171 ALL ROAD TYPES, MP 4.88 to 6.55 01/01/2017 to 12/31/2021, Both Add and Non-Add mileage

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Highway 171 ALL ROAD TYPES, MP 4.88 to 6.55 01/01/2017 to 12/31/2021, Both Add and Non-Add mileage

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Highway 171 ALL ROAD TYPES, MP 4.88 to 6.55 01/01/2017 to 12/31/2021, Both Add and Non-Add mileage

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Highway 171 ALL ROAD TYPES, MP 4.88 to 6.55 01/01/2017 to 12/31/2021, Both Add and Non-Add mileage

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Highway 171 ALL ROAD TYPES, MP 4.88 to 6.55 01/01/2017 to 12/31/2021, Both Add and Non-Add mileage

CONTINUOUS SYSTEM CRASH LISTING

171: CLACKAMAS

Highway 171 ALL ROAD TYPES, MP 4.88 to 6.55 01/01/2017 to 12/31/2021, Both Add and Non-Add mileage

30 - 34 of 109 Crash records shown.

SER#	DATE	COUNTY	RD#	FC	CONN#	RD CHAR	INT-TYPE	SPCL USE	TRLR QTY	MOVE	OWNER	FROM	PRTC	INJ	G	E	LICNS	PED	ERROR	ACT	EVENT	CAUSE											
INVEST	EAUICODAY	CITY	COMPNT	FIRST STREET	DIRECT	(MEDIAN)	INT-REL	OFFRD	WTHR	CRASH	TRLR	QTY	MOVE		A	S																	
RD DPT	ELGNHR TIME	URBAN AREA	MLG TYP	SECOND STREET	LOCTN	LEGS	TRAF-	RNDBT	SURF	COLL	OWNER	FROM																					
UNLOC?	DCSVLKLAT	LONG	MILEPNT	LRS		(#LANES)	CONTL	DRVWY	LIGHT	SVRTY	V#	TYPE	TO	P#	TYPE	SVRTY	E	X	RES	LOC	ERROR	ACT	EVENT	CAUSE									
								02	NONE	9	STOP																						
									N/A		E -W												011	00									
									PSNGR	CAR				01	DRVR	NONE	00	Unk	UNK			000	000	00									
																								UNK									
03862	N N N N	09/19/2017	CLACKAMAS	1	14	INTER	CROSS	N	N	CLD	S-1STOP	01	NONE	9	STRGHT									29									
NONE		TU	HAPPY VALLEY	MN	0	CARVER RD	W	TRF	SIGNAL	N	WET	REAR	N/A		W -E									000	00								
N		3P	PORTLAND UA	5.54		102ND AVE	06		0	N	DAY	PDO		UNKNOWN									01	DRVR	NONE	00	Unk	UNK	000	000	00		
N		45 24 27.92	-122 33 31.28			017100100S00																			UNK								
								02	NONE	9	STOP														011	00							
									N/A		W -E														011	00							
									PSNGR	CAR				01	DRVR	NONE	00	Unk	UNK			000	000	00	000	000	00						
																									UNK								
03280	N N N N N	09/23/2019	CLACKAMAS	1	14	INTER	CROSS	N	N	CLD	S-1STOP	01	NONE	0	STRGHT									07,29									
COUNTY		MO	HAPPY VALLEY	MN	0	CARVER RD	W	TRF	SIGNAL	N	DRY	REAR	01	PRVTE	W -E										000	00							
N		10A	PORTLAND UA	5.54		102ND AVE	06		0	N	DAY	INJ		PSNGR	CAR									01	DRVR	NONE	64	M	OR-Y	043,026	000	07,29	
N		45 24 27.92	-122 33 31.28			017100100S00																			OR<25								
								02	NONE	0	STOP														011	00							
									PRVTE		W -E														011	00							
									PSNGR	CAR				01	DRVR	NONE	69	M	OR-Y			000	000	00	000	000	00						
																									OR<25								
								02	NONE	0	STOP														011	00							
									PRVTE		W -E														011	00							
									PSNGR	CAR				02	PSNG	INJA	45	F				000	000	00	000	000	00						
																									OR<25								
00308	Y N N N N	01/25/2019	CLACKAMAS	1	14	INTER	CROSS	N	N	CLD	S-STRGHT	01	NONE	0	STRGHT									01,29									
STATE		FR	HAPPY VALLEY	MN	0	CARVER RD	W	TRF	SIGNAL	N	DRY	REAR	01	PRVTE	W -E										000	00							
N		7P	PORTLAND UA	5.54		EVELYN ST	06		0	N	DLIT	INJ		PSNGR	CAR										01	DRVR	NONE	20	F	OR-Y	047,042	000	01,29
N		45 24 27.93	-122 33 31.29			017100100S00																			OR<25								
								02	NONE	0	STRGHT														006	00							
									PRVTE		W -E														006	00							
									PSNGR	CAR				01	DRVR	INJC	60	M	OR-Y			000	000	00	000	000	00						
																									OR<25								
02661	N N N N	10/02/2020	CLACKAMAS	1	14	INTER	CROSS	N	N	CLR	ANGL-OTH	01	NONE	9	STRGHT									02									
NONE		FR	HAPPY VALLEY	MN	0	CARVER RD	CN	TRF	SIGNAL	N	DRY	TURN	01	N/A	E -W										000	00							
N		11A	PORTLAND UA	5.54		102ND AVE	01		1	N	DAY	PDO		SEMI	TOW										01	DRVR	NONE	00	Unk	UNK	000	000	00
N		45 24 27.93	-122 33 31.3			017100100S00																			UNK								
								02	NONE	9	TURN-R														016	00							
									N/A		N -W														016	00							
									PSNGR	CAR				01	DRVR	NONE	00	Unk	UNK			000	000	00	000	000	00						
																									UNK								

171: CLACKAMAS

Highway 171 ALL ROAD TYPES, MP 4.88 to 6.55 01/01/2017 to 12/31/2021, Both Add and Non-Add mileage

171: CLACKAMAS

Highway 171 ALL ROAD TYPES, MP 4.88 to 6.55 01/01/2017 to 12/31/2021, Both Add and Non-Add mileage

171: CLACKAMAS

Highway 171 ALL ROAD TYPES, MP 4.88 to 6.55 01/01/2017 to 12/31/2021, Both Add and Non-Add mileage

38 - 42 of 109 Crash records shown.

SER#	S D M	P R J S W DATE	COUNTY	RD# FC	CONN#	RD CHAR	INT-TYPE	SPCL USE															
INVEST	E A U I C O DAY	CITY	COMPNT	FIRST STREET	DIRECT	(MEDIAN)	INT-REL	OFFRD	WTHR	CRASH	TRLR QTY	MOVE											
RD DPT	E L G N H R TIME	URBAN AREA	MLG TYP	SECOND STREET	LOCTN	LEGS	TRAF-	RNDBT	SURF	COLL	OWNER	FROM	PRTC	INJ	G E	LICNS	PED						
UNLOC?	D C S V L K LAT	LONG	MILEPNT	LRS	(#LANES)	CONTL	DRVWY	LIGHT	SVRTY	V#	TYPE	TO	P#	TYPE	SVRTY	E X	RES	LOC	ERROR	ACT	EVENT	CAUSE	
								02	NONE	9	TURN-L												
									N/A		S -W										018	00	
									PSNGR	CAR			01	DRVR	NONE	00	Unk	UNK		000	000	00	
																						UNK	
00669	N N N N	02/25/2019	CLACKAMAS	1 14		ALLEY	N		N	UNK	ANGL-OTH	01	NONE	9	TURN-R							02	
NONE		MO	HAPPY VALLEY	MN 0	CARVER RD	E	(NONE)	NONE	N	WET	TURN		N/A		S -E						018	00	
N		11A	PORTLAND UA	5.60	102ND AVE	04			N	DAY	PDO		PSNGR	CAR			01	DRVR	NONE	00	Unk	UNK	000
N		45 24 28.02	-122 33 26.94		017100100S00		(04)															UNK	
								02	NONE	9	STRGHT				W -E						000	00	
									N/A				01	DRVR	NONE	00	Unk	UNK		000	000	00	
									PSNGR	CAR												UNK	
03834	N N N N N N	12/11/2021	CLACKAMAS	1 14		ALLEY	N		N	RAIN	ANGL-OTH	01	NONE	0	STRGHT							02	
STATE		SA	HAPPY VALLEY	MN 0	CARVER RD	E	(NONE)	UNKNOWN	N	WET	TURN		PRVTE		W -E						000	00	
N		9A	PORTLAND UA	5.60	EVELYN ST	04			N	DAY	INJ		PSNGR	CAR			01	DRVR	INJB	57	F	OR-Y	000
N		45 24 27.98	-122 33 26.91		017100100S00		(04)															OR<25	
								02	NONE	0	TURN-L				S -W						018	00	
									PRVTE				01	DRVR	NONE	32	F	OTH-Y		028	000	02	
									PSNGR	CAR												OR<25	
00592	N N N N	02/18/2018	CLACKAMAS	1 14		ALLEY	N		N	UNK	ANGL-OTH	01	NONE	0	TURN-L							02,08	
NO RPT		SU	HAPPY VALLEY	MN 0	CARVER RD	E	(NONE)	UNKNOWN	N	WET	TURN		PRVTE		S -W						018	00	
N		10A	PORTLAND UA	5.60	EVELYN ST	05			N	DAY	INJ		PSNGR	CAR			01	DRVR	NONE	20	F	OTH-Y	028,001
N		45 24 27.99	-122 33 26.92		017100100S00		(04)															N-RES	
								02	NONE	0	STRGHT				E -W						000	00	
									PRVTE				01	DRVR	INJC	32	F	OR-Y		000	000	00	
									PSNGR	CAR												OR<25	
00533	N N N N N N	02/10/2020	CLACKAMAS	1 14		STRGHT	N		N	CLR	S-1STOP	01	NONE	9	STRGHT							27,29	
COUNTY		MO	HAPPY VALLEY	MN 0	CARVER RD	E	(NONE)	NONE	N	DRY	REAR		N/A		E -W						000	00	
N		10A	PORTLAND UA	5.60	102ND AVE	06			N	DAY	PDO		TRUCK				01	DRVR	NONE	00	Unk	UNK	000
N		45 24 28.02	-122 33 26.91		017100100S00		(04)															UNK	
								02	NONE	9	STOP				E -W						011	00	
									N/A				01	DRVR	NONE	00	Unk	UNK		000	000	00	
									PSNGR	CAR												UNK	
00381	N N N N	02/01/2019	CLACKAMAS	1 14		STRGHT	N		N	RAIN	S-STRGHT	01	NONE	9	STRGHT							13	
NO RPT		FR	HAPPY VALLEY	MN 0	CARVER RD	E	(NONE)	NONE	N	WET	SS-O		N/A		E -W						000	00	
N		1P	PORTLAND UA	5.64	102ND AVE	05			N	DAY	PDO		PSNGR	CAR			01	DRVR	NONE	00	Unk	UNK	000
N		45 24 28.04	-122 33 23.99		017100100S00		(04)															UNK	

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171: CLACKAMAS

Highway 171 ALL ROAD TYPES, MP 4.88 to 6.55 01/01/2017 to 12/31/2021, Both Add and Non-Add mileage

TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT

CONTINUOUS SYSTEM CRASH LISTING

171: CLACKAMAS

Highway 171 ALL ROAD TYPES, MP 4.88 to 6.55 01/01/2017 to 12/31/2021, Both Add and Non-Add mileage

43 - 45 of 109 Crash records shown.

SER#	P	R	J	S	W	DATE	COUNTY	RD#	FC	CONN#	RD CHAR	INT-TYPE	SPCL USE	MOVE	A	S	ACT	EVENT	CAUSE	
INVEST	E	A	U	I	C	DAY	CITY	COMPNT	FIRST STREET	DIRECT	(MEDIAN)	INT-REL	OFFRD	WTHR	CRASH	TRLR QTY				
RD DPT	E	L	G	N	H	R TIME	URBAN AREA	MLG TYP	SECOND STREET	LOCTN	LEGS	TRAF-	RNDBT	SURF	COLL	OWNER	FROM	PRTC	INJ	
UNLOC?	D	C	S	V	L	K LAT	LONG	MILEPNT	LRS		(#LANES)	CONTL	DRVWY	LIGHT	SVRTY	V# TYPE	TO	P# TYPE	SVRTY	
													02 NONE	9	STRGHT					
													N/A		E -W					000
													PSNGR	CAR			01 DRVR	NONE	00	Unk UNK
																				000
																				000
85627	N	N	N	N		09/15/2021	CLACKAMAS	1	14		STRGHT	N			S-STRGHT	01 NONE	9	STRGHT		
NONE						WE	HAPPY VALLEY	MN	0	CARVER RD	W	(NONE)	UNKNOWN	N	DRY	REAR	N/A	W -E		000
N						4P	PORTLAND UA	5.69		PIAZZA AVE	03			N	DAY	PDO		PSNGR	CAR	
N						45 24 28.1	-122 33 20.35			017100100S00		(04)								000
																				000
													02 NONE	9	STRGHT					000
													N/A		W -E					000
													PSNGR	CAR			01 DRVR	NONE	00	Unk UNK
																				000
																				000
02159	N	N	N	N	N	08/11/2020	CLACKAMAS	1	14		STRGHT	N			S-1STOP	01 NONE	0	STRGHT		
COUNTY						TU	HAPPY VALLEY	MN	0	CARVER RD	W	(NONE)	NONE	N	DRY	REAR	PRVTE	E -W		013
N						12P	PORTLAND UA	5.71		PIAZZA AVE	05			N	DAY	INJ		PSNGR	CAR	
N						45 24 28.1	-122 33 18.91			017100100S00		(04)								026
																				038
																				27,29
																				000
													02 NONE	0	STOP					011
													PRVTE		E -W					013
													PSNGR	CAR			01 DRVR	INJC	54	M
																				000
																				000
													03 NONE	0	STOP					022
													PRVTE		E -W					013
													PSNGR	CAR			01 DRVR	INJC	22	F
																				000
																				000
													03 NONE	0	STOP					022
													PRVTE		E -W					013
													PSNGR	CAR			02 PSNG	INJC	20	M
																				000
																				000
													03 NONE	0	STOP					022
													PRVTE		E -W					013
													PSNGR	CAR			03 PSNG	INJC	17	M
																				000
																				000
													04 NONE	0	STOP					022
													PRVTE		E -W					000
													PSNGR	CAR			01 DRVR	INJC	63	F
																				000
																				000
																				000
01654	N	N	N	N		06/18/2021	CLACKAMAS	1	14		STRGHT	N			S-1STOP	01 NONE	0	STRGHT		
NONE						FR	HAPPY VALLEY	MN	0	CARVER RD	W	(NONE)	NONE	N	DRY	REAR	PRVTE	W -E		000
N						1P	PORTLAND UA	5.72		PIAZZA AVE	03			N	DAY	INJ		PSNGR	CAR	
N						45 24 28.12	-122 33 18.19			017100100S00		(04)								026
																				000
																				000
																				000
													02 NONE	0	STOP					011
													PRVTE		W -E					000
													PSNGR	CAR			01 DRVR	INJC	44	M
																				000
																				000

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171: CLACKAMAS

Highway 171 ALL ROAD TYPES, MP 4.88 to 6.55 01/01/2017 to 12/31/2021, Both Add and Non-Add mileage

171: CLACKAMAS

Highway 171 ALL ROAD TYPES, MP 4.88 to 6.55 01/01/2017 to 12/31/2021, Both Add and Non-Add mileage

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Highway 171 ALL ROAD TYPES, MP 4.88 to 6.55 01/01/2017 to 12/31/2021, Both Add and Non-Add mileage

61 - 65 of 109 Crash records shown.

SER#	P	R	J	S	W	DATE	COUNTY	RD#	FC	CONN#	RD CHAR	INT-TYPE	SPCL USE	TRLR	QTY	MOVE	A	S	INJ	G	E	LICNS	PED	ERROR	ACT	EVENT	CAUSE					
INVEST	E	A	U	I	C	O	CITY	COMPNT	FIRST	STREET	DIRECT	(MEDIAN)	INT-REL	OFFRD	WTHR	CRASH	TRLR	QTY	MOVE	PRTC	INJ	G	E	LICNS	PED	ERROR	ACT	EVENT	CAUSE			
RD DPT	E	L	G	N	H	R	URBAN AREA	MLG	TYP	SECOND	STREET	LOCTN	LEGS	TRAF-	RNDBT	SURF	COLL	OWNER	FROM	PRTC	INJ	G	E	LICNS	PED	ERROR	ACT	EVENT	CAUSE			
UNLOC?	D	C	S	V	L	K	LONG	MILEPNT	LRS			(#LANES)	CONTL	DRVWY	LIGHT	SVRTY	V#	TYPE	TO	P#	TYPE	SVRTY	E	X	RES	LOC	ERROR	ACT	EVENT	CAUSE		
														02	NONE	9	STOP															
														N/A			W -E											011		00		
														PSNGR	CAR					01	DRVR	NONE	00	Unk	UNK		000	000		00		
04320	N	N	N	N		11/26/2018	CLACKAMAS	1	14		INTER	3-LEG	N	N	RAIN	S-1STOP	01	NONE	9	STRGHT									29			
NO RPT						MO	HAPPY VALLEY	MN	0	CARVER RD	E		TRF SIGNAL	N	WET	REAR		N/A		E -W							000		00			
N						5P	PORTLAND UA	6.14		SE 114TH AVE	06	0		N	DLIT	PDO		PSNGR	CAR		01	DRVR	NONE	00	Unk	UNK	000	000		00		
N						45 24 28.3	-122 32 46.65			017100100S00																						
														02	NONE	9	STOP															
														N/A			E -W											011		00		
														PSNGR	CAR					01	DRVR	NONE	00	Unk	UNK		000	000		00		
02901	N	N	N	N		09/29/2021	CLACKAMAS	1	14		INTER	3-LEG	N	N	CLR	S-1STOP	01	NONE	0	STRGHT								089	29,07			
NONE						WE	HAPPY VALLEY	MN	0	CARVER RD	W		STOP SIGN	N	DRY	REAR		PRVTE		W -E							000		00			
N						8A	PORTLAND UA	6.14		SE 114TH AVE	06	0		N	DAY	INJ		PSNGR	CAR		01	DRVR	NONE	38	M	OR-Y	026	000		29,07		
N						45 24 28.29	-122 32 46.66			017100100S00																						
														02	NONE	0	STOP															
														PRVTE			W -E											011		00		
														PSNGR	CAR					01	DRVR	INJC	47	F	OR-Y		000	000		00		
														02	NONE	0	STOP															
														PRVTE			W -E											011		00		
														PSNGR	CAR					02	PSNG	INJC	52	M			000	000		00		
02905	N	N	N	N	N	09/29/2021	CLACKAMAS	1	14		INTER	3-LEG	N	N	CLR	ANGL-OTH	01	NONE	0	STRGHT									02,03,40			
COUNTY						WE	HAPPY VALLEY	MN	0	CARVER RD	CN		STOP SIGN	N	DRY	TURN		PRVTE		E -W							000		00			
N						7A	PORTLAND UA	6.14		SE 114TH AVE	01	0		N	DAY	INJ		PSNGR	CAR		01	DRVR	INJB	45	F	OR-Y	000	000		00		
N						45 24 28.29	-122 32 46.66			017100100S00																						
														02	NONE	0	TURN-L															
														PRVTE			N -E											000		00		
														PSNGR	CAR					01	DRVR	INJC	36	M	OTH-Y		028,021	026		02,03,40		
04667	N	N	N	N		11/07/2017	CLACKAMAS	1	14		STRGHT		N	N	CLD	S-1STOP	01	NONE	9	STRGHT									29			
NONE						TU	HAPPY VALLEY	MN	0	CARVER RD	E		(NONE)	UNKNOWN	N	WET	REAR		N/A		W -E						000		00			
N						4P	PORTLAND UA	6.15		SE 114TH AVE	03			N	DAY	PDO		PSNGR	CAR		01	DRVR	NONE	00	Unk	UNK	000	000		00		
N						45 24 28.34	-122 32 44.23			017100100S00			(04)																			
														02	NONE	9	STOP															
														N/A			W -E											011		00		
														PSNGR	CAR					01	DRVR	NONE	00	Unk	UNK		000	000		00		

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171: CLACKAMAS

Highway 171 ALL ROAD TYPES, MP 4.88 to 6.55 01/01/2017 to 12/31/2021, Both Add and Non-Add mileage

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Highway 171 ALL ROAD TYPES, MP 4.88 to 6.55 01/01/2017 to 12/31/2021, Both Add and Non-Add mileage

TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT

CONTINUOUS SYSTEM CRASH LISTING

171: CLACKAMAS

Highway 171 ALL ROAD TYPES, MP 4.88 to 6.55 01/01/2017 to 12/31/2021, Both Add and Non-Add mileage

108 - 109 of 109 Crash records shown.

SER#	P	R	J	S	W	DATE	COUNTY	RD#	FC	CONN#	RD CHAR	INT-TYPE	SPCL USE	TRLR	QTY	MOVE	A	S	INJ	G	E	LICNS	PED	ERROR	ACT	EVENT	CAUSE				
INVEST	E	A	U	I	C	O	CITY	COMPNT	FIRST	STREET	DIRECT	(MEDIAN)	INT-REL	OFFRD	WTHR	CRASH	OWNER	FROM	PRTC	INJ	G	E	LICNS	PED	ERROR	ACT	EVENT	CAUSE			
RD DPT	E	L	G	N	H	R	URBAN AREA	MLG	TYP	SECOND	STREET	LOCTN	LEGS	TRAF-	RNDBT	SURF	COLL	OWNER	FROM	PRTC	INJ	G	E	LICNS	PED	ERROR	ACT	EVENT	CAUSE		
UNLOC?	D	C	S	V	L	K	LONG	MILEPNT	LRS			(#LANES)	CONTL	DRVWY	LIGHT	SVRTY	V#	TYPE	TO	P#	TYPE	SVRTY	E	X	RES	LOC	ERROR	ACT	EVENT	CAUSE	
														02	NONE	9	STOP														
														N/A			E -W											011		00	
														PSNGR	CAR				01	DRVR	NONE	00	Unk	UNK		000	000		00		
00603	N	N	N	N		03/07/2021	CLACKAMAS	2	14		STRGHT	N		N	CLR	S-1TURN	01	NONE	9											13	
NONE						SU		MN	0		UN	(NONE)	R-GRN-SIG	N	DRY	TURN	N/A											000		00	
N						10A	PORTLAND UA	5.18			05			N	DAY	PDO	PSNGR	CAR		01	DRVR	NONE	00	Unk	UNK		000	000		00	
N						45 24 27.19	-122 34 11.83			017100200S00		(02)																			
														02	NONE	9	TURN-R														
														N/A			E -N											000		00	
														PSNGR	CAR				01	DRVR	NONE	00	Unk	UNK		000	000		00		

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Highway 171 ALL ROAD TYPES, MP 4.88 to 6.55 01/01/2017 to 12/31/2021, Both Add and Non-Add mileage

171: CLACKAMAS

Highway 171 ALL ROAD TYPES, MP 6.56 to 7.39 01/01/2017 to 12/31/2021, Both Add and Non-Add mileage

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Highway 171 ALL ROAD TYPES, MP 6.56 to 7.39 01/01/2017 to 12/31/2021, Both Add and Non-Add mileage

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Highway 171 ALL ROAD TYPES, MP 6.56 to 7.39 01/01/2017 to 12/31/2021, Both Add and Non-Add mileage

14 - 18 of 169 Crash records shown.

SER#	P	R	J	S	W	DATE	COUNTY	RD#	FC	CONN#	RD CHAR	INT-TYPE	SPCL USE	A	S	E	LICNS	PED	ERROR	ACT	EVENT	CAUSE								
INVEST	E	A	U	I	C	O DAY	CITY	COMPNT	FIRST STREET	DIRECT	(MEDIAN)	INT-REL	OFFRD	WTHR	CRASH	TRLR QTY	MOVE	PRTC	INJ	G	E	RES	LOC							
RD DPT	E	L	G	N	H	R TIME	URBAN AREA	MLG TYP	SECOND STREET	LOCTN	LEGS	TRAF-	RNDBT	SURF	COLL	OWNER	FROM	P#	TYPE	SVRTY	E	X	RES	LOC						
UNLOC?	D	C	S	V	L	K LAT	LONG	MILEPNT	LRS		(#LANES)	CONTL	DRVWY	LIGHT	SVRTY	V#	TYPE	TO												
03549	N	N	N	N	N	10/04/2018	CLACKAMAS	1	14		INTER	CROSS	N	N	CLD	S-1STOP	01	NONE	0											
COUNTY						TH	HAPPY VALLEY	MN	0	CARVER RD	W		N	DRY	REAR	01	PRVTE			W	-E			000		00				
N						4P	PORTLAND UA	6.56		SUNRISE EXWY HWY	06	2	N	DAY	INJ		PSNGR	CAR			01	DRVR	NONE	30	M	OR-Y	043,026	000		07
N						45 24 28.36	-122 32 15.92			017100100S00															000			07		
													02				STOP									011		00		
													PRVTE				W	-E								000	000	00		
													PSNGR	CAR						01	DRVR	INJC	58	M	OR-Y	000	000	00		
																												00		
																												00		
04290	N	N	N	N	N	12/01/2019	CLACKAMAS	1	14		INTER	CROSS	N	N	CLR	S-1STOP	01	NONE	9											
COUNTY						SU	HAPPY VALLEY	MN	0	CARVER RD	W		N	DRY	REAR	01	N/A									000		00		
N						11A	PORTLAND UA	6.56		122ND AVE	06	2	N	DAY	PDO		PSNGR	CAR			01	DRVR	NONE	00	Unk	UNK	000	000	00	
N						45 24 28.35	-122 32 15.91			017100100S00																		00		
													02				STOP											012	00	
													N/A				W	-E								000	000	00		
													PSNGR	CAR						01	DRVR	NONE	00	Unk	UNK	000	000	00		
																												00		
01222	N	N	N	N	N	05/02/2020	CLACKAMAS	1	14		INTER	CROSS	N	N	RAIN	S-1STOP	01	NONE	0											
COUNTY						SA	HAPPY VALLEY	MN	0	CARVER RD	W		N	WET	REAR	01	PRVTE									000		00		
N						2P	PORTLAND UA	6.56		122ND AVE	06	2	N	DAY	INJ		PSNGR	CAR			01	DRVR	NONE	35	F	OR-Y	026	000	29	
N						45 24 28.36	-122 32 15.91			017100100S00																		00		
													02				STOP											011	00	
													PRVTE				W	-E								000	000	00		
													PSNGR	CAR						01	DRVR	INJC	33	M	OR-Y	000	000	00		
																												00		
00841	N	N	N	N		04/03/2021	CLACKAMAS	1	14		INTER	CROSS	N	N	UNK	S-1STOP	01	NONE	0											
NONE						SA	HAPPY VALLEY	MN	0	CARVER RD	W		N	UNK	REAR	01	PRVTE									000		00		
N						7A	PORTLAND UA	6.56		122ND AVE	06	0	N	DAY	INJ		PSNGR	CAR			01	DRVR	NONE	39	F	OR-Y	026	000	29	
N						45 24 28.37	-122 32 15.93			017100100S00																		00		
													02				STOP											011	00	
													PRVTE				W	-E								000	000	00		
													PSNGR	CAR						01	DRVR	INJC	41	M	OR-Y	000	000	00		
																												00		
																												00		
03015	N	N	N	N		10/11/2021	CLACKAMAS	1	14		INTER	3-LEG	N	N	CLR	S-1STOP	01	NONE	9											
NONE						MO	HAPPY VALLEY	MN	0	CARVER RD	W		N	DRY	REAR	01	N/A									000		00		
N						1P	PORTLAND UA	6.56		SUNRISE EXWY HWY	06	0	N	DAY	PDO		PSNGR	CAR			01	DRVR	NONE	00	Unk	UNK	000	000	00	
N						45 24 28.36	-122 32 15.92			017100100S00																		00		
													02				STOP											011	00	
													N/A				W	-E								000	000	00		
													PSNGR	CAR						01	DRVR	NONE	00	Unk	UNK	000	000	00		
																												00		

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171: CLACKAMAS

Highway 171 ALL ROAD TYPES, MP 6.56 to 7.39 01/01/2017 to 12/31/2021, Both Add and Non-Add mileage

TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT

CONTINUOUS SYSTEM CRASH LISTING

Highway 171 ALL ROAD TYPES, MP 6.56 to 7.39 01/01/2017 to 12/31/2021, Both Add and Non-Add mileage

19 - 22 of 169 Crash records shown.

SER#	P	R	J	S	W	DATE	COUNTY	RD#	FC	CONN#	RD CHAR	INT-TYPE	SPCL USE				A S				ACT	EVENT	CAUSE									
INVEST	E	A	U	I	C	O	CITY	COMPNT	FIRST STREET	DIRECT	(MEDIAN)	INT-REL	OFFRD	WTHR	CRASH	TRLR QTY	MOVE	PRTC	INJ	G	E	LICNS	PED	ERROR	ACT	EVENT	CAUSE					
RD DPT	E	L	G	N	H	R	URBAN AREA	MLG	TYP	SECOND STREET	LOCTN	LEGS	TRAF-	RNDBT	SURF	COLL	OWNER	FROM	P#	TYPE	SVRTY	E	X	RES	LOC	ERROR	ACT	EVENT	CAUSE			
UNLOC?	D	C	S	V	L	K	LONG	MILEPNT	LRS			(#LANES)	CONTL	DRVWY	LIGHT	SVRTY	V#	TYPE	TO													
01159	N	N	N	N	N	N	CLACKAMAS	1	14		INTER	CROSS	N	N	RAIN	ANGL-OTH	01	NONE	0	STRGHT												
CITY						WE	HAPPY VALLEY	MN	0	CARVER RD	CN		TRF SIGNAL	N	WET	TURN	PRVTE	E -W								000	000	04	00			
N						10A	PORTLAND UA	6.56		SUNRISE EXWY HWY	01	2		N	DAY	INJ		PSNGR	CAR		01	DRVR	NONE	68	M	OR-Y		020	000	04		
N						45 24 28.5	-122 32 15.99			017100100S00							02	NONE	0	TURN-L												
																	PRVTE	N -E									000	000	00	00		
																	PSNGR	CAR			01	DRVR	INJB	60	F	OR-Y		000	000	00	00	
03349	N	N	N	N	N	N	CLACKAMAS	1	14		INTER	CROSS	N	N	CLD	ANGL-OTH	01	NONE	0	STRGHT									001	04,02		
COUNTY						WE	HAPPY VALLEY	MN	0	CARVER RD	CN		TRF SIGNAL	N	WET	ANGL	PRVTE	N -S									000	000	00	00		
N						5A	PORTLAND UA	6.56		122ND AVE	01	0		N	DLIT	INJ		PSNGR	CAR		01	DRVR	INJB	58	M	OR-Y		000	000	001	00	
N						45 24 28.35	-122 32 15.91			017100100S00							02	NONE	1	STRGHT												
																	PRVTE	E -W									000	000	00	00		
																	SEMI	TOW			01	DRVR	NONE	25	M	OTH-Y		020,028	000	000	04,02	00
03324	N	N	N	N	N	N	CLACKAMAS	1	14		INTER	CROSS	N	N	CLR	O-1 L-TURN	01	NONE	0	TURN-L										04		
COUNTY						MO	HAPPY VALLEY	MN	0	CARVER RD	CN		TRF SIGNAL	N	DRY	TURN	PRVTE	N -E										000	000	00	00	
N						5P	PORTLAND UA	6.56		122ND AVE	04	0		N	DAY	INJ		PSNGR	CAR		01	DRVR	NONE	32	M	OR-Y		020	000	000	04	
N						45 24 28.35	-122 32 15.91			017100100S00							02	NONE	0	STRGHT												
																	PRVTE	S -N										000	000	00	00	
																	PSNGR	CAR			01	DRVR	INJC	63	M	OTH-Y		000	000	00	00	
00189	N	N	N	N	N	N	CLACKAMAS	1	14		INTER	CROSS	N	N	CLR	O-1 L-TURN	01	NONE	0	TURN-L										14,02,08		
CITY						TU	HAPPY VALLEY	MN	0	CARVER RD	CN		TRF SIGNAL	N	DRY	TURN	PRVTE	N -E										000	000	00	00	
N						8P	PORTLAND UA	6.56		122ND AVE	04	0		N	DLIT	INJ		PSNGR	CAR		01	DRVR	INJC	34	M	OR-Y		020,028,004	000	000	14,02,08	
N						45 24 28.36	-122 32 15.93			017100100S00							02	NONE	0	STRGHT												
																	PRVTE	S -N										000	000	00	00	
																	PSNGR	CAR			01	DRVR	INJC	54	M	OTH-Y		000	000	00	00	
03197	N	N	N	N		10/25/2021	CLACKAMAS	1	14		STRGHT		Y	N	RAIN	S-1STOP	01	NONE	0	STRGHT										29,27		
NONE						MO	HAPPY VALLEY	MN	0	CARVER RD	E	(NONE)	UNKNOWN	N	WET	REAR	PRVTE	E -W										000	000	00	00	
N						12P	PORTLAND UA	6.57		122ND AVE	06			N	DAY	INJ		PSNGR	CAR		01	DRVR	NONE	60	M	OR-Y		026,016,014	000	000	29,27	
N						45 24 28.36	-122 32 15.08			017100100S00			(04)				02	NONE	0	STOP												
																	PRVTE	E -W														
																	PSNGR	CAR			01	DRVR	INJC	44	F	OR-Y		000	000	00	00	

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Highway 171 ALL ROAD TYPES, MP 6.56 to 7.39 01/01/2017 to 12/31/2021, Both Add and Non-Add mileage

171: CLACKAMAS

Highway 171 ALL ROAD TYPES, MP 6.56 to 7.39 01/01/2017 to 12/31/2021, Both Add and Non-Add mileage

171: CLACKAMAS

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Highway 171 ALL ROAD TYPES, MP 6.56 to 7.39 01/01/2017 to 12/31/2021, Both Add and Non-Add mileage

TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT

CONTINUOUS SYSTEM CRASH LISTING

171: CLACKAMAS

Highway 171 ALL ROAD TYPES, MP 6.56 to 7.39 01/01/2017 to 12/31/2021, Both Add and Non-Add mileage

85 - 89 of 169 Crash records shown.

SER#	S D M	P R J S W DATE	COUNTY	RD# FC CONN#	RD CHAR	INT-TYPE	SPCL USE	INVEST	E A U I C O DAY	CITY	COMPNT	FIRST STREET	DIRECT	(MEDIAN)	INT-REL	OFFRD	WTHR	CRASH	TRLR QTY	MOVE	A S
RD DPT	E L G N H R TIME	URBAN AREA	MLG TYP	SECOND STREET	LOCTN	LEGS	TRAF-	RNDBT	SURF	COLL	OWNER	FROM	PRTC	INJ	G E LICNS	PED					
UNLOC?	D C S V L K LAT	LONG	MILEPNT	LRS	(#LANES)	CONTL	DRVWY	LIGHT	SVRTY	V# TYPE	TO	P# TYPE	SVRTY	E X RES	LOC	ERROR	ACT	EVENT	CAUSE		
02621		N N N N N N 09/07/2021	CLACKAMAS	1 14		STRGHT															
CITY		TU	HAPPY VALLEY	MN 0 CARVER RD	W	(NONE)	UNKNOWN	N	DRY	REAR	PRVTE	W -E									022 00
N		1P	PORTLAND UA	7.21 SE 135TH AVE	08			N	DAY	INJ	PSNGR CAR		01 DRVR	NONE	66 F	OR-Y	000	000			022 00
N		45 24 37.47	-122 31 30.15			(04)															
02231		N N N N N N 06/28/2021	CLACKAMAS	1 14		INTER	CROSS	N	CLR	S-1STOP	01 NONE 9	STRGHT									
NONE		MO	HAPPY VALLEY	MN 0 CARVER RD	N		TRF SIGNAL	N	DRY	REAR	N/A	N -S									000 00
N		12P	PORTLAND UA	7.23 SE 135TH AVE	06	1		N	DAY	PDO	PSNGR CAR		01 DRVR	NONE	00	Unk UNK	000	000			000 00
N		45 24 37.68	-122 31 28.7																		
03733		N N N N N N 09/12/2017	CLACKAMAS	1 14		INTER	CROSS	N	CLR	S-1STOP	01 NONE 1	STRGHT									
COUNTY		TU	HAPPY VALLEY	MN 0 CARVER RD	E		TRF SIGNAL	N	DRY	REAR	PRVTE	E -W									000 00
N		8P	PORTLAND UA	7.23 SE 135TH AVE	06	1		N	DLIT	INJ	SEMI TOW		01 DRVR	NONE	41 M	OTH-Y	026	000			026 29
N		45 24 37.69	-122 31 28.7																		
01213		N N N N N N 04/13/2019	CLACKAMAS	1 14		INTER	CROSS	N	RAIN	S-1STOP	01 NONE 0	STRGHT									
COUNTY		SA	HAPPY VALLEY	MN 0 CARVER RD	E		TRF SIGNAL	N	WET	REAR	PRVTE	E -W									000 00
N		12P	PORTLAND UA	7.23 SE 135TH AVE	06	1		N	DAY	INJ	PSNGR CAR		01 DRVR	NONE	17 M	OR-Y	026	000			026 29
N		45 24 37.69	-122 31 28.71																		

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171: CLACKAMAS

Highway 171 ALL ROAD TYPES, MP 6.56 to 7.39 01/01/2017 to 12/31/2021, Both Add and Non-Add mileage

171: CLACKAMAS

Highway 171 ALL ROAD TYPES, MP 6.56 to 7.39 01/01/2017 to 12/31/2021, Both Add and Non-Add mileage

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171: CLACKAMAS

Highway 171 ALL ROAD TYPES, MP 6.56 to 7.39 01/01/2017 to 12/31/2021, Both Add and Non-Add mileage

98 - 102 of 169 Crash records shown.

SER#	P	R	J	S	W	DATE	COUNTY	RD#	FC	CONN#	RD CHAR	INT-TYPE	SPCL USE	TRLR	QTY	MOVE	A	S	INJ	G	E	LICNS	PED	ERROR	ACT	EVENT	CAUSE				
INVEST	E	A	U	I	C	DAY	CITY	COMPNT	FIRST STREET	DIRECT	(MEDIAN)	INT-REL	OFFRD	WTHR	CRASH	OWNER	FROM	PRTC	INJ	G	E	LICNS	PED	ERROR	ACT	EVENT	CAUSE				
RD DPT	E	L	G	N	H	R	URBAN AREA	MLG	TYP	SECOND STREET	LOCTN	LEGS	TRAF-	RNDBT	SURF	COLL	OWNER	FROM	PRTC	INJ	G	E	LICNS	PED	ERROR	ACT	EVENT	CAUSE			
UNLOC?	D	C	S	V	L	K	LONG	MILEPNT	LRS		(#LANES)	CONTL	DRVWY	LIGHT	SVRTY	V#	TYPE	TO	P#	TYPE	SVRTY	E	X	RES	LOC	ERROR	ACT	EVENT	CAUSE		
																02	NONE	9													
																N/A		STOP													
																PSNGR	CAR		01	DRVR	NONE	00	Unk	UNK		000	000	00	00		
02930	N	N	N	N		07/20/2017	CLACKAMAS	1	14		INTER	CROSS	N	N	CLR	S-1STOP	01	NONE	9									29			
NONE						TH	HAPPY VALLEY	MN	0	CARVER RD	SE		TRF SIGNAL	N	DRY	REAR	N/A											000	00		
N						4P	PORTLAND UA	7.23		SE 135TH AVE	09	1		N	DAY	PDO		PSNGR	CAR							000	000	00	00		
N						45 24 37.69	-122 31 28.7																								
																02	NONE	9													
																N/A		STOP											011	00	
																PSNGR	CAR		01	DRVR	NONE	00	Unk	UNK		000	000	00	00		
04883	N	N	N	N		11/19/2017	CLACKAMAS	1	14		INTER	CROSS	N	N	RAIN	S-1STOP	01	NONE	9									29			
NO RPT						SU	HAPPY VALLEY	MN	0	CARVER RD	SE		YIELD	N	WET	REAR	N/A											000	00		
N						6P	PORTLAND UA	7.23		SE 135TH AVE	09	1		N	DUSK	PDO		PSNGR	CAR							000	000	00	00		
N						45 24 37.69	-122 31 28.7																								
																02	NONE	9													
																N/A		STOP											011	00	
																PSNGR	CAR		01	DRVR	NONE	00	Unk	UNK		000	000	00	00		
05130	N	N	N	N		12/04/2017	CLACKAMAS	1	14		INTER	CROSS	N	N	CLR	S-1STOP	01	NONE	9									29			
NONE						MO	HAPPY VALLEY	MN	0	CARVER RD	SE		YIELD	N	DRY	REAR	N/A											000	00		
N						7A	PORTLAND UA	7.23		SE 135TH AVE	09	1		N	DAY	PDO		PSNGR	CAR							000	000	00	00		
N						45 24 37.69	-122 31 28.7																								
																02	NONE	9													
																N/A		STOP											011	00	
																PSNGR	CAR		01	DRVR	NONE	00	Unk	UNK		000	000	00	00		
02349	N	N	N	N		07/06/2018	CLACKAMAS	1	14		INTER	CROSS	N	N	CLR	S-1STOP	01	NONE	0									29			
NONE						FR	HAPPY VALLEY	MN	0	CARVER RD	SE		YIELD	N	DRY	REAR	PRVTE											000	00		
N						10A	PORTLAND UA	7.23		SE 135TH AVE	09	1		N	DAY	INJ		PSNGR	CAR							026	000	00	29		
N						45 24 37.7	-122 31 28.72																								
																02	NONE	0													
																PRVTE		STOP											011	00	
																PSNGR	CAR		01	DRVR	INJC	39	M	OR-Y		000	000	00	00		
																02	NONE	0													
																PRVTE		STOP											011	00	
																PSNGR	CAR		02	PSNG	INJC	37	F			000	000	00	00		

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171: CLACKAMAS

Highway 171 ALL ROAD TYPES, MP 6.56 to 7.39 01/01/2017 to 12/31/2021, Both Add and Non-Add mileage

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Highway 171 ALL ROAD TYPES, MP 6.56 to 7.39 01/01/2017 to 12/31/2021, Both Add and Non-Add mileage

171: CLACKAMAS

Highway 171 ALL ROAD TYPES, MP 7.40 to 8.22 01/01/2017 to 12/31/2021, Both Add and Non-Add mileage

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Highway 171 ALL ROAD TYPES, MP 7.40 to 8.22 01/01/2017 to 12/31/2021, Both Add and Non-Add mileage

37 - 40 of 139 Crash records shown.

SER#	P	R	J	S	W	DATE	COUNTY	RD#	FC	CONN#	RD CHAR	INT-TYPE	SPCL USE	A	S	ERROR	ACT	EVENT	CAUSE													
INVEST	E	A	U	I	C	O	CITY	COMPNT	FIRST STREET	DIRECT	(MEDIAN)	INT-REL	OFFRD	WTHR	CRASH	TRLR	QTY	MOVE														
RD DPT	E	L	G	N	H	R	URBAN AREA	MLG	TYP	SECOND STREET	LOCTN	LEGS	TRAF-	RNDBT	SURF	COLL	OWNER	FROM	PRTC	INJ	G	E	LICNS	PED								
UNLOC?	D	C	S	V	L	K	LONG	MILEPNT	LRS			(#LANES)	CONTL	DRVWY	LIGHT	SVRTY	V#	TYPE	TO	P#	TYPE	SVRTY	E	X	RES	LOC	ERROR	ACT	EVENT	CAUSE		
02958	N	Y	N	N	N	N	CLACKAMAS	1	14		INTER	CROSS	N	N	CLD	ANGL-OTH	01	NONE	0	TURN-L												
COUNTY						TU	HAPPY VALLEY	MN	0	SE CARVER RD	CN	TRF SIGNAL	N	WET	TURN		PRVTE	S -W											000		02,04,08 00	
N						7P	PORTLAND UA	7.57		SE 142ND AVE	02	1	N	DLIT	INJ		PSNGR CAR		01	DRVR	NONE	46	F	SUSP				028,020	000		02,04,08	
N						45 24 36.44	-122 31 3.3			017100100S00																						
																	02	NONE	0	STRGHT												
																	PRVTE	E -W														
																	PSNGR CAR		01	DRVR	INJC	48	M	OR-Y				000		000		00
																	02	NONE	0	STRGHT												
																	PRVTE	E -W														
																	PSNGR CAR		02	PSNG	INJC	49	F					000		000		00
																	02	NONE	0	STRGHT												
																	PRVTE	E -W														
																	PSNGR CAR		03	PSNG	INJC	13	M					000		000		00
04944	N	N	N	N	N	N	CLACKAMAS	1	14		INTER	CROSS	N	N	RAIN	O-1 L-TURN	01	NONE	9	TURN-L												
COUNTY						WE	HAPPY VALLEY	MN	0	SE CARVER RD	CN	TRF SIGNAL	N	WET	TURN		N/A	E -S														
N						11P	PORTLAND UA	7.57		SE 142ND AVE	03	1	N	DLIT	PDO		PSNGR CAR		01	DRVR	NONE	00	Unk	UNK				000		000		00
N						45 24 36.44	-122 31 3.3			017100100S00																						
																	02	NONE	9	STRGHT												
																	N/A	W -E														
																	PSNGR CAR		01	DRVR	NONE	00	Unk	UNK				000		000		00
00900	N	N	N	N	N	N	CLACKAMAS	1	14		INTER	CROSS	N	N	RAIN	O-1 L-TURN	01	NONE	0	STRGHT												
COUNTY						TU	HAPPY VALLEY	MN	0	SE CARVER RD	CN	TRF SIGNAL	N	WET	TURN		PRVTE	W -E														
N						10A	PORTLAND UA	7.57		SE 142ND AVE	03	1	N	DAY	INJ		PSNGR CAR		01	DRVR	INJC	33	F	OR-Y				000		000		00
N						45 24 36.44	-122 31 3.3			017100100S00																						
																	02	NONE	0	TURN-L												
																	PRVTE	E -S														
																	PSNGR CAR		01	DRVR	NONE	24	M	OTH-Y				028,004		000		02,08
04706	N	N	N	N	N	N	CLACKAMAS	1	14		INTER	CROSS	N	N	CLR	O-1 L-TURN	01	NONE	0	TURN-L												
COUNTY						FR	HAPPY VALLEY	MN	0	SE CARVER RD	CN	TRF SIGNAL	N	DRY	TURN		PRVTE	N -E														
N						6P	PORTLAND UA	7.57		SE 142ND AVE	04	0	N	DARK	INJ		PSNGR CAR		01	DRVR	INJC	23	F	OTH-Y				028		000		02
N						45 24 36.44	-122 31 3.31			017100100S00																						
																	01	NONE	0	TURN-L												
																	PRVTE	N -E														
																	PSNGR CAR		02	PSNG	INJC	19	F					000		000		00
																	02	NONE	0	STRGHT												
																	PRVTE	S -N														
																	PSNGR CAR		01	DRVR	NONE	23	M	OTH-Y				000		000		00

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Highway 171 ALL ROAD TYPES, MP 7.40 to 8.22 01/01/2017 to 12/31/2021, Both Add and Non-Add mileage

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OREGON DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT
CONTINUOUS SYSTEM CRASH LISTING

171: CLACKAMAS

Highway 171 ALL ROAD TYPES, MP 7.40 to 8.22 01/01/2017 to 12/31/2021, Both Add and Non-Add mileage

67 - 71 of 139 Crash records shown.

SER#	P	R	J	S	W	DATE	COUNTY	RD#	FC	CONN#	RD CHAR	INT-TYPE	SPCL USE	TRLR	QTY	MOVE	A	S	INJ	G	E	LICNS	PED	ERROR	ACT	EVENT	CAUSE													
INVEST	E	A	U	I	C	O	CITY	COMPNT	FIRST	STREET	DIRECT	(MEDIAN)	INT-REL	OFFRD	WTHR	CRASH	OWNER	FROM	PRTC	INJ	E	X	RES	LOC	ERROR	ACT	EVENT	CAUSE												
RD DPT	E	L	G	N	H	R	URBAN AREA	MLG	TYP	SECOND	STREET	LOCTN	LEGS	TRAF-	RNDBT	SURF	COLL	OWNER	FROM	PRTC	INJ	E	X	RES	LOC	ERROR	ACT	EVENT	CAUSE											
UNLOC?	D	C	S	V	L	K	LONG	MILEPNT	LRS			(#LANES)	CONTL	DRVWY	LIGHT	SVRTY	V#	TYPE	TO	P#	TYPE	SVRTY	E	X	RES	LOC	ERROR	ACT	EVENT	CAUSE										
														04	NONE	0	STOP																							
02293	N	N	N	N	N	08/22/2020	CLACKAMAS	1	14		STRGHT	N		N	CLR	S-1STOP	01	NONE	0	STRGHT																				
STATE						SA	HAPPY VALLEY	MN	0	CARVER RD	W	(NONE)	NONE	N	DRY	REAR		PRVTE		W	-E																			
N						4P	PORTLAND UA	8.03		152ND AVE	03			N	DAY	INJ		PSNGR	CAR																					
N						45 24 34.95	-122 30 30.28			017100100S00		(04)																												
03494	N	N	N	N	N	11/16/2021	CLACKAMAS	1	14		STRGHT	N		N	RAIN	S-1STOP	01	NONE	9	STRGHT																				
NONE						TU	HAPPY VALLEY	MN	0	CARVER RD	W	(NONE)	UNKNOWN	N	WET	REAR		N/A		W	-E																			
N						5P	PORTLAND UA	8.03		152ND AVE	04			N	DARK	PDO		PSNGR	CAR																					
N						45 24 34.94	-122 30 30.29			017100100S00		(04)																												
00829	N	N	N	N	N	03/06/2018	CLACKAMAS	1	14		STRGHT	N		N	CLR	S-1STOP	01	NONE	0	STRGHT																				
NONE						TU	HAPPY VALLEY	MN	0	CARVER RD	W	(NONE)	UNKNOWN	N	DRY	REAR		PRVTE		E	-W																			
N						7A	PORTLAND UA	8.03		152ND AVE	05			N	DAY	INJ		PSNGR	CAR																					
N						45 24 34.94	-122 30 30.27			017100100S00		(04)																												
01476	N	N	N	N	N	04/19/2017	CLACKAMAS	1	14		INTER	3-LEG	N		RAIN	S-1STOP	01	NONE	9	STRGHT																				
NONE						WE	HAPPY VALLEY	MN	0	CARVER RD	CN		UNKNOWN	N	WET	REAR		N/A		W	-E																			
N						3P	PORTLAND UA	8.03		152ND AVE	04	0		N	DAY	PDO		PSNGR	CAR																					
N						45 24 34.94	-122 30 30.26			017100100S00																														

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.

171: CLACKAMAS

Highway 171 ALL ROAD TYPES, MP 7.40 to 8.22 01/01/2017 to 12/31/2021, Both Add and Non-Add mileage

171: CLACKAMAS

Highway 171 ALL ROAD TYPES, MP 7.40 to 8.22 01/01/2017 to 12/31/2021, Both Add and Non-Add mileage

OREGON DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT
CONTINUOUS SYSTEM CRASH LISTING

171: CLACKAMAS

Highway 171 ALL ROAD TYPES, MP 7.40 to 8.22 01/01/2017 to 12/31/2021, Both Add and Non-Add mileage

75 - 79 of 139 Crash records shown.

SER#	S D M	P R J S W	DATE	COUNTY	RD# FC	CONN#	RD CHAR	INT-TYPE	OFFRD	WTHR	CRASH	SPCL USE	MOVE	A S	P#	TYPE	SVRTY	E X RES	LOC	ERROR	ACT	EVENT	CAUSE
INVEST	E A U I C O	DAY		CITY	COMPNT	FIRST STREET	DIRECT	(MEDIAN) INT-REL	RNDBT	SURF	COLL	TRLR QTY	MOVE	A S				LICNS	PED				
RD DPT	E L G N H R	TIME		URBAN AREA	MLG TYP	SECOND STREET	LOCTN	LEGS TRAF-				OWNER	FROM										
UNLOC?	D C S V L K	LAT		LONG	MILEPNT	LRS		(#LANES) CONTL	DRVWY	LIGHT	SVRTY	V#	TYPE										
03887	N N N N		11/05/2019	CLACKAMAS	1 14		INTER	3-LEG N	N	CLR	S-STRGHT	01 NONE	0										29
NO RPT		TU		HAPPY VALLEY	MN 0	CARVER RD	E	UNKNOWN	N	DRY	REAR	PRVTE	W -E								000	00	
N		8A		PORTLAND UA	8.05	152ND AVE	05	0	N	DAY	INJ	PSNGR CAR			01	DRVR	NONE	54 M	OR-Y		042	000	29
N		45 24 34.91		-122 30 28.47		017100100S00													OR<25				
												02 NONE											
												PRVTE	STRGHT									000	00
												PSNGR CAR	W -E		01	DRVR	INJC	42 F	OR-Y		000	000	00
																			OR<25				
00364	N N N N		01/26/2017	CLACKAMAS	1 14		INTER	N	N	CLR	S-1STOP	01 NONE	9										29
NONE		TH		HAPPY VALLEY	MN 0	CARVER RD	E	STOP SIGN	N	DRY	REAR	N/A	E -W								000	00	
N		4P		PORTLAND UA	8.05	152ND AVE	06	0	N	DAY	PDO	PSNGR CAR			01	DRVR	NONE	00	Unk UNK		000	000	00
N		45 24 34.91		-122 30 28.47		017100100S00													UNK				
												02 NONE											
												N/A	STOP									011	00
												PSNGR CAR	E -W		01	DRVR	NONE	00	Unk UNK		000	000	00
																			UNK				
00955	N N N N		03/15/2020	CLACKAMAS	1 14		INTER	3-LEG N	N	CLR	S-1STOP	01 NONE	9										29
NONE		SU		HAPPY VALLEY	MN 0	CARVER RD	W	NONE	N	DRY	REAR	N/A	W -E								000	00	
N		10A		PORTLAND UA	8.05	152ND AVE	06	0	N	DAY	PDO	PSNGR CAR			01	DRVR	NONE	00	Unk UNK		000	000	00
N		45 24 34.91		-122 30 28.47		017100100S00													UNK				
												02 NONE											
												N/A	STOP									012	00
												PSNGR CAR	W -E		01	DRVR	NONE	00	Unk UNK		000	000	00
																			UNK				
00660	N Y N N N		02/19/2017	CLACKAMAS	1 14		INTER	3-LEG N	N	RAIN	ANGL-OTH	01 NONE	0										13
COUNTY		SU		HAPPY VALLEY	MN 0	CARVER RD	CN	STOP SIGN	N	WET	TURN	PRVTE	E -W								000	00	
N		2P		PORTLAND UA	8.05	152ND AVE	01	0	N	DAY	INJ	PSNGR CAR			01	DRVR	NONE	45 M	OR-Y		045	000	13
N		45 24 34.91		-122 30 28.47		017100100S00													OR<25				
												02 NONE											
												PRVTE	TURN-R									015	00
												PSNGR CAR	N -W		01	DRVR	INJC	33 F	OR-Y		000	000	00
																			OR<25				
03876	N N N N		10/16/2018	CLACKAMAS	1 14		INTER	3-LEG N	N	CLR	ANGL-OTH	01 NONE	9										02
NONE		TU		HAPPY VALLEY	MN 0	CARVER RD	CN	STOP SIGN	N	UNK	TURN	N/A	E -W								000	00	
N		11A		PORTLAND UA	8.05	152ND AVE	01	0	N	DAY	PDO	PSNGR CAR			01	DRVR	NONE	00	Unk UNK		000	000	00
N		45 24 34.91		-122 30 28.47		017100100S00													UNK				
												02 NONE											
												N/A	TURN-L									015	00
												PSNGR CAR	N -E		01	DRVR	NONE	00	Unk UNK		000	000	00
																			UNK				

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171: CLACKAMAS

Highway 171 ALL ROAD TYPES, MP 7.40 to 8.22 01/01/2017 to 12/31/2021, Both Add and Non-Add mileage

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Highway 171 ALL ROAD TYPES, MP 7.40 to 8.22 01/01/2017 to 12/31/2021, Both Add and Non-Add mileage

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171: CLACKAMAS

Highway 171 ALL ROAD TYPES, MP 7.40 to 8.22 01/01/2017 to 12/31/2021, Both Add and Non-Add mileage

128 - 132 of 139 Crash records shown.

SER#	S	D	M	P	R	J	S	W	DATE	COUNTY	RD#	FC	CONN#	RD CHAR	INT-TYPE	SPCL USE	MOVE	A	S	E	LICNS	PED	ERROR	ACT	EVENT	CAUSE													
INVEST	E	A	U	I	C	O	D	A		CITY	COMPNT	FIRST STREET	DIRECT	(MEDIAN)	INT-REL	OFFRD	WTHR	CRASH	TRLR	QTY	FROM	PRTC	INJ	G	E	RES	LOC												
RD DPT	E	L	G	N	H	R	T	IME		URBAN AREA	MLG	TYP	SECOND STREET	LOCTN	LEGS	TRAF-	RNDBT	SURF	COLL	OWNER	TO	SVR	TY	P#	TYPE	SVR	TY	E	X	RES	LOC	ERROR	ACT	EVENT	CAUSE				
UNLOC?	D	C	S	V	L	K	L	A	T	LONG	MILEPNT	LRS			(#LANES)	CONTL	DRVWY	LIGHT	SVRTY	V#	TYPE	TO	P#	TYPE	SVR	TY	E	X	RES	LOC	ERROR	ACT	EVENT	CAUSE					
																				02	NONE	0														000	00		
																								01	DRVR	INJC	76	F	OR-Y			000	000	00					
																																					OR<25		
00429	N	N	N	N	N	N	N	N	02/02/2020	CLACKAMAS	2	14		STRGHT	Y	N	CLR	OTH OBJ	01	NONE	9																040,058	10	
STATE							SU			HAPPY VALLEY	MN	0	CARVER RD CONN 1 EB	W	(RSDMD)	NONE	N	DRY	FIX	N/A															000	00			
N							4P			PORTLAND UA	8.18		CLACKAMAS HWY	04			N	DAY	PDO	PSNGR CAR			01	DRVR	NONE	00	Unk	UNK			000	000	00						
N							45 24 34.88			-122 30 19.56			017100200S00		(04)																					UNK			
00875	N	Y	N	N	N	N	N	N	03/07/2020	CLACKAMAS	2	14		STRGHT	N	N	RAIN	OTH OBJ	01	NONE	9																044	10	
CITY							SA			HAPPY VALLEY	MN	0	CLACKAMAS HWY	W	(RSDMD)	TRF SIGNAL	N	WET	FIX	N/A															000	00			
N							1A			PORTLAND UA	8.18		CARVER RD CONN 1 EB	05			N	DLIT	PDO	PSNGR CAR			01	DRVR	NONE	00	Unk	UNK			000	000	00						
N							45 24 34.88			-122 30 19.56			017100200S00		(04)																					UNK			
02516	N	N	N	N					06/25/2017	CLACKAMAS	2	14		INTER	N	N	CLR	S-1STOP	01	NONE	0																29		
NONE							SU			HAPPY VALLEY	MN	0	CLACKAMAS HWY	E	TRF SIGNAL	N	DRY	REAR	01	PRVTE															000	00			
N							5P			PORTLAND UA	8.19		CARVER RD CONN 1 EB	06	0		N	DAY	INJ	PSNGR CAR			01	DRVR	NONE	55	M	OR-Y			026	000	29						
N							45 24 34.77			-122 30 18.88			017100200S00																							OR<25			
																				02	NONE	0															011	00	
																							01	DRVR	INJC	51	F	OR-Y			000	000	00						
																																					OR<25		
02945	N	N	N	N					07/21/2017	CLACKAMAS	2	14		INTER	3-LEG	N	N	CLR	S-1STOP	01	NONE	0															000	00	
NO RPT							FR			HAPPY VALLEY	MN	0	CLACKAMAS HWY	SE	YIELD	N	DRY	REAR	01	PRVTE																			
N							3P			PORTLAND UA	8.19		CARVER RD CONN 1 EB	09	1		N	DAY	INJ	PSNGR CAR			01	DRVR	NONE	25	M	OR-Y			026	000	29						
N							45 24 34.77			-122 30 18.88			017100200S00																							OR<25			
																																						011	00
																							01	DRVR	INJC	47	F	OR-Y			000	000	00						
																																					OR<25		
																							02	PSNG	INJC	23	F			000	000	00							
																																					011	00	
																							02	PSNG	NO<5	01	F			000	000	00							
																																					011	00	
																							02	PSNG	NO<5	02	M			000	000	00							

171: CLACKAMAS

Highway 171 ALL ROAD TYPES, MP 7.40 to 8.22 01/01/2017 to 12/31/2021, Both Add and Non-Add mileage

171: CLACKAMAS

Highway 171 ALL ROAD TYPES, MP 7.40 to 8.22 01/01/2017 to 12/31/2021, Both Add and Non-Add mileage

TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT

CONTINUOUS SYSTEM CRASH LISTING

171: CLACKAMAS

Highway 171 ALL ROAD TYPES, MP 7.40 to 8.22 01/01/2017 to 12/31/2021, Both Add and Non-Add mileage

137 - 139 of 139 Crash records shown.

SER#	S D M	P R J S W DATE	COUNTY	RD# FC	CONN#	RD CHAR	INT-TYPE	SPCL USE							A S								
INVEST	E A U I C O DAY	CITY	COMPNT	FIRST STREET	DIRECT	(MEDIAN)	INT-REL	OFFRD	WTHR	CRASH	TRLR QTY	MOVE			PRTC	INJ	G E LICNS	PED					
RD DPT	E L G N H R TIME	URBAN AREA	MLG TYP	SECOND STREET	LOCTN	LEGS	TRAF-	RNDBT	SURF	COLL	OWNER	FROM											
UNLOC?	D C S V L K LAT	LONG	MILEPNT	LRS	(#LANES)	CONTL	DRVWY	LIGHT	SVRTY		V# TYPE	TO			P# TYPE	SVRTY	E X RES	LOC	ERROR	ACT	EVENT	CAUSE	
01138	N N N N	04/04/2018	CLACKAMAS	2 14		INTER	3-LEG	N	N	CLR	O-1 L-TURN	01 NONE 0	STRGHT									04	
NO RPT		WE	HAPPY VALLEY	MN 0	CLACKAMAS HWY	CN		TRF SIGNAL	N	DRY	TURN	PRVTE	W -E									000	00
N		10P	PORTLAND UA	8.19	CARVER RD CONN 1 EB	03	1		N	DLIT	INJ	PSNGR CAR			01 DRVR	NONE	48 F	OR-Y		020	000	04	
N		45 24 34.77	-122 30 18.88		017100200S00													OR<25					
											02 NONE 0	TURN-L											
											PRVTE	E -S			01 DRVR	INJC	37 F	OR-Y		000	000	00	
											PSNGR CAR						OR<25					00	
00838	N N N N	03/30/2021	CLACKAMAS	2 14		INTER	3-LEG	N	N	CLR	O-1 L-TURN	01 NONE 0	STRGHT									02,08	
NO RPT		TU	HAPPY VALLEY	MN 0	CLACKAMAS HWY	CN		TRF SIGNAL	N	DRY	TURN	PRVTE	W -E									000	00
N		7A	PORTLAND UA	8.19	CARVER RD CONN 1 EB	03	0		N	DAWN	INJ	MTRCYCLE			01 DRVR	INJA	35 M	OR-Y		000	000	00	
N		45 24 34.77	-122 30 18.87		017100200S00													OR<25					
											02 NONE 0	TURN-L											
											PRVTE	E -S			01 DRVR	NONE	00 Unk UNK				000	00	
											PSNGR CAR						UNK		028,004	000	000	02,08	

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171: CLACKAMAS

Highway 171 ALL ROAD TYPES, MP 7.40 to 8.22 01/01/2017 to 12/31/2021, Both Add and Non-Add mileage

174: CLACKAMAS-BORING

Highway 174 ALL ROAD TYPES, MP 0.03 to 1.10 01/02/2017 to 12/31/2021, Both Add and Non-Add mileage

174: CLACKAMAS-BORING

Highway 174 ALL ROAD TYPES, MP 0.03 to 1.10 01/02/2017 to 12/31/2021, Both Add and Non-Add mileage

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Highway 174 ALL ROAD TYPES, MP 0.03 to 1.10 01/02/2017 to 12/31/2021, Both Add and Non-Add mileage

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Highway 174 ALL ROAD TYPES, MP 0.03 to 1.10 01/02/2017 to 12/31/2021, Both Add and Non-Add mileage

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Highway 174 ALL ROAD TYPES, MP 0.03 to 1.10 01/02/2017 to 12/31/2021, Both Add and Non-Add mileage

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Highway 174 ALL ROAD TYPES, MP 0.03 to 1.10 01/02/2017 to 12/31/2021, Both Add and Non-Add mileage

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Highway 174 ALL ROAD TYPES, MP 0.03 to 1.10 01/02/2017 to 12/31/2021, Both Add and Non-Add mileage

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Highway 174 ALL ROAD TYPES, MP 0.03 to 1.10 01/02/2017 to 12/31/2021, Both Add and Non-Add mileage

OREGON DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT
CONTINUOUS SYSTEM CRASH LISTING

174: CLACKAMAS-BORING

Highway 174 ALL ROAD TYPES, MP 0.03 to 1.10 01/02/2017 to 12/31/2021, Both Add and Non-Add mileage

47 - 51 of 97 Crash records shown.

SER#	S	D	M	P	R	J	S	W	DATE	COUNTY	RD#	FC	CONN#	RD	CHAR	INT-TYPE	SPCL USE	TRLR	QTY	MOVE	P#	TYPE	SVRTY	E	X	RES	LOC	ERROR	ACT	EVENT	CAUSE									
INVEST	E	A	U	I	C	O	D	A	Y	CITY	COMPNT	FIRST	STREET	DIRECT	(MEDIAN)	INT-REL	OFFRD	WTHR	CRASH	OWNER	FROM	PRTC	INJ	G	E	LICNS	PED													
RD DPT	E	L	G	N	H	R	TIME	URBAN	AREA	MLG	TYP	SECOND	STREET	LOCTN	LEGS	TRAF-	RNDBT	SURF	COLL		TO																			
UNLOC?	D	C	S	V	L	K	LAT	LONG	MILEPNT	LRS					(#LANES)	CONTL	DRVWY	LIGHT	SVRTY	V#	TYPE																			
03363	N	N	N	N	N	N	09/22/2018	CLACKAMAS	1	14				STRGHT		N				01	NONE	0																		
STATE							SA		MN	0				UN	(NONE)	UNKNOWN					PRVTE												27,07							
N							2P	PORTLAND UA		1.00			03								PSNGR	CAR			01	DRVR	INJC	40	M	OR-Y		000	000	00						
N							45 24 37.35	-122 29 12.19					017400100S00		(03)																									
														02	NONE						02	NONE	0																	
														UN	(NONE)	UNKNOWN					PRVTE													011	00					
														03	NONE						PSNGR	CAR			02	PSNG	INJC	42	F			000	000	00						
														02	NONE																				011	00				
																					PSNGR	CAR			03	PSNG	INJC	48	F			000	000	00						
03165	N	N	N	N	N	N	08/02/2017	CLACKAMAS	1	14				STRGHT		N				01	NONE	0												013	29					
NONE							WE		MN	0				UN	(NONE)	UNKNOWN					PRVTE															000	00			
N							8A	PORTLAND UA		1.00			05								PSNGR	CAR			01	DRVR	INJC	37	F	OR-Y		026	000	000	29					
N							45 24 37.35	-122 29 12.18					017400100S00		(03)																									
														02	NONE																					011	013	00		
														03	NONE																					000	000	00		
																					PSNGR	CAR			01	DRVR	INJC	33	M	OR-Y		000	000	00						
01596	N	N	N	N	N	N	05/10/2018	CLACKAMAS	1	14				STRGHT		N				01	NONE	0														08				
NO RPT							TH		MN	0				UN	(NONE)	UNKNOWN					PRVTE																000	00		
N							3P	PORTLAND UA		1.00			05								PSNGR	CAR			01	DRVR	INJA	45	F	OR-Y		008	000	000	08					
N							45 24 37.35	-122 29 12.19					017400100S00		(03)																									
														02	NONE																						000	000	00	
																																						000	000	00
02428	N	N	N	N	N	N	07/13/2018	CLACKAMAS	1	14				STRGHT		N				01	NONE	9																29		
NO RPT							FR		MN	0				UN	(NONE)	NONE					N/A																	000	00	
N							11A	PORTLAND UA		1.00			05								PSNGR	CAR			01	DRVR	NONE	00	Unk	UNK		000	000	000	00					
N							45 24 37.37	-122 29 12.18					017400100S00		(03)																									
														02	NONE																							006	00	
																					SEMI	TOW			01	DRVR	NONE	00	Unk	UNK		000	000	000	00					
																																						UNK		

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174: CLACKAMAS-BORING

Highway 174 ALL ROAD TYPES, MP 0.03 to 1.10 01/02/2017 to 12/31/2021, Both Add and Non-Add mileage

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Highway 174 ALL ROAD TYPES, MP 0.03 to 1.10 01/02/2017 to 12/31/2021, Both Add and Non-Add mileage

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Highway 174 ALL ROAD TYPES, MP 0.03 to 1.10 01/02/2017 to 12/31/2021, Both Add and Non-Add mileage

TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT

CONTINUOUS SYSTEM CRASH LISTING

174: CLACKAMAS-BORING

Highway 174 ALL ROAD TYPES, MP 0.03 to 1.10 01/02/2017 to 12/31/2021, Both Add and Non-Add mileage

96 - 97 of 97 Crash records shown.

SER#	P	R	J	S	W	DATE	COUNTY	RD#	FC	CONN#	RD CHAR	INT-TYPE	SPCL USE	TRLR	QTY	MOVE	A	S	INJ	G	E	LICNS	PED	ERROR	ACT	EVENT	CAUSE							
INVEST	E	A	U	I	C	O	CITY	COMPNT	FIRST	STREET	DIRECT	(MEDIAN)	INT-REL	OFFRD	WTHR	CRASH	OWNER	FROM	PRTC	INJ	G	E	LICNS	PED	ERROR	ACT	EVENT	CAUSE						
RD DPT	E	L	G	N	H	R	URBAN AREA	MLG	TYP	SECOND	STREET	LOCTN	LEGS	TRAF-	RNDBT	SURF	COLL	OWNER	FROM	PRTC	INJ	G	E	LICNS	PED	ERROR	ACT	EVENT	CAUSE					
UNLOC?	D	C	S	V	L	K	LONG	MILEPNT	LRS			(#LANES)	CONTL	DRVWY	LIGHT	SVRTY	V#	TYPE	TO	P#	TYPE	SVRTY	E	X	RES	LOC	ERROR	ACT	EVENT	CAUSE				
														02	NONE	9	STOP																	
														N/A			E -W														011	00		
														PSNGR	CAR				01	DRVR	NONE	00	Unk	UNK						000	000	00		
01551	N	N	N	N		06/16/2020	CLACKAMAS	1	14		STRGHT	N		N	RAIN	S-STRGHT	01	NONE	0													29		
NO RPT						TU					UN	(NONE)	NONE	N	WET	REAR		PRVTE													000	00		
N						1P	PORTLAND UA		1.09		05			N	DAY	INJ		PSNGR	CAR		01	DRVR	NONE	19	M	OR-Y			042	000	29			
N						45 24 37.38	-122 29 5.92			017400100S00		(02)																						
														02	NONE	0	STRGHT																	
																	E -W														006	00		
																			01	DRVR	NONE	59	M	OR-Y					000	000	00	00		
														02	NONE	0	STRGHT																	
																	E -W														006	00		
																			02	PSNG	INJC	55	F						000	000	00	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.

174: CLACKAMAS-BORING

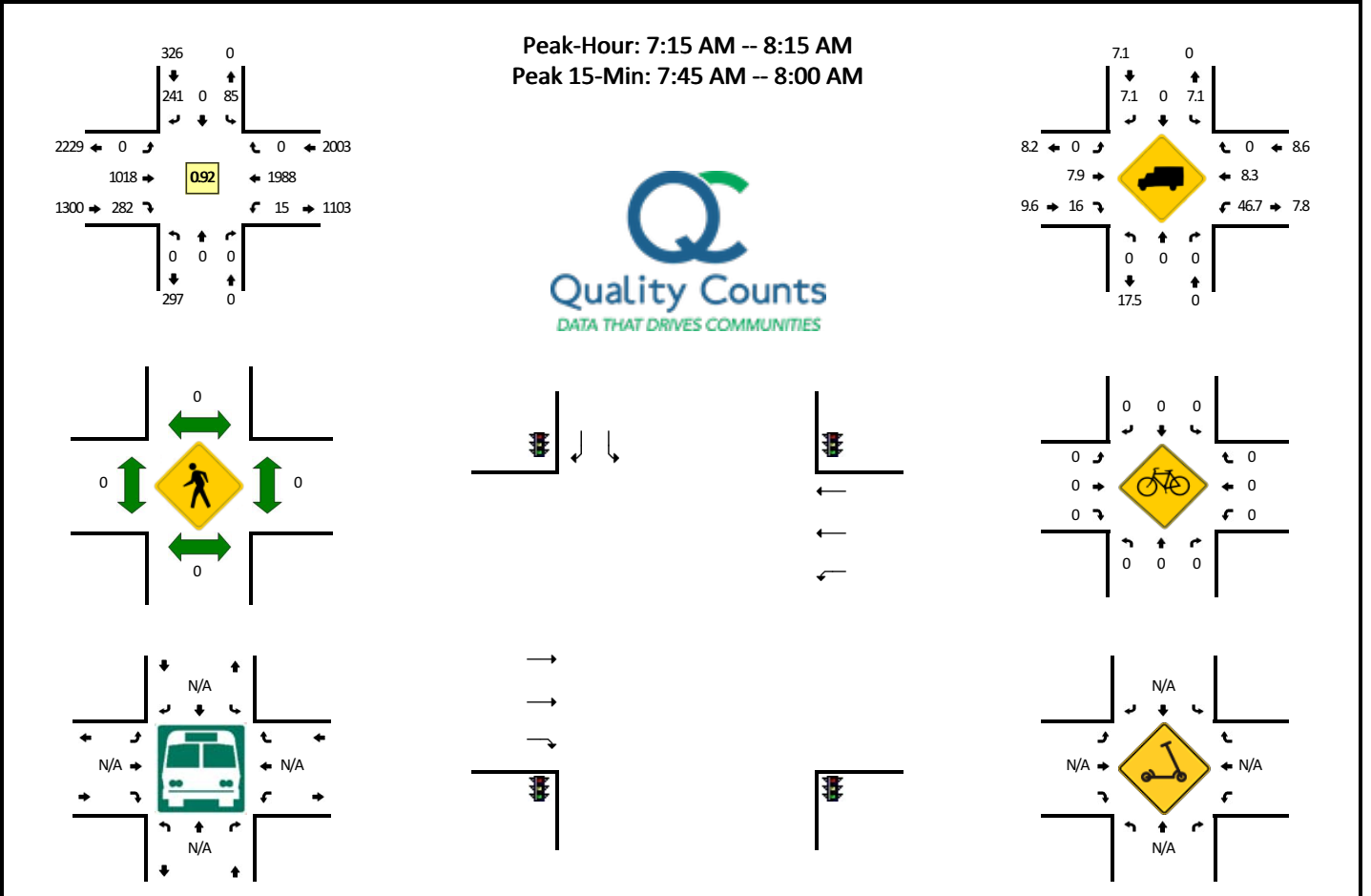
Highway 174 ALL ROAD TYPES, MP 0.03 to 1.10 01/02/2017 to 12/31/2021, Both Add and Non-Add mileage

Appendix B

Intersection Turning Movement Counts

LOCATION: OR-213 SB Ramps -- OR-224
CITY/STATE: Oatfield, OR

QC JOB #: 16101919
DATE: Tue, May 16 2023

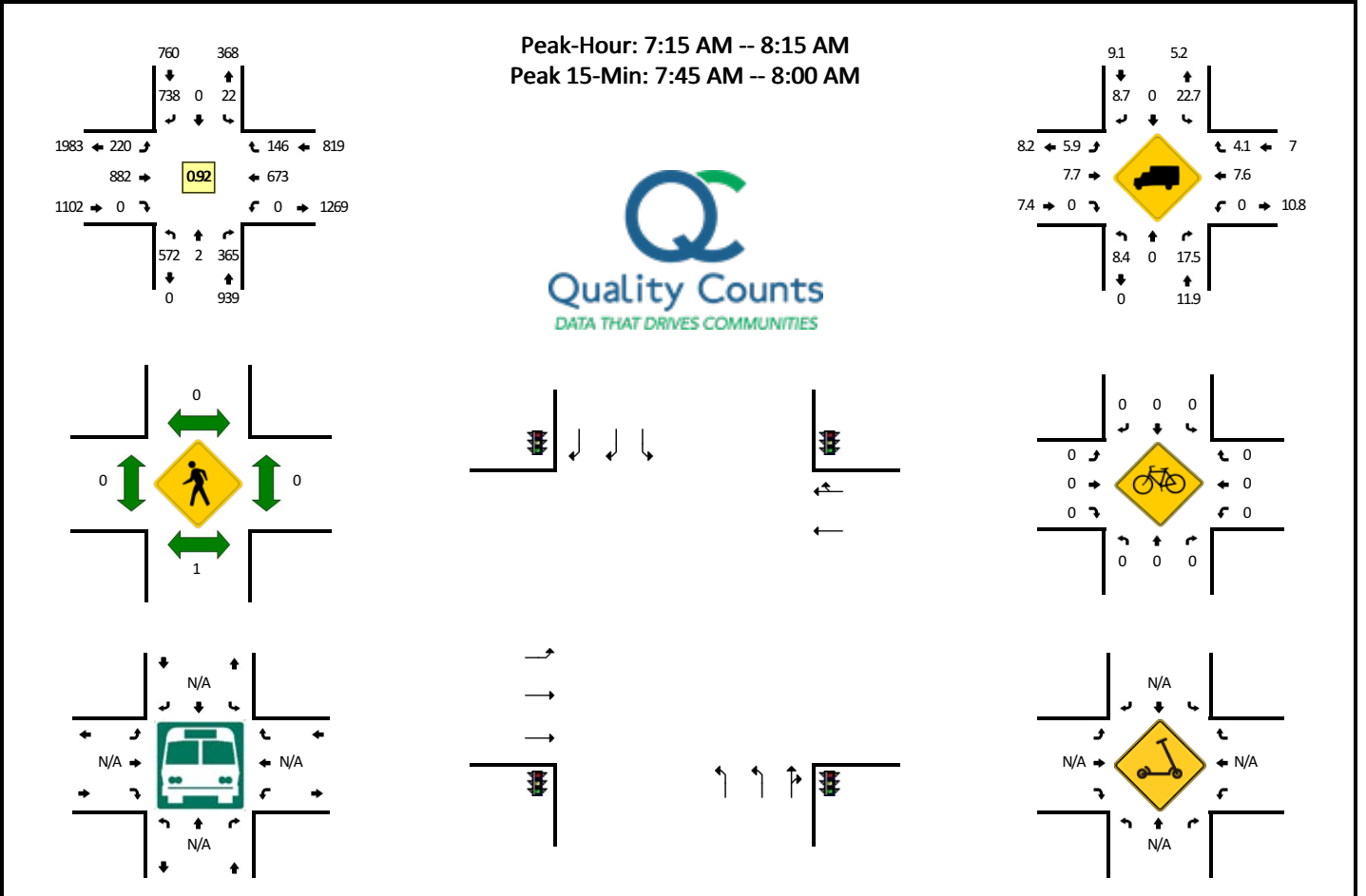


5-Min Count Period Beginning At	OR-213 SB Ramps (Northbound)				OR-213 SB Ramps (Southbound)				OR-224 (Eastbound)				OR-224 (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	0	0	0	6	0	16	0	0	55	10	0	0	120	0	0	207	
7:05 AM	0	0	0	0	6	0	12	0	0	64	18	0	0	185	0	0	285	
7:10 AM	0	0	0	0	10	0	19	0	0	48	15	0	0	142	0	0	234	
7:15 AM	0	0	0	0	3	0	17	0	0	109	15	0	2	163	0	0	309	
7:20 AM	0	0	0	0	7	0	19	0	0	63	24	0	1	160	0	0	274	
7:25 AM	0	0	0	0	7	0	23	0	0	97	30	0	1	172	0	0	330	
7:30 AM	0	0	0	0	7	0	21	0	0	60	20	0	2	153	0	0	263	
7:35 AM	0	0	0	0	5	0	13	0	0	85	24	0	1	179	0	0	307	
7:40 AM	0	0	0	0	10	0	26	0	0	77	26	0	0	166	0	0	305	
7:45 AM	0	0	0	0	3	0	19	0	0	102	34	0	2	171	0	0	331	
7:50 AM	0	0	0	0	12	0	29	0	0	94	25	0	0	171	0	0	331	
7:55 AM	0	0	0	0	5	0	19	0	0	108	17	0	2	171	0	0	322	3498
8:00 AM	0	0	0	0	6	0	11	0	0	65	19	0	2	147	0	0	250	3541
8:05 AM	0	0	0	0	10	0	17	0	0	90	29	0	2	167	0	0	315	3571
8:10 AM	0	0	0	0	10	0	27	0	0	68	19	0	0	168	0	0	292	3629
8:15 AM	0	0	0	0	5	0	21	0	0	81	24	0	1	140	0	0	272	3592
8:20 AM	0	0	0	0	9	0	24	0	0	75	23	0	0	142	0	0	273	3591
8:25 AM	0	0	0	0	4	0	12	0	0	78	33	0	1	115	0	0	243	3504
8:30 AM	0	0	0	0	5	0	22	0	0	62	15	0	5	113	0	0	222	3463
8:35 AM	0	0	0	0	2	0	15	0	0	88	34	0	0	150	0	0	289	3445
8:40 AM	0	0	0	0	7	0	21	0	0	79	18	0	0	143	0	0	268	3408
8:45 AM	0	0	0	0	7	0	26	0	0	102	27	0	0	122	0	0	284	3361
8:50 AM	0	0	0	0	6	0	26	0	0	53	21	0	0	117	0	0	223	3253
8:55 AM	0	0	0	0	3	0	16	0	0	89	27	0	0	130	0	0	265	3196
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	0	0	80	0	268	0	0	1216	304	0	16	2052	0	0	3936	
Heavy Trucks	0	0	0	0	12	0	16	0	0	96	44	0	8	164	0	0	340	
Buses																		
Pedestrians		0				0				0				0			0	
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0	
Scoters																		

Comments:

LOCATION: OR-213 NB Ramps/I-205 SB Off Ramp -- OR-224
CITY/STATE: Clackamas, OR

QC JOB #: 16101913
DATE: Tue, May 16 2023

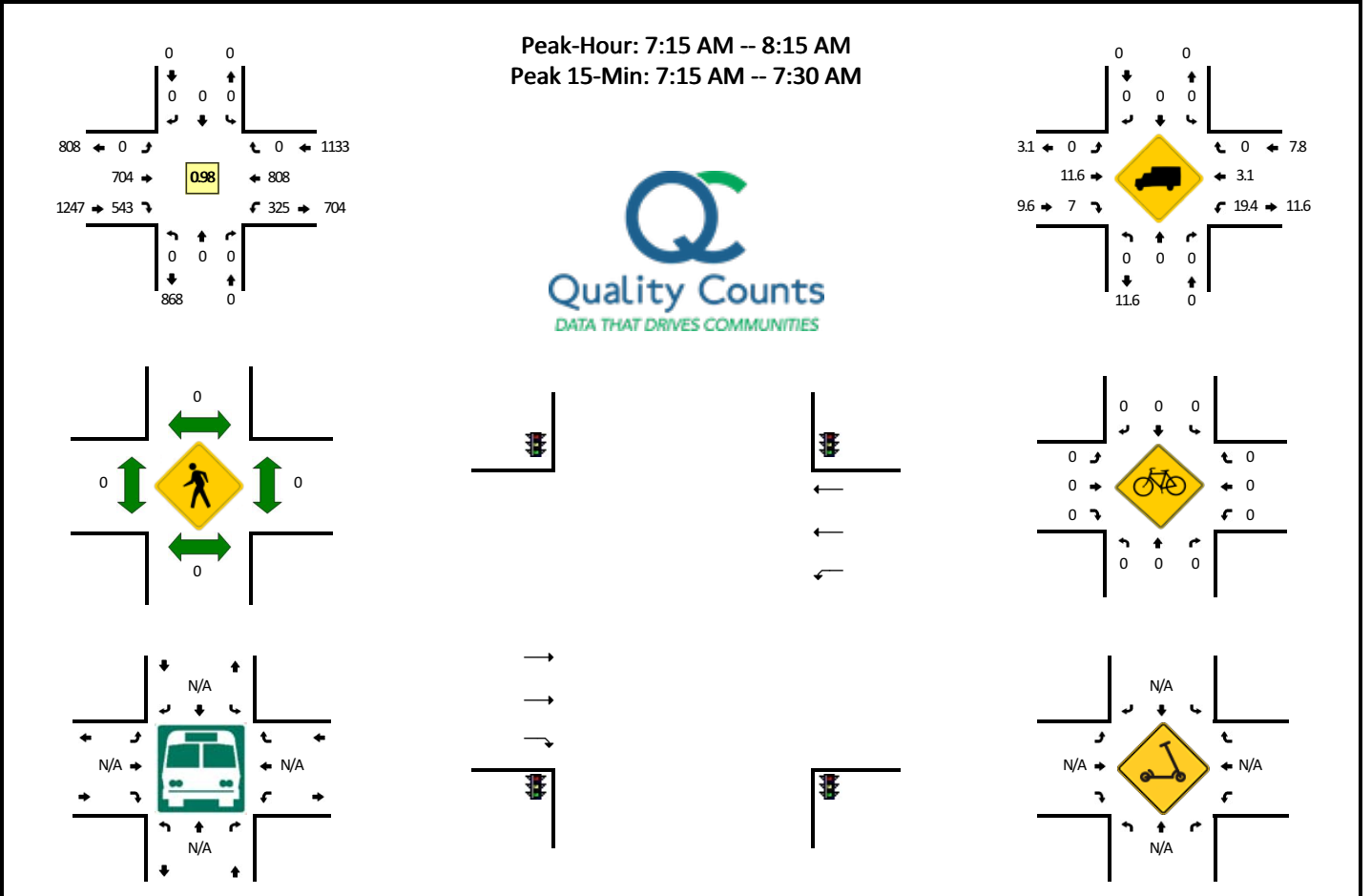


5-Min Count Period Beginning At	OR-213 NB Ramps/I-205 SB Off Ramp (Northbound)				OR-213 NB Ramps/I-205 SB Off Ramp (Southbound)				OR-224 (Eastbound)				OR-224 (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	32	0	26	0	2	0	40	0	6	53	0	0	0	59	8	0	226	
7:05 AM	32	0	21	0	1	0	65	0	12	60	0	0	0	70	6	0	267	
7:10 AM	40	0	26	0	0	0	39	0	7	47	0	0	0	75	6	0	240	
7:15 AM	36	0	10	0	2	0	65	0	17	99	0	0	0	54	7	0	290	
7:20 AM	38	0	37	0	2	0	59	0	10	55	0	0	0	73	11	0	285	
7:25 AM	41	0	32	0	1	0	80	0	23	86	0	0	0	51	12	0	326	
7:30 AM	51	0	36	0	1	0	44	0	10	54	0	0	0	54	11	0	261	
7:35 AM	36	0	29	0	0	0	64	0	10	80	0	0	0	70	11	0	300	
7:40 AM	56	0	32	0	2	0	45	0	18	70	0	0	0	69	13	0	305	
7:45 AM	47	0	35	0	3	0	72	0	25	78	0	0	0	42	12	0	314	
7:50 AM	70	0	36	0	5	0	60	0	21	88	0	0	0	51	9	0	340	
7:55 AM	35	1	38	0	2	0	74	0	33	82	0	0	0	54	9	0	328	3482
8:00 AM	58	1	28	0	1	0	42	0	11	53	0	0	0	58	18	0	270	3526
8:05 AM	43	0	27	0	2	0	77	0	24	78	0	0	0	41	14	0	306	3565
8:10 AM	61	0	25	0	1	0	56	0	18	59	0	0	0	56	19	0	295	3620
8:15 AM	40	0	28	0	2	0	54	0	28	64	0	0	0	33	6	0	255	3585
8:20 AM	48	0	32	0	1	0	36	0	21	57	0	0	0	61	12	0	268	3568
8:25 AM	25	0	16	0	0	0	49	0	24	68	0	0	0	36	9	0	227	3469
8:30 AM	47	0	36	0	3	0	26	0	8	56	0	0	0	45	10	0	231	3439
8:35 AM	31	0	34	0	2	0	63	0	26	68	0	0	0	47	13	0	284	3423
8:40 AM	57	0	35	0	2	0	41	0	22	62	0	0	0	47	13	0	279	3397
8:45 AM	36	0	31	0	1	0	47	0	20	84	0	0	0	33	14	0	266	3349
8:50 AM	54	0	29	0	3	0	34	0	14	48	0	0	0	32	16	0	230	3239
8:55 AM	21	1	28	0	0	0	59	0	28	68	0	0	0	43	25	0	273	3184
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	608	4	436	0	40	0	824	0	316	992	0	0	0	588	120	0	3928	
Heavy Trucks	44	0	80		8	0	80		8	100	0		0	36	0		356	
Buses																		
Pedestrians		0				0				0				0			0	
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0	
Scoters																		

Comments:

LOCATION: I-205 NB Ramp -- OR-224
CITY/STATE: Clackamas, OR

QC JOB #: 16101911
DATE: Tue, May 16 2023

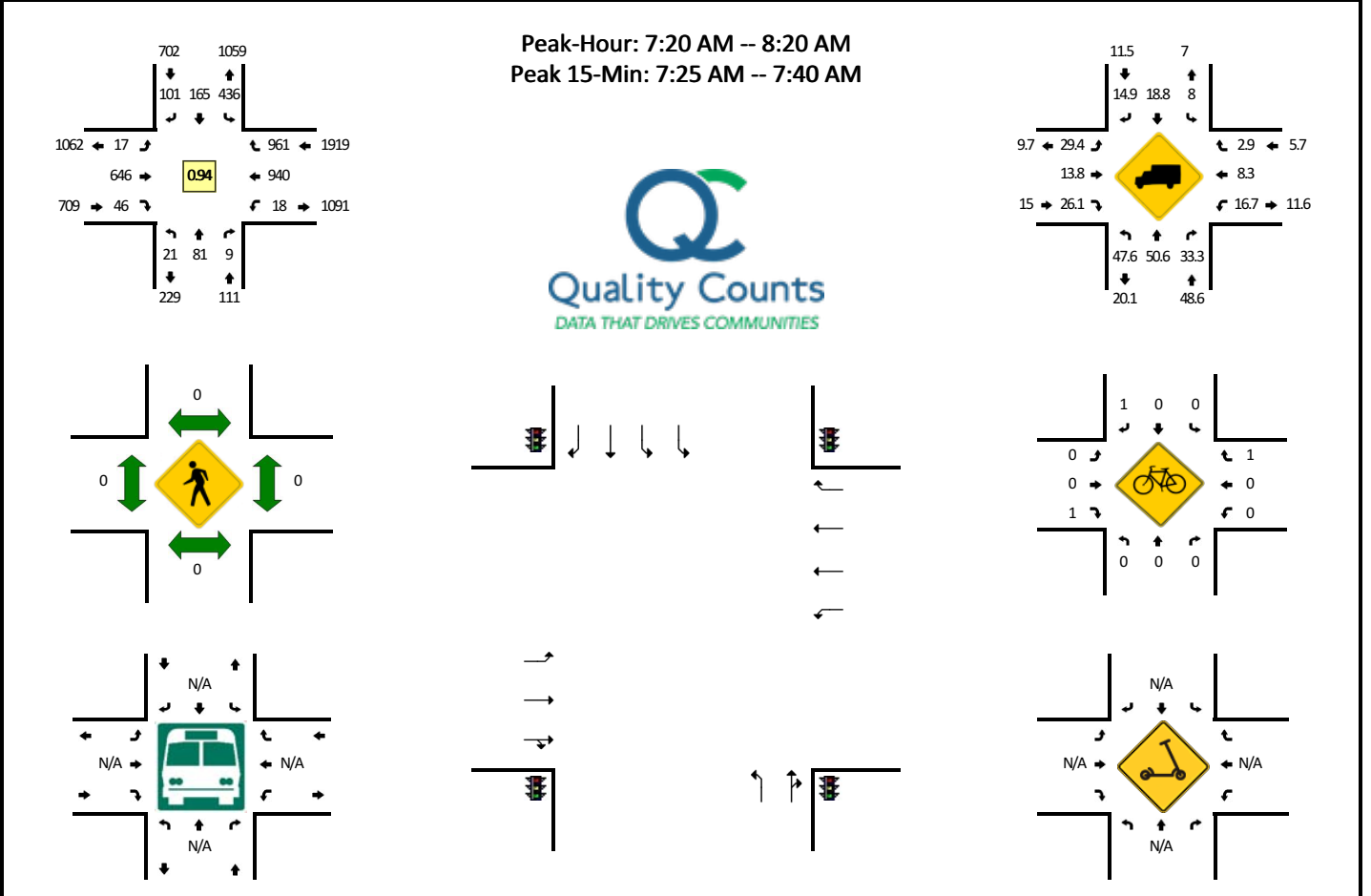


5-Min Count Period Beginning At	I-205 NB Ramp (Northbound)				I-205 NB Ramp (Southbound)				OR-224 (Eastbound)				OR-224 (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	0	0	0	0	0	0	0	0	44	33	0	27	69	0	0	173	
7:05 AM	0	0	0	0	0	0	0	0	0	41	36	0	26	76	0	0	179	
7:10 AM	0	0	0	0	0	0	0	0	0	44	38	0	29	67	0	0	178	
7:15 AM	0	0	0	0	0	0	0	0	0	46	52	0	43	71	0	0	212	
7:20 AM	0	0	0	0	0	0	0	0	0	52	42	0	36	77	0	0	207	
7:25 AM	0	0	0	0	0	0	0	0	0	64	44	0	20	63	0	0	191	
7:30 AM	0	0	0	0	0	0	0	0	0	53	47	0	36	70	0	0	206	
7:35 AM	0	0	0	0	0	0	0	0	0	61	34	0	19	84	0	0	198	
7:40 AM	0	0	0	0	0	0	0	0	0	60	47	0	23	64	0	0	194	
7:45 AM	0	0	0	0	0	0	0	0	0	60	47	0	15	62	0	0	184	
7:50 AM	0	0	0	0	0	0	0	0	0	76	48	0	37	56	0	0	217	
7:55 AM	0	0	0	0	0	0	0	0	0	73	48	0	16	62	0	0	199	2338
8:00 AM	0	0	0	0	0	0	0	0	0	54	43	0	23	64	0	0	184	2349
8:05 AM	0	0	0	0	0	0	0	0	0	55	44	0	29	71	0	0	199	2369
8:10 AM	0	0	0	0	0	0	0	0	0	50	47	0	28	64	0	0	189	2380
8:15 AM	0	0	0	0	0	0	0	0	0	50	44	0	29	50	0	0	173	2341
8:20 AM	0	0	0	0	0	0	0	0	0	52	34	0	24	60	0	0	170	2304
8:25 AM	0	0	0	0	0	0	0	0	0	53	37	0	31	59	0	0	180	2293
8:30 AM	0	0	0	0	0	0	0	0	0	53	36	0	24	43	0	0	156	2243
8:35 AM	0	0	0	0	0	0	0	0	0	62	37	0	24	55	0	0	178	2223
8:40 AM	0	0	0	0	0	0	0	0	0	60	38	0	24	61	0	0	183	2212
8:45 AM	0	0	0	0	0	0	0	0	0	67	43	0	28	49	0	0	187	2215
8:50 AM	0	0	0	0	0	0	0	0	0	49	36	0	23	53	0	0	161	2159
8:55 AM	0	0	0	0	0	0	0	0	0	52	34	0	29	61	0	0	176	2136
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	0	0	0	0	0	0	0	648	552	0	396	844	0	0	2440	
Heavy Trucks	0	0	0	0	0	0	0	0	0	68	28	0	60	28	0	0	184	
Buses																		
Pedestrians		0				0				0				0			0	
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0	
Scoters																		

Comments:

LOCATION: OR-224/SE 122nd Ave -- OR-212
CITY/STATE: Happy Valley, OR

QC JOB #: 16101901
DATE: Tue, May 16 2023

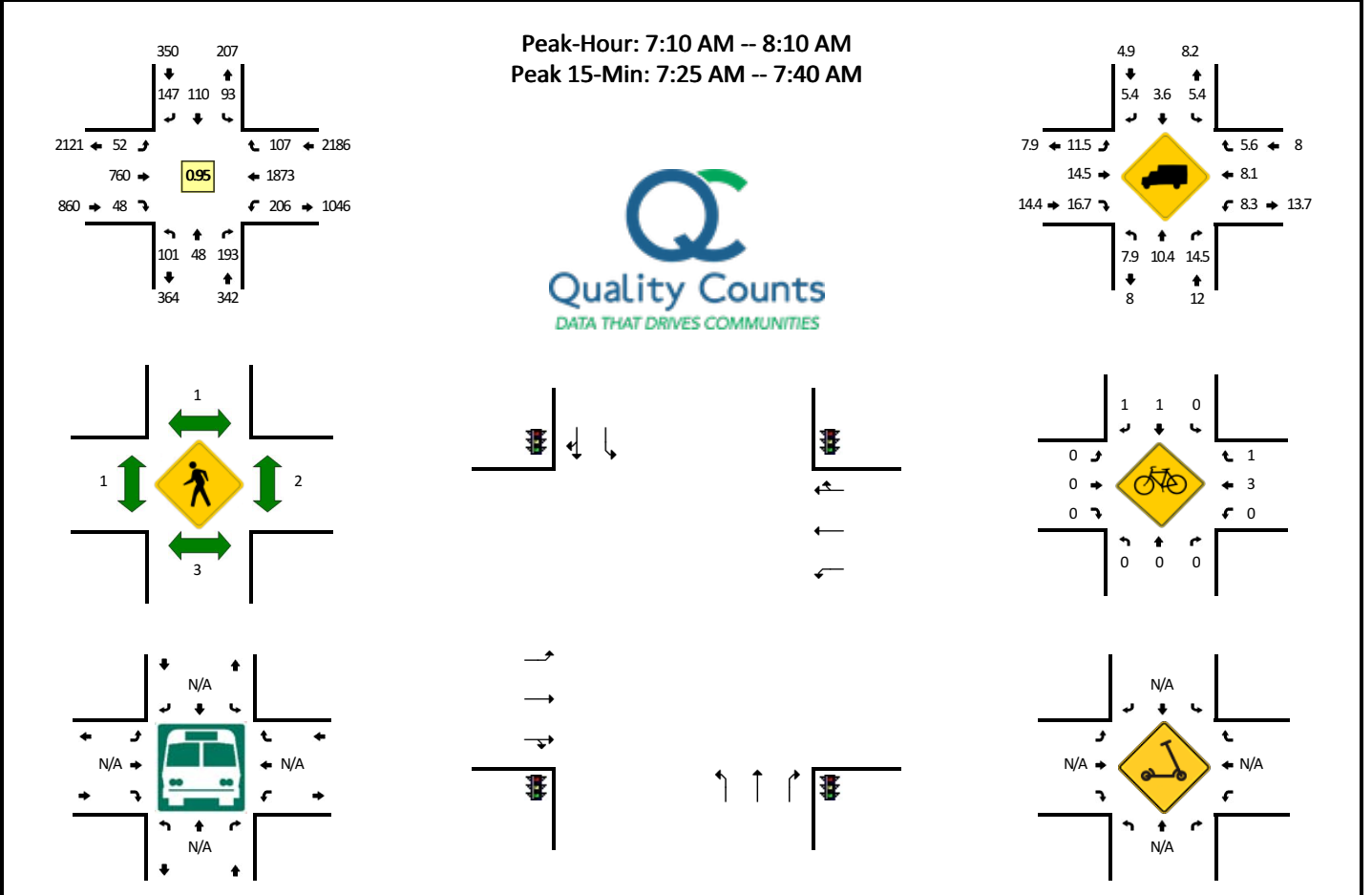


5-Min Count Period Beginning At	OR-224/SE 122nd Ave (Northbound)				OR-224/SE 122nd Ave (Southbound)				OR-212 (Eastbound)				OR-212 (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	1	4	0	0	35	22	3	0	2	52	4	0	1	70	97	0	291	
7:05 AM	2	6	4	0	24	9	6	0	1	34	2	0	1	62	98	0	249	
7:10 AM	3	2	0	0	26	5	5	0	2	46	6	0	0	90	97	0	282	
7:15 AM	1	7	2	0	25	15	7	0	4	45	3	0	1	67	102	0	279	
7:20 AM	4	5	0	0	32	7	4	0	0	47	2	0	0	53	84	0	238	
7:25 AM	1	6	1	0	29	17	11	0	2	67	7	0	3	94	77	0	315	
7:30 AM	1	5	0	0	39	12	8	0	3	59	6	0	0	74	101	0	308	
7:35 AM	2	4	0	0	36	13	9	0	0	65	4	0	1	67	94	0	295	
7:40 AM	3	7	2	0	41	9	6	0	1	46	3	0	3	92	76	0	289	
7:45 AM	2	3	1	0	31	13	10	0	1	55	4	0	3	87	75	0	285	
7:50 AM	2	6	0	0	37	14	8	0	2	58	1	0	0	72	74	0	274	
7:55 AM	0	7	1	0	46	28	12	0	0	32	3	0	1	74	62	0	266	3371
8:00 AM	1	8	1	0	31	21	9	0	3	44	4	0	3	87	88	0	300	3380
8:05 AM	1	12	1	0	40	8	11	0	2	62	4	0	0	84	71	0	296	3427
8:10 AM	2	10	1	0	45	12	9	0	2	58	4	0	3	73	74	0	293	3438
8:15 AM	2	8	1	0	29	11	4	0	1	53	4	0	1	83	85	0	282	3441
8:20 AM	1	6	1	0	27	14	10	0	1	50	5	0	0	52	48	0	215	3418
8:25 AM	3	4	1	0	39	11	5	0	2	52	3	0	0	58	80	0	258	3361
8:30 AM	1	6	1	0	27	11	2	0	0	42	3	0	0	79	72	0	244	3297
8:35 AM	2	2	1	0	35	8	9	0	1	64	2	0	1	59	75	0	259	3261
8:40 AM	3	8	1	0	29	10	8	0	1	46	2	0	0	73	66	0	247	3219
8:45 AM	4	7	1	0	45	14	8	0	2	58	5	0	5	51	67	0	267	3201
8:50 AM	1	10	1	0	34	9	14	0	1	62	0	0	2	71	78	0	283	3210
8:55 AM	2	10	2	0	27	9	7	0	4	49	4	0	0	62	63	0	239	3183
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	16	60	4	0	416	168	112	0	20	764	68	0	16	940	1088	0	3672	
Heavy Trucks	8	36	0		40	36	12		8	88	16		8	84	16		352	
Buses																		
Pedestrians		0				0				0				0			0	
Bicycles	0	0	0		0	0	4		0	0	0		0	0	4		8	
Scoters																		

Comments:

LOCATION: SE 135th Ave -- OR-212
CITY/STATE: Happy Valley, OR

QC JOB #: 16101903
DATE: Tue, May 16 2023

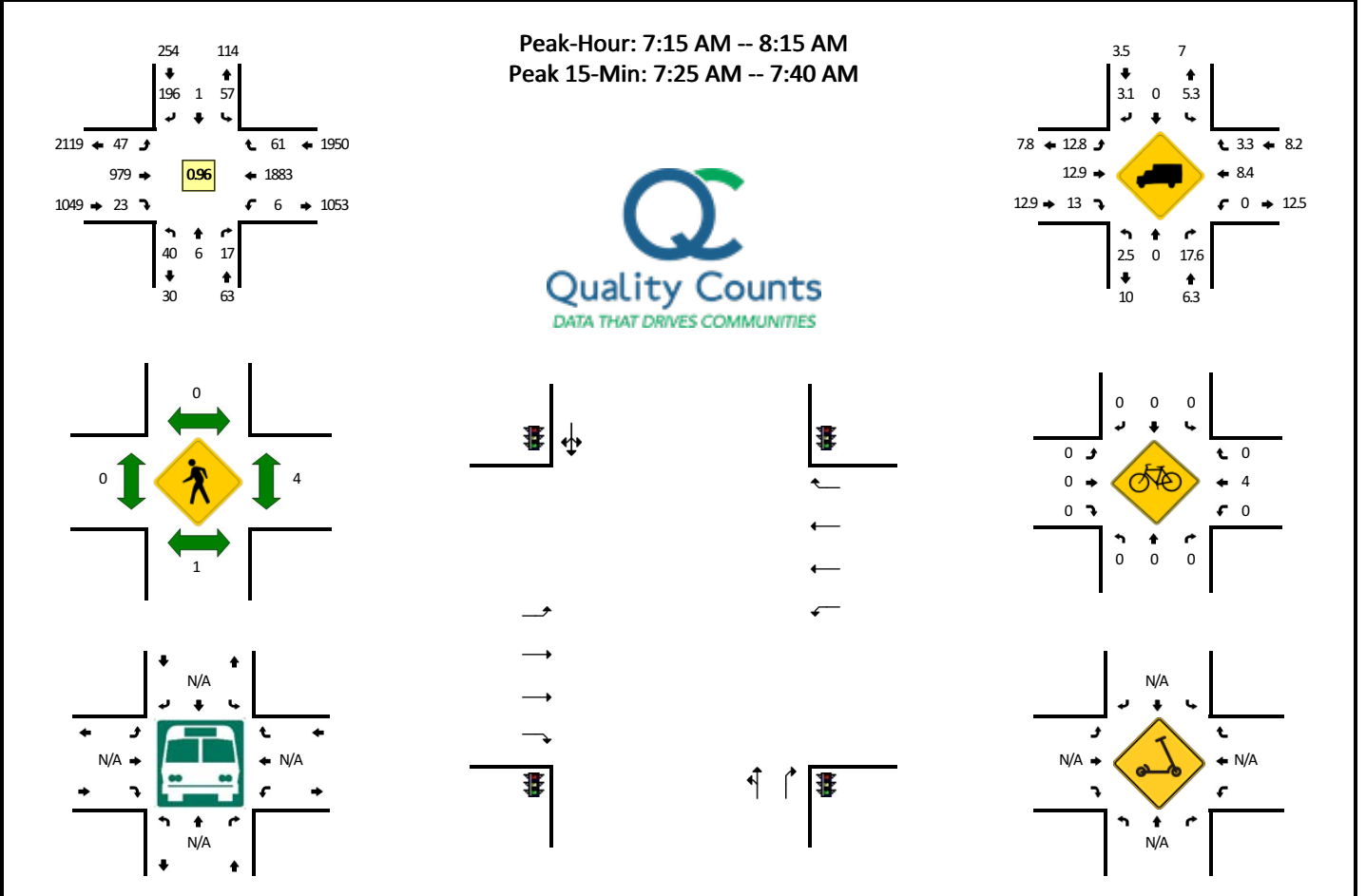


5-Min Count Period Beginning At	SE 135th Ave (Northbound)				SE 135th Ave (Southbound)				OR-212 (Eastbound)				OR-212 (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	8	7	11	0	3	12	16	0	3	61	2	0	17	156	3	0	299	
7:05 AM	9	6	13	0	4	5	10	0	4	39	1	0	27	155	11	0	284	
7:10 AM	14	3	9	0	7	5	8	0	2	60	4	0	17	172	10	0	311	
7:15 AM	7	2	18	0	8	8	9	0	4	53	0	0	17	179	9	0	314	
7:20 AM	6	6	12	0	6	8	20	0	6	45	1	0	21	129	9	0	269	
7:25 AM	8	6	13	0	2	7	12	0	3	72	3	0	18	175	6	0	325	
7:30 AM	6	4	25	0	10	9	14	0	5	76	3	0	18	173	10	0	353	
7:35 AM	10	6	17	0	8	10	16	0	5	63	6	0	17	141	2	0	301	
7:40 AM	6	0	12	0	8	8	7	0	10	69	7	0	22	148	9	0	306	
7:45 AM	4	4	19	0	6	8	12	0	2	70	6	0	15	170	10	0	326	
7:50 AM	9	4	17	0	13	15	14	0	6	52	8	0	16	137	11	0	302	
7:55 AM	15	3	17	0	8	11	8	0	4	62	4	0	21	147	7	0	307	3697
8:00 AM	14	5	17	0	8	3	13	0	5	70	3	0	13	146	11	0	308	3706
8:05 AM	2	5	17	0	9	18	14	0	0	68	3	0	11	156	13	0	316	3738
8:10 AM	10	3	12	0	5	5	10	0	7	76	4	0	22	115	16	0	285	3712
8:15 AM	7	5	23	0	6	9	9	0	4	96	3	0	16	136	15	0	329	3727
8:20 AM	8	4	16	0	5	4	10	0	7	44	4	0	16	118	19	0	255	3713
8:25 AM	18	8	18	0	9	5	11	0	5	60	5	0	19	94	17	0	269	3657
8:30 AM	6	1	23	0	9	9	14	0	5	56	3	0	21	128	12	0	287	3591
8:35 AM	11	7	20	0	6	6	7	0	3	69	10	0	12	142	9	0	302	3592
8:40 AM	8	7	20	0	9	8	11	0	10	67	5	0	10	114	11	0	280	3566
8:45 AM	7	4	15	0	5	5	14	0	7	63	4	0	21	122	8	0	275	3515
8:50 AM	8	4	14	0	7	7	11	0	4	105	1	0	13	143	7	0	324	3537
8:55 AM	7	6	18	0	7	8	16	0	5	64	2	0	15	99	11	0	258	3488
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	96	64	220	0	80	104	168	0	52	844	48	0	212	1956	72	0	3916	
Heavy Trucks	8	4	28		4	0	4		8	104	0		0	172	4		336	
Buses																		
Pedestrians		0				4				4				4			12	
Bicycles	0	0	0		0	0	0		0	0	0		0	4	0		4	
Scoters																		

Comments:

LOCATION: SE 142nd Ave -- OR-212
CITY/STATE: Happy Valley, OR

QC JOB #: 16101905
DATE: Tue, May 16 2023

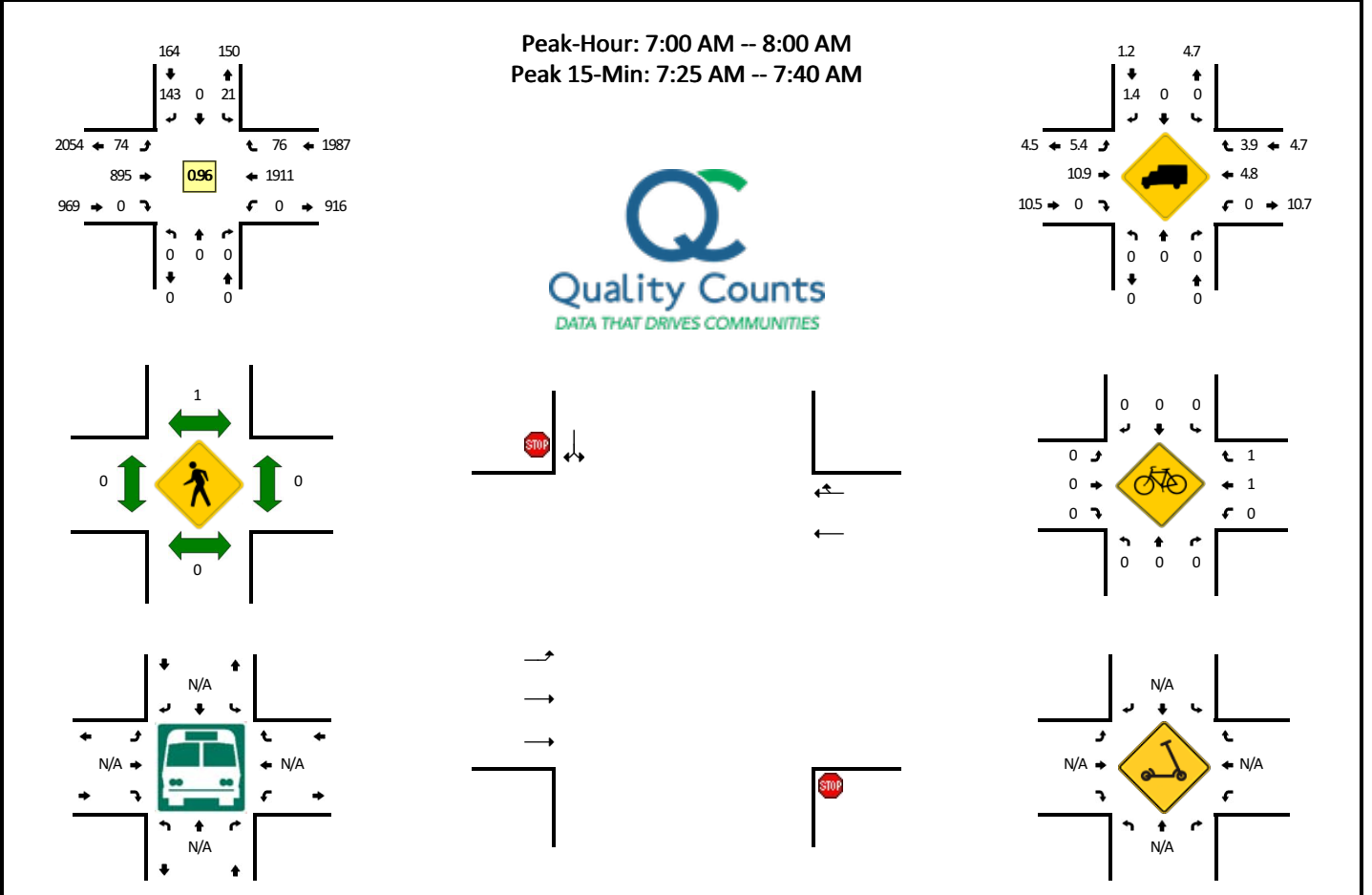


5-Min Count Period Beginning At	SE 142nd Ave (Northbound)				SE 142nd Ave (Southbound)				OR-212 (Eastbound)				OR-212 (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	3	0	2	0	1	0	16	0	3	85	1	0	0	177	4	0	292	
7:05 AM	4	2	0	0	0	0	11	0	2	56	0	0	0	172	4	0	251	
7:10 AM	1	0	1	1	2	0	15	0	3	50	2	0	0	172	7	0	254	
7:15 AM	8	0	2	0	3	0	11	0	4	84	2	0	0	166	4	0	284	
7:20 AM	3	0	3	0	5	0	12	0	2	58	2	0	0	178	4	0	267	
7:25 AM	3	1	1	0	2	0	15	0	3	63	1	0	0	168	5	0	262	
7:30 AM	2	0	0	0	5	0	19	0	4	94	2	0	0	168	7	0	301	
7:35 AM	1	0	1	0	3	1	9	0	2	105	2	0	1	166	7	0	298	
7:40 AM	1	0	3	0	3	0	16	0	4	71	0	0	1	157	1	0	257	
7:45 AM	6	3	1	0	6	0	26	0	4	81	4	0	0	144	2	0	277	
7:50 AM	6	0	0	0	10	0	16	0	5	75	3	0	1	154	6	0	276	
7:55 AM	4	0	0	0	5	0	13	0	2	91	0	0	2	164	6	0	287	3306
8:00 AM	1	2	1	0	5	0	20	0	6	63	2	0	1	141	10	0	252	3266
8:05 AM	3	0	2	0	5	0	21	0	7	112	3	0	0	129	5	0	287	3302
8:10 AM	2	0	3	0	5	0	18	0	4	82	2	0	0	148	4	0	268	3316
8:15 AM	8	1	3	0	7	0	21	0	8	90	1	0	1	106	9	0	255	3287
8:20 AM	3	1	0	0	5	0	17	0	3	81	2	0	0	144	1	0	257	3277
8:25 AM	3	0	1	0	3	0	16	0	6	84	3	0	1	142	8	0	267	3282
8:30 AM	2	1	1	0	3	0	14	0	4	76	0	0	0	129	1	0	231	3212
8:35 AM	3	0	1	0	3	0	16	0	5	92	2	0	0	122	3	0	247	3161
8:40 AM	4	0	4	0	5	0	13	0	6	86	0	0	1	130	6	0	255	3159
8:45 AM	3	0	0	0	3	0	10	0	3	77	5	0	0	153	5	0	259	3141
8:50 AM	8	0	1	0	4	0	13	0	3	96	2	0	0	116	11	0	254	3119
8:55 AM	3	1	4	0	3	0	10	0	7	97	5	0	1	117	3	0	251	3083
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	24	4	8	0	40	4	172	0	36	1048	20	0	4	2008	76	0	3444	
Heavy Trucks	0	0	0		4	0	8		4	120	0		0	172	4		312	
Buses																		
Pedestrians		0				0				0				4			4	
Bicycles	0	0	0		0	0	0		0	0	0		0	4	0		4	
Scoters																		

Comments:

LOCATION: SE 152nd Ave -- OR-212
CITY/STATE: Happy Valley, OR

QC JOB #: 16101909
DATE: Tue, May 16 2023

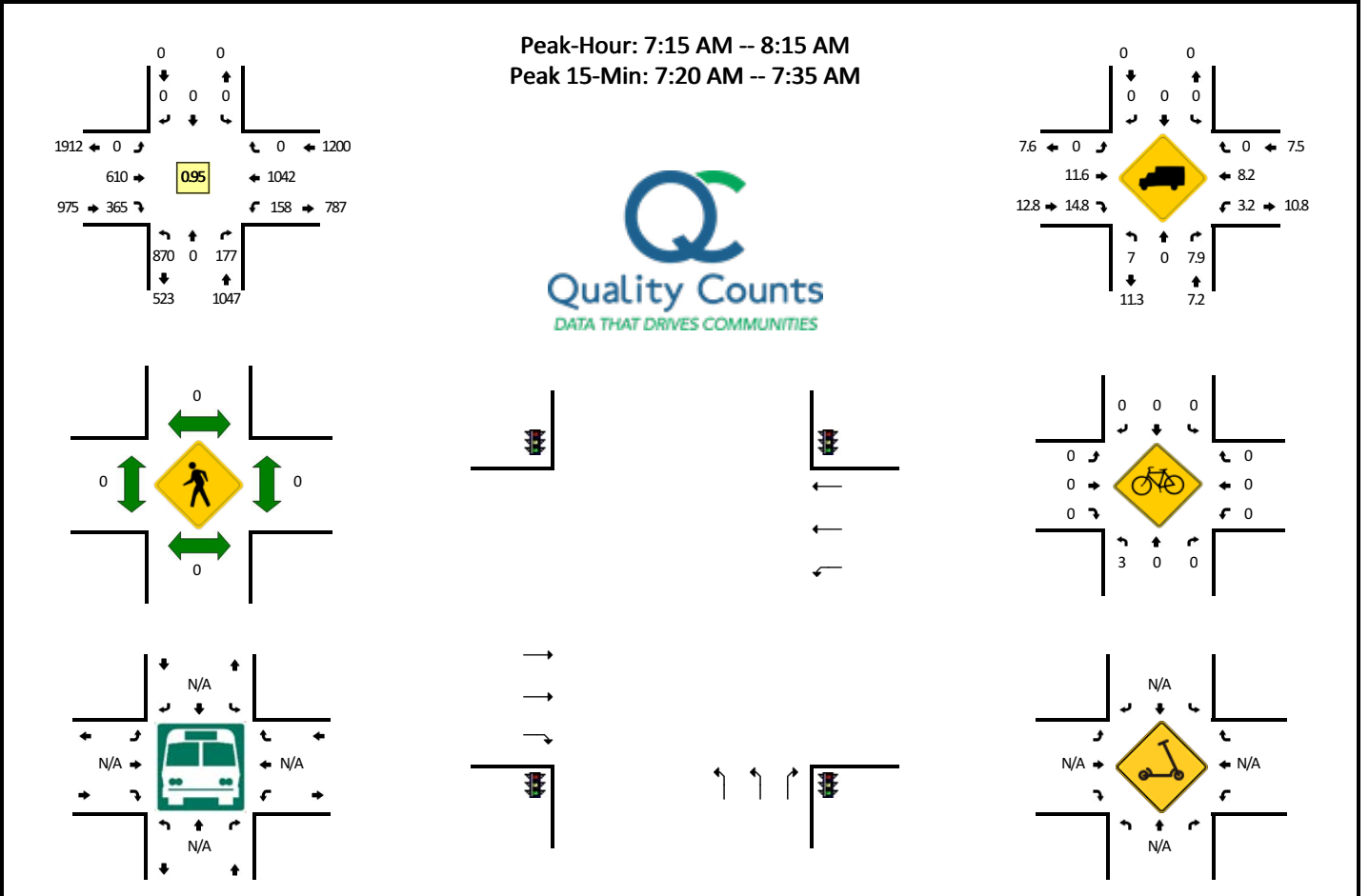


5-Min Count Period Beginning At	SE 152nd Ave (Northbound)				SE 152nd Ave (Southbound)				OR-212 (Eastbound)				OR-212 (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	0	0	0	1	0	11	0	4	70	0	0	0	170	5	0	261	
7:05 AM	0	0	0	0	1	0	11	0	7	68	0	0	0	151	4	0	242	
7:10 AM	0	0	0	0	1	0	13	0	4	52	0	0	0	157	0	0	227	
7:15 AM	0	0	0	0	2	0	17	0	4	74	0	0	0	165	10	0	272	
7:20 AM	0	0	0	0	3	0	15	0	5	74	0	0	0	169	5	0	271	
7:25 AM	0	0	0	0	2	0	13	0	3	62	0	0	0	171	7	0	258	
7:30 AM	0	0	0	0	1	0	16	0	8	78	0	0	0	160	15	0	278	
7:35 AM	0	0	0	0	4	0	7	0	8	104	0	0	0	146	5	0	274	
7:40 AM	0	0	0	0	1	0	10	0	8	76	0	0	0	149	3	0	247	
7:45 AM	0	0	0	0	4	0	10	0	5	74	0	0	0	168	2	0	263	
7:50 AM	0	0	0	0	1	0	14	0	7	62	0	0	0	155	7	0	246	
7:55 AM	0	0	0	0	0	0	6	0	11	101	0	0	0	150	13	0	281	3120
8:00 AM	0	0	0	0	2	0	10	0	9	62	0	0	0	131	7	0	221	3080
8:05 AM	0	0	0	0	1	0	5	0	9	98	0	0	0	113	10	0	236	3074
8:10 AM	0	0	0	0	3	0	22	0	7	90	0	0	0	115	5	0	242	3089
8:15 AM	0	0	0	0	2	0	8	0	8	86	0	0	0	124	6	0	234	3051
8:20 AM	0	0	0	0	5	0	15	0	7	68	0	0	0	126	12	0	233	3013
8:25 AM	0	0	0	0	3	0	18	0	6	93	0	0	0	127	5	0	252	3007
8:30 AM	0	0	0	0	5	0	20	0	9	74	0	0	0	110	1	0	219	2948
8:35 AM	0	0	0	0	4	0	8	0	10	71	0	0	0	132	3	0	228	2902
8:40 AM	0	0	0	0	3	0	8	0	9	99	0	0	0	126	7	0	252	2907
8:45 AM	0	0	0	0	6	0	11	0	7	75	0	0	0	134	6	0	239	2883
8:50 AM	0	0	0	0	3	0	9	0	9	83	0	0	0	135	8	0	247	2884
8:55 AM	0	0	0	0	3	0	9	0	9	98	0	0	0	100	2	0	221	2824
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	0	0	28	0	144	0	76	976	0	0	0	1908	108	0	3240	
Heavy Trucks	0	0	0	0	0	0	4	0	4	96	0	0	0	92	4	0	200	
Buses																	0	
Pedestrians		0				0				0				0			0	
Bicycles	0	0	0		0	0	0		0	0	0		0	4	0		4	
Scoters																		

Comments:

LOCATION: OR-224 -- OR-212
CITY/STATE: Damascus, OR

QC JOB #: 16101907
DATE: Tue, May 16 2023

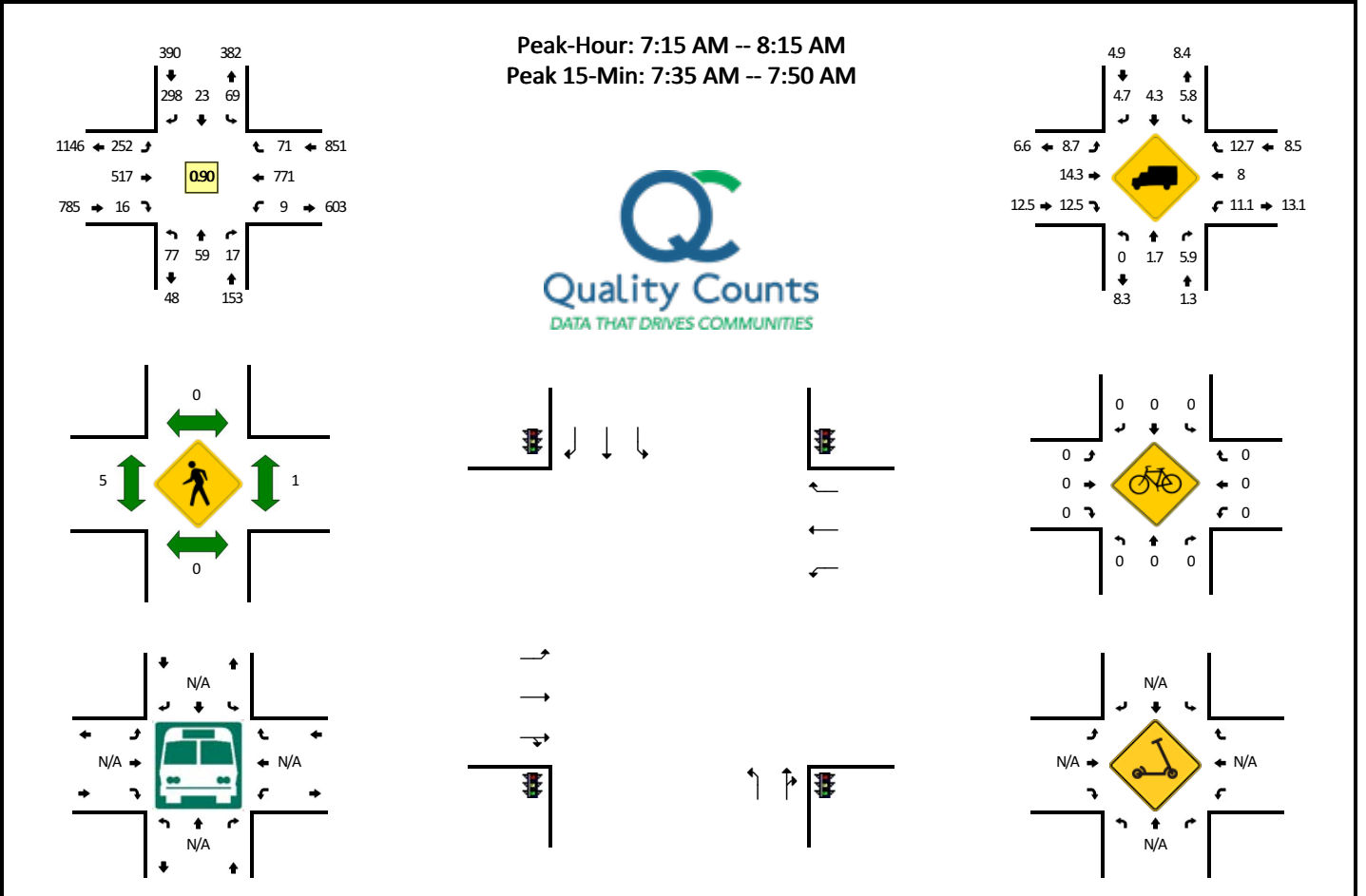


5-Min Count Period Beginning At	OR-224 (Northbound)				OR-224 (Southbound)				OR-212 (Eastbound)				OR-212 (Westbound)				Total	Hourly Totals	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U			
7:00 AM	93	0	4	0	0	0	0	0	0	0	44	27	0	5	76	0	0	249	
7:05 AM	77	0	12	0	0	0	0	0	0	0	33	20	0	8	95	0	0	245	
7:10 AM	70	0	10	0	0	0	0	0	0	0	52	24	0	1	78	0	0	235	
7:15 AM	72	0	16	0	0	0	0	0	0	0	49	28	0	4	97	0	0	266	
7:20 AM	82	0	19	0	0	0	0	0	0	0	47	28	0	17	94	0	0	287	
7:25 AM	100	0	15	0	0	0	0	0	0	0	39	20	0	8	89	0	0	271	
7:30 AM	81	0	25	0	0	0	0	0	0	0	43	36	0	12	95	0	0	292	
7:35 AM	75	0	12	0	0	0	0	0	0	0	57	37	0	23	76	0	0	280	
7:40 AM	61	0	16	0	0	0	0	0	0	0	68	29	0	14	82	0	0	270	
7:45 AM	75	0	7	0	0	0	0	0	0	0	47	34	0	16	97	0	0	276	
7:50 AM	66	0	17	0	0	0	0	0	0	0	34	28	0	21	95	0	0	261	
7:55 AM	69	0	6	0	0	0	0	0	0	0	62	42	0	14	87	0	0	280	3212
8:00 AM	61	0	20	0	0	0	0	0	0	0	42	25	0	10	78	0	0	236	3199
8:05 AM	58	0	13	0	0	0	0	0	0	0	65	26	0	12	67	0	0	241	3195
8:10 AM	70	0	11	0	0	0	0	0	0	0	57	32	0	7	85	0	0	262	3222
8:15 AM	49	0	12	0	0	0	0	0	0	0	71	33	0	14	74	0	0	253	3209
8:20 AM	76	0	19	0	0	0	0	0	0	0	39	37	0	16	62	0	0	249	3171
8:25 AM	63	0	12	0	0	0	0	0	0	0	42	33	0	17	72	0	0	239	3139
8:30 AM	32	0	10	0	0	0	0	0	0	0	64	32	0	13	75	0	0	226	3073
8:35 AM	83	0	19	0	0	0	0	0	0	0	48	22	0	9	60	0	0	241	3034
8:40 AM	61	0	8	0	0	0	0	0	0	0	51	35	0	6	67	0	0	228	2992
8:45 AM	55	0	7	0	0	0	0	0	0	0	57	40	0	6	86	0	0	251	2967
8:50 AM	73	0	8	0	0	0	0	0	0	0	57	39	0	10	67	0	0	254	2960
8:55 AM	50	0	12	0	0	0	0	0	0	0	57	34	0	4	56	0	0	213	2893
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	1052	0	236	0	0	0	0	0	0	516	336	0	148	1112	0	0	3400		
Heavy Trucks	48	0	28		0	0	0		0	64	72		0	88	0		300		
Buses																			
Pedestrians		0				0				0				0			0		
Bicycles	4	0	0		0	0	0		0	0	0		0	0	0		4		
Scoters																			

Comments:

LOCATION: SE 172nd Ave/SE Anderregg Pkwy -- OR-212
CITY/STATE: Damascus, OR

QC JOB #: 16101917
DATE: Tue, May 23 2023

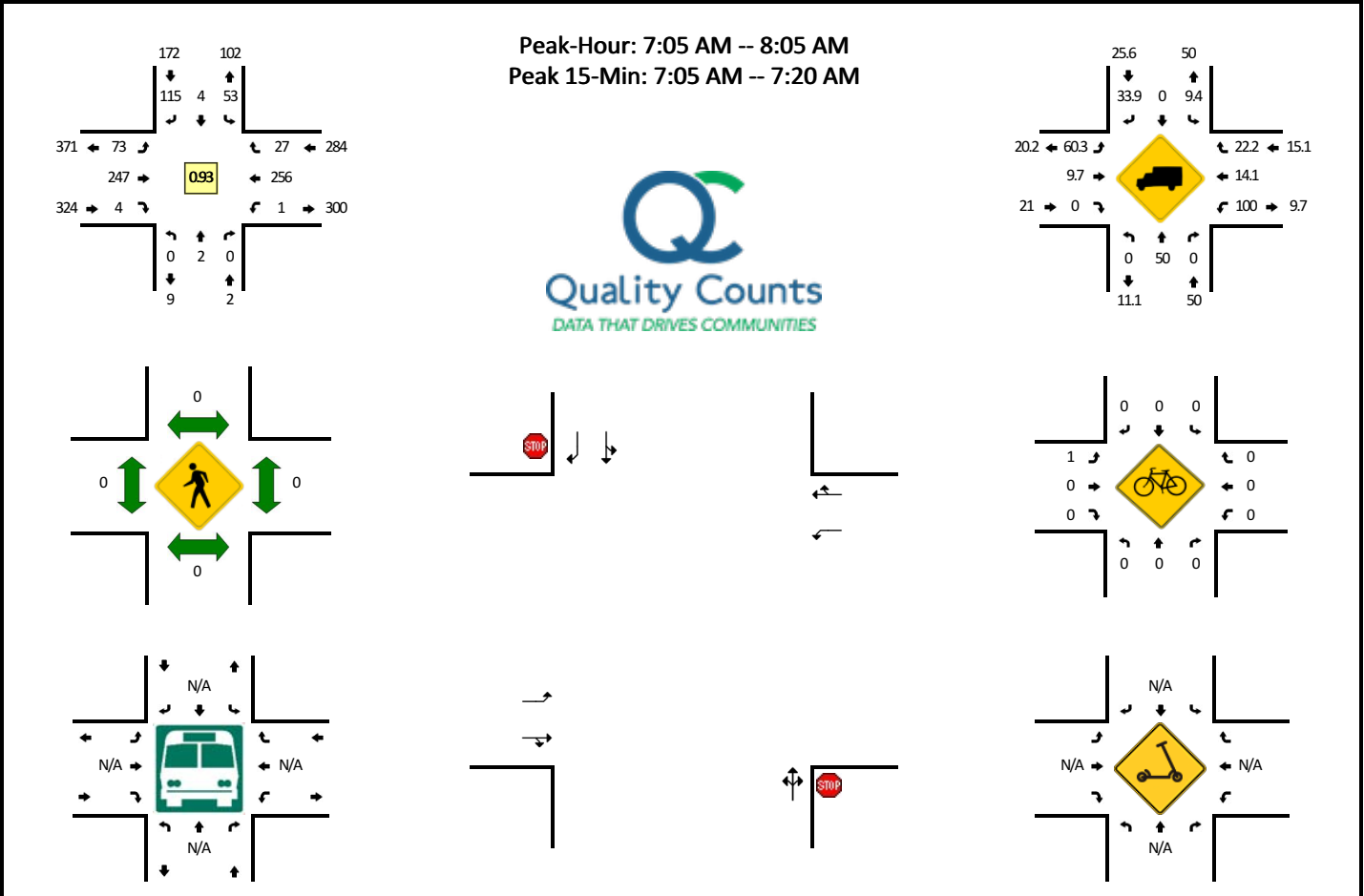


5-Min Count Period Beginning At	SE 172nd Ave/SE Anderregg Pkwy (Northbound)				SE 172nd Ave/SE Anderregg Pkwy (Southbound)				OR-212 (Eastbound)				OR-212 (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	10	3	0	0	2	1	11	0	13	32	3	0	1	86	2	0	164	
7:05 AM	4	1	0	0	3	0	19	0	20	32	2	0	0	74	1	0	156	
7:10 AM	4	1	0	0	3	0	17	0	25	43	1	0	0	69	0	0	163	
7:15 AM	16	4	4	0	9	1	20	0	18	31	1	0	0	64	4	0	172	
7:20 AM	6	4	2	0	0	0	15	0	26	44	0	0	1	77	4	0	179	
7:25 AM	10	7	1	0	3	3	11	0	21	45	1	0	2	63	6	0	173	
7:30 AM	4	9	0	0	4	0	35	0	25	43	3	0	0	60	6	0	189	
7:35 AM	7	12	2	0	6	2	27	0	22	39	1	0	1	68	9	0	196	
7:40 AM	8	5	1	0	3	3	43	0	30	67	2	0	0	53	4	0	219	
7:45 AM	6	6	1	0	12	7	37	0	16	37	0	0	2	65	3	0	192	
7:50 AM	4	3	1	0	9	3	32	0	9	27	2	0	0	70	6	0	166	
7:55 AM	4	0	2	0	10	2	16	0	17	55	1	0	0	55	5	0	167	2136
8:00 AM	5	4	2	0	5	0	19	0	22	44	1	0	1	65	5	0	173	2145
8:05 AM	3	2	0	0	2	0	20	0	24	41	4	0	1	81	11	0	189	2178
8:10 AM	4	3	1	0	6	2	23	0	22	44	0	0	1	50	8	0	164	2179
8:15 AM	2	5	1	0	6	0	24	0	26	52	3	0	1	46	6	0	172	2179
8:20 AM	6	3	2	0	6	1	21	0	21	27	0	0	0	55	3	0	145	2145
8:25 AM	3	1	0	0	3	1	22	0	16	49	2	0	0	59	9	0	165	2137
8:30 AM	1	7	0	0	4	3	27	0	17	43	1	0	0	57	6	0	166	2114
8:35 AM	6	3	0	0	5	0	33	0	13	37	1	0	0	52	4	0	154	2072
8:40 AM	5	3	2	0	5	4	31	0	14	39	3	0	0	48	3	0	157	2010
8:45 AM	3	4	1	0	12	2	22	0	12	50	0	0	0	48	5	0	159	1977
8:50 AM	2	1	1	0	6	0	17	0	16	34	0	0	3	47	2	0	129	1940
8:55 AM	3	3	0	0	1	0	9	0	15	44	2	0	1	58	4	0	140	1913
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	84	92	16	0	84	48	428	0	272	572	12	0	12	744	64	0	2428	
Heavy Trucks	0	0	0	0	8	0	4	0	24	84	0	0	0	60	4	0	184	
Buses																		
Pedestrians		0				0				0				0			0	
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0	
Scoters																		

Comments:

LOCATION: SE 122nd Ave -- SE Jennifer St
CITY/STATE: Clackamas, OR

QC JOB #: 16101915
DATE: Tue, May 23 2023

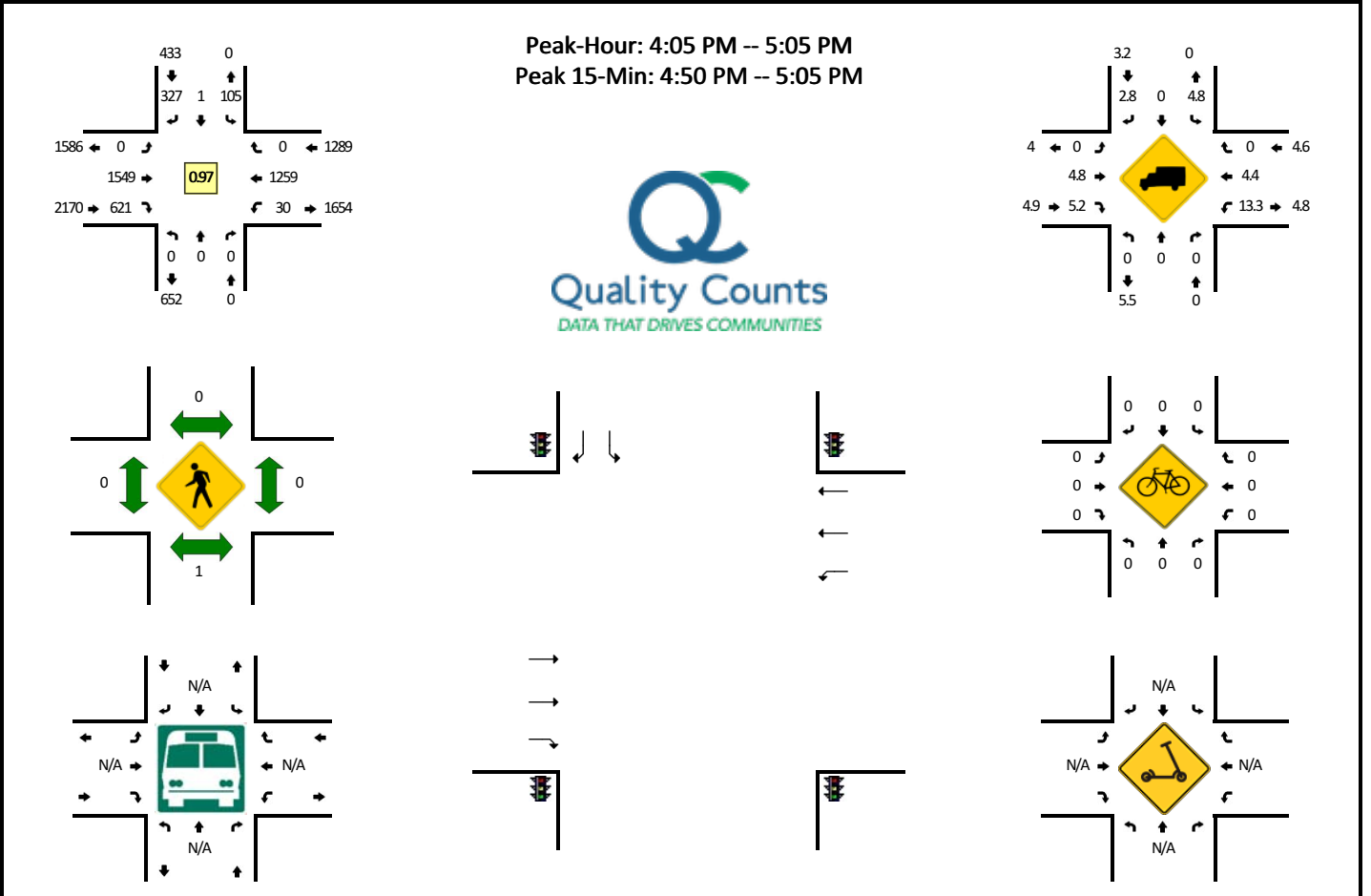


5-Min Count Period Beginning At	SE 122nd Ave (Northbound)				SE 122nd Ave (Southbound)				SE Jennifer St (Eastbound)				SE Jennifer St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	0	0	0	0	3	1	12	0	8	21	0	0	0	15	1	0	61	
7:05 AM	0	1	0	0	0	1	14	0	11	23	0	0	0	28	1	0	79	
7:10 AM	0	0	0	0	6	0	7	0	6	20	1	0	0	28	4	0	72	
7:15 AM	0	1	0	0	2	0	8	0	5	17	1	0	0	25	1	0	60	
7:20 AM	0	0	0	0	8	0	13	0	4	24	0	0	0	21	3	0	73	
7:25 AM	0	0	0	0	3	0	7	0	8	22	1	0	0	20	2	0	63	
7:30 AM	0	0	0	0	2	1	10	0	5	20	0	0	0	20	3	0	61	
7:35 AM	0	0	0	0	2	0	4	0	6	16	1	0	0	19	2	0	50	
7:40 AM	0	0	0	0	4	0	12	0	4	21	0	0	1	15	1	0	58	
7:45 AM	0	0	0	0	7	0	16	0	3	23	0	0	0	14	2	0	65	
7:50 AM	0	0	0	0	4	2	7	0	6	21	0	0	0	20	2	0	62	
7:55 AM	0	0	0	0	7	0	6	0	9	26	0	0	0	24	1	0	73	777
8:00 AM	0	0	0	0	8	0	11	0	6	14	0	0	0	22	5	0	66	782
8:05 AM	0	0	0	0	5	0	12	0	4	16	0	0	0	10	1	0	48	751
8:10 AM	0	0	0	0	0	1	8	0	6	19	0	0	0	16	10	0	60	739
8:15 AM	0	0	0	0	6	0	5	0	6	21	1	0	0	16	1	0	56	735
8:20 AM	0	0	0	0	6	0	9	0	2	21	0	0	1	12	2	0	53	715
8:25 AM	0	0	0	0	6	0	6	0	6	26	0	0	0	18	1	0	63	715
8:30 AM	0	0	0	0	2	1	6	0	6	18	0	0	0	15	1	0	49	703
8:35 AM	0	0	0	0	0	0	9	0	6	20	0	0	0	17	3	0	55	708
8:40 AM	0	0	0	0	2	0	11	0	7	14	0	0	0	22	3	0	59	709
8:45 AM	0	1	0	0	6	1	7	0	14	21	0	0	0	18	3	0	71	715
8:50 AM	1	0	0	0	1	0	11	0	8	19	0	0	0	17	3	0	60	713
8:55 AM	0	0	0	0	2	0	4	0	4	16	0	0	0	11	0	0	37	677
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	8	0	0	32	4	116	0	88	240	8	0	0	324	24	0	844	
Heavy Trucks	0	4	0	0	0	0	40	0	56	8	0	0	0	40	8	0	156	
Buses																	0	
Pedestrians		0				0				0				0			0	
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0	
Scoters																	0	

Comments:

LOCATION: OR-213 SB Ramps -- OR-224
CITY/STATE: Oatfield, OR

QC JOB #: 16101920
DATE: Tue, May 16 2023

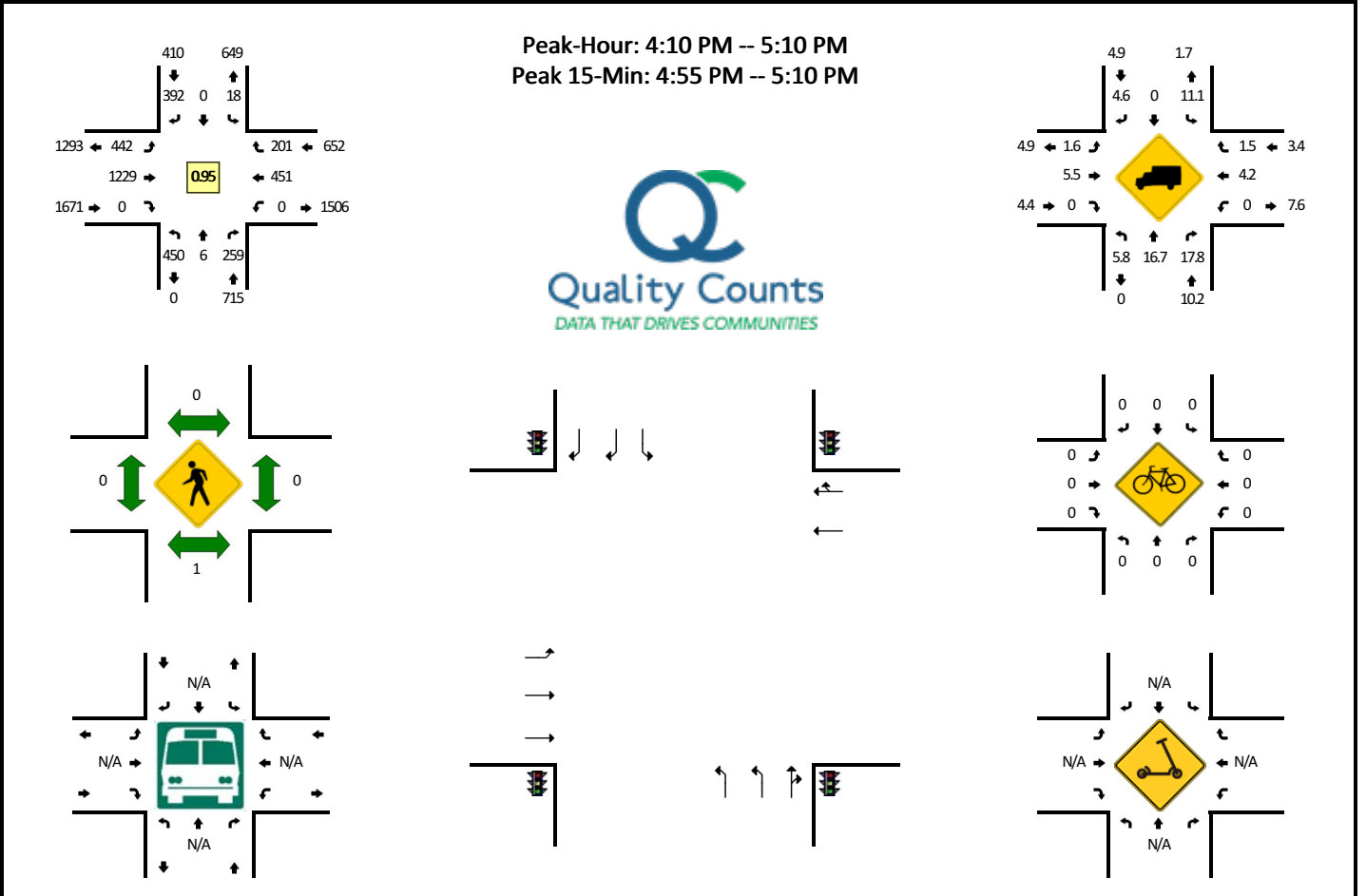


5-Min Count Period Beginning At	OR-213 SB Ramps (Northbound)				OR-213 SB Ramps (Southbound)				OR-224 (Eastbound)				OR-224 (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	0	0	0	8	0	33	0	0	118	52	0	3	114	0	0	328	
4:05 PM	0	0	0	0	7	0	31	0	0	124	59	0	1	95	0	0	317	
4:10 PM	0	0	0	0	17	0	30	0	0	132	51	0	2	115	0	0	347	
4:15 PM	0	0	0	0	8	0	28	0	0	125	43	0	0	107	0	0	311	
4:20 PM	0	0	0	0	4	0	25	0	0	152	56	0	2	100	0	0	339	
4:25 PM	0	0	0	0	8	0	14	0	0	133	44	0	4	106	0	0	309	
4:30 PM	0	0	0	0	6	0	27	0	0	107	45	0	2	98	0	0	285	
4:35 PM	0	0	0	0	6	0	26	0	0	123	55	0	6	107	0	0	323	
4:40 PM	0	0	0	0	10	0	25	0	0	123	63	0	2	107	0	0	330	
4:45 PM	0	0	0	0	10	1	37	0	0	130	61	0	4	89	0	0	332	
4:50 PM	0	0	0	0	9	0	26	0	0	122	46	0	2	110	0	0	315	
4:55 PM	0	0	0	0	7	0	23	0	0	145	52	0	1	102	0	0	330	3866
5:00 PM	0	0	0	0	13	0	35	0	0	133	46	0	4	123	0	0	354	3892
5:05 PM	0	0	0	0	6	0	29	0	0	119	40	0	4	111	0	0	309	3884
5:10 PM	0	0	0	0	9	0	29	0	0	143	46	0	0	108	0	0	335	3872
5:15 PM	0	0	0	0	7	0	31	0	0	116	47	0	0	96	0	0	297	3858
5:20 PM	0	0	0	0	7	0	28	0	0	125	52	0	0	95	0	0	307	3826
5:25 PM	0	0	0	0	7	0	34	0	0	132	52	0	1	85	0	0	311	3828
5:30 PM	0	0	0	0	4	0	26	0	0	117	50	0	0	88	0	0	285	3828
5:35 PM	0	0	0	0	6	0	26	0	0	124	51	0	0	91	0	0	298	3803
5:40 PM	0	0	0	0	5	0	26	0	0	117	41	0	0	91	0	0	280	3753
5:45 PM	0	0	0	0	5	0	25	0	0	123	38	0	0	88	0	0	279	3700
5:50 PM	0	0	0	0	9	0	29	0	0	109	43	0	0	70	0	0	260	3645
5:55 PM	0	0	0	0	7	0	22	0	0	111	41	0	0	82	0	0	263	3578
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	0	0	116	0	336	0	0	1600	576	0	28	1340	0	0	3996	
Heavy Trucks	0	0	0	0	0	0	12	0	0	56	44	0	4	40	0	0	156	
Buses																	0	
Pedestrians		0				0				0				0			0	
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0	
Scoters																	0	

Comments:

LOCATION: OR-213 NB Ramps/I-205 SB Off Ramp -- OR-224
CITY/STATE: Clackamas, OR

QC JOB #: 16101914
DATE: Tue, May 16 2023

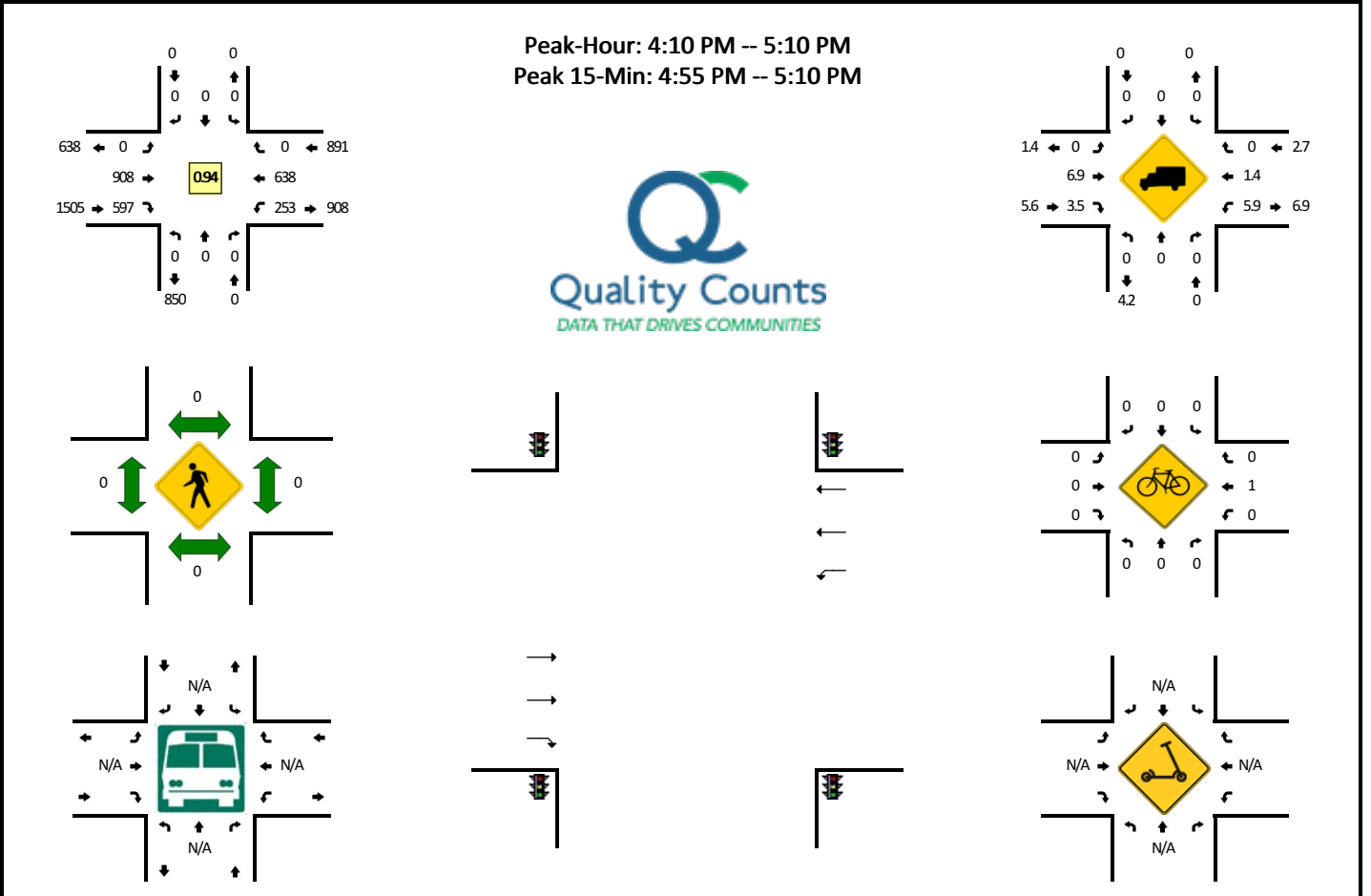


5-Min Count Period Beginning At	OR-213 NB Ramps/I-205 SB Off Ramp (Northbound)				OR-213 NB Ramps/I-205 SB Off Ramp (Southbound)				OR-224 (Eastbound)				OR-224 (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	33	0	25	0	2	0	40	0	41	98	0	0	0	30	24	0	293	
4:05 PM	43	0	19	0	3	0	32	0	24	82	0	0	0	29	22	0	254	
4:10 PM	35	0	22	0	1	0	30	0	28	129	0	0	0	53	19	0	317	
4:15 PM	29	1	26	0	1	0	38	0	48	103	0	0	0	31	13	0	290	
4:20 PM	43	0	23	0	0	0	32	0	37	94	0	0	0	35	13	0	277	
4:25 PM	52	1	13	0	2	0	15	0	28	108	0	0	0	44	13	0	276	
4:30 PM	28	0	20	0	0	0	37	0	48	103	0	0	0	36	13	0	285	
4:35 PM	26	0	15	0	2	0	43	0	48	76	0	0	0	35	17	0	262	
4:40 PM	42	1	29	0	0	0	28	0	34	76	0	0	0	44	21	0	275	
4:45 PM	33	0	16	0	5	0	41	0	38	117	0	0	0	25	20	0	295	
4:50 PM	27	0	21	0	1	0	33	0	41	97	0	0	0	34	8	0	262	
4:55 PM	56	0	24	0	1	0	25	0	20	104	0	0	0	30	12	0	272	
5:00 PM	47	2	18	0	3	0	34	0	21	132	0	0	0	54	30	0	341	
5:05 PM	32	1	32	0	2	0	36	0	51	90	0	0	0	30	22	0	296	
5:10 PM	48	2	16	0	3	0	27	0	31	106	0	0	0	40	11	0	284	
5:15 PM	30	0	13	0	1	0	30	0	27	93	0	0	0	36	25	0	255	
5:20 PM	37	0	22	0	0	0	33	0	42	115	0	0	0	18	13	0	280	
5:25 PM	48	0	26	0	0	0	22	0	41	88	0	0	0	29	12	0	266	
5:30 PM	31	1	22	0	2	0	24	0	19	102	0	0	0	31	8	0	240	
5:35 PM	28	1	18	0	3	0	37	0	30	119	0	0	0	28	23	0	287	
5:40 PM	41	0	20	0	1	0	25	0	28	92	0	0	0	18	19	0	244	
5:45 PM	44	0	17	0	0	0	26	0	24	68	0	0	0	22	11	0	212	
5:50 PM	31	0	24	0	0	0	21	0	36	123	0	0	0	15	9	0	259	
5:55 PM	35	1	19	0	0	0	15	0	37	69	0	0	0	27	8	0	211	
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	540	12	296	0	24	0	380	0	368	1304	0	0	0	456	256	0	3636	
Heavy Trucks	20	0	52	0	0	0	16	0	4	40	0	0	0	16	4	0	152	
Buses																		
Pedestrians		0				0				0				0			0	
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0	
Scoters																		

Comments:

LOCATION: I-205 NB Ramp -- OR-224
CITY/STATE: Clackamas, OR

QC JOB #: 16101912
DATE: Tue, May 16 2023

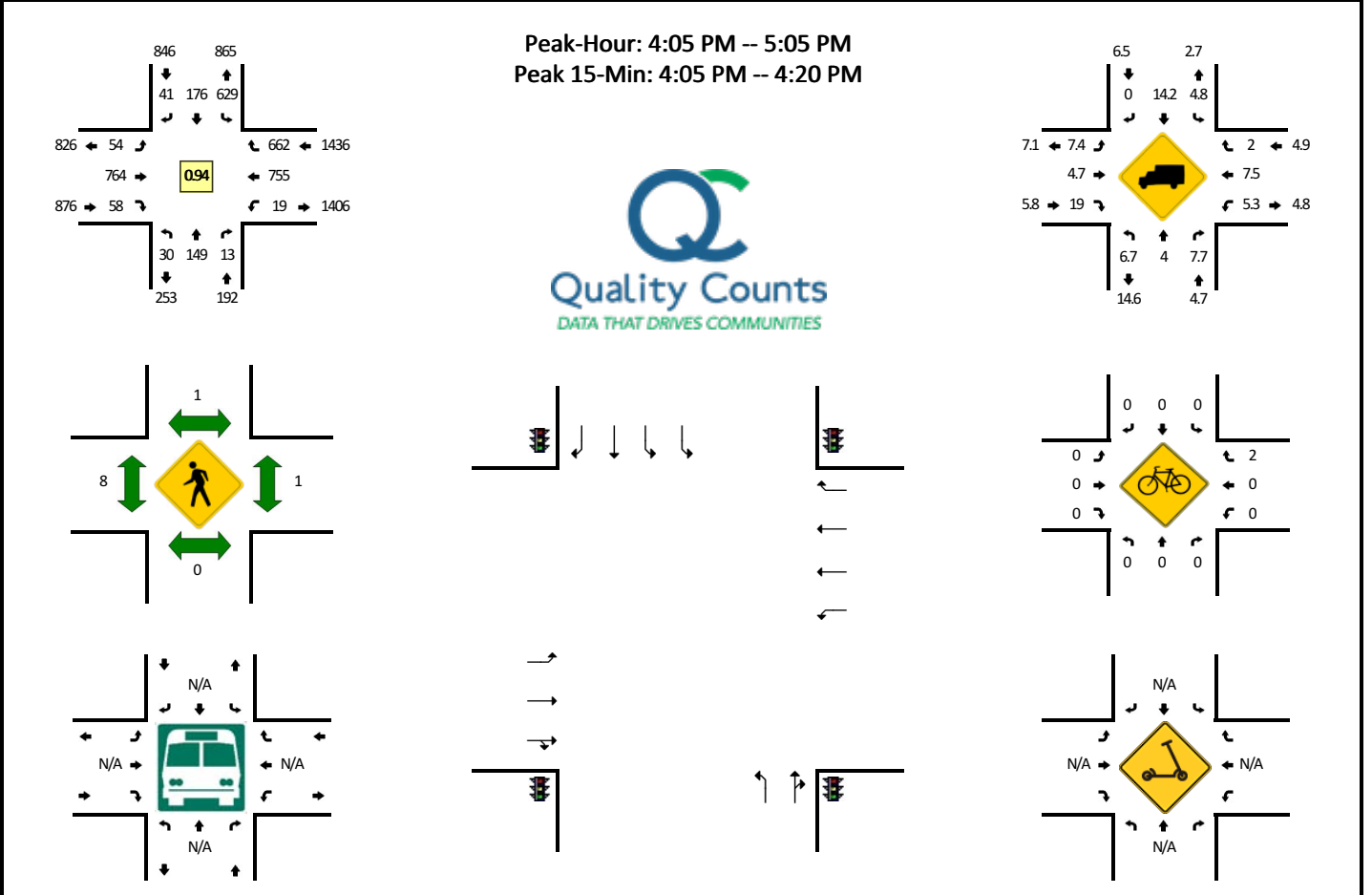


5-Min Count Period Beginning At	I-205 NB Ramp (Northbound)				I-205 NB Ramp (Southbound)				OR-224 (Eastbound)				OR-224 (Westbound)				Total	Hourly Totals	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U			
4:00 PM	0	0	0	0	0	0	0	0	0	0	90	47	0	19	54	0	0	210	
4:05 PM	0	0	0	0	0	0	0	0	0	0	59	43	0	31	60	0	0	193	
4:10 PM	0	0	0	0	0	0	0	0	0	0	83	43	0	30	58	0	0	214	
4:15 PM	0	0	0	0	0	0	0	0	0	0	87	67	0	21	47	0	0	222	
4:20 PM	0	0	0	0	0	0	0	0	0	0	59	52	0	29	50	0	0	190	
4:25 PM	0	0	0	0	0	0	0	0	0	0	71	45	0	21	43	0	0	180	
4:30 PM	0	0	0	0	0	0	0	0	0	0	87	50	0	7	53	0	0	197	
4:35 PM	0	0	0	0	0	0	0	0	0	0	60	34	0	24	51	0	0	169	
4:40 PM	0	0	0	0	0	0	0	0	0	0	70	29	0	30	57	0	0	186	
4:45 PM	0	0	0	0	0	0	0	0	0	0	71	67	0	20	49	0	0	207	
4:50 PM	0	0	0	0	0	0	0	0	0	0	84	42	0	13	58	0	0	197	
4:55 PM	0	0	0	0	0	0	0	0	0	0	73	56	0	17	58	0	0	204	2369
5:00 PM	0	0	0	0	0	0	0	0	0	0	93	49	0	15	61	0	0	218	2377
5:05 PM	0	0	0	0	0	0	0	0	0	0	70	63	0	26	53	0	0	212	2396
5:10 PM	0	0	0	0	0	0	0	0	0	0	66	56	0	35	57	0	0	214	2396
5:15 PM	0	0	0	0	0	0	0	0	0	0	49	48	0	28	43	0	0	168	2342
5:20 PM	0	0	0	0	0	0	0	0	0	0	84	59	0	16	35	0	0	194	2346
5:25 PM	0	0	0	0	0	0	0	0	0	0	72	44	0	29	47	0	0	192	2358
5:30 PM	0	0	0	0	0	0	0	0	0	0	71	48	0	14	30	0	0	163	2324
5:35 PM	0	0	0	0	0	0	0	0	0	0	84	60	0	13	50	0	0	207	2362
5:40 PM	0	0	0	0	0	0	0	0	0	0	61	52	0	16	42	0	0	171	2347
5:45 PM	0	0	0	0	0	0	0	0	0	0	45	34	0	18	24	0	0	121	2261
5:50 PM	0	0	0	0	0	0	0	0	0	0	93	56	0	18	27	0	0	194	2258
5:55 PM	0	0	0	0	0	0	0	0	0	0	63	26	0	17	37	0	0	143	2197
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	0	0	0	0	0	0	0	944	672	0	232	688	0	0	2536		
Heavy Trucks	0	0	0	0	0	0	0	0	0	44	4	0	4	8	0	0	60		
Buses																			
Pedestrians		0				0				0				0			0		
Bicycles	0	0	0		0	0	0			0	0	0	0	0	0		0		
Scoters																			

Comments:

LOCATION: OR-224/SE 122nd Ave -- OR-212
CITY/STATE: Happy Valley, OR

QC JOB #: 16101902
DATE: Tue, May 16 2023

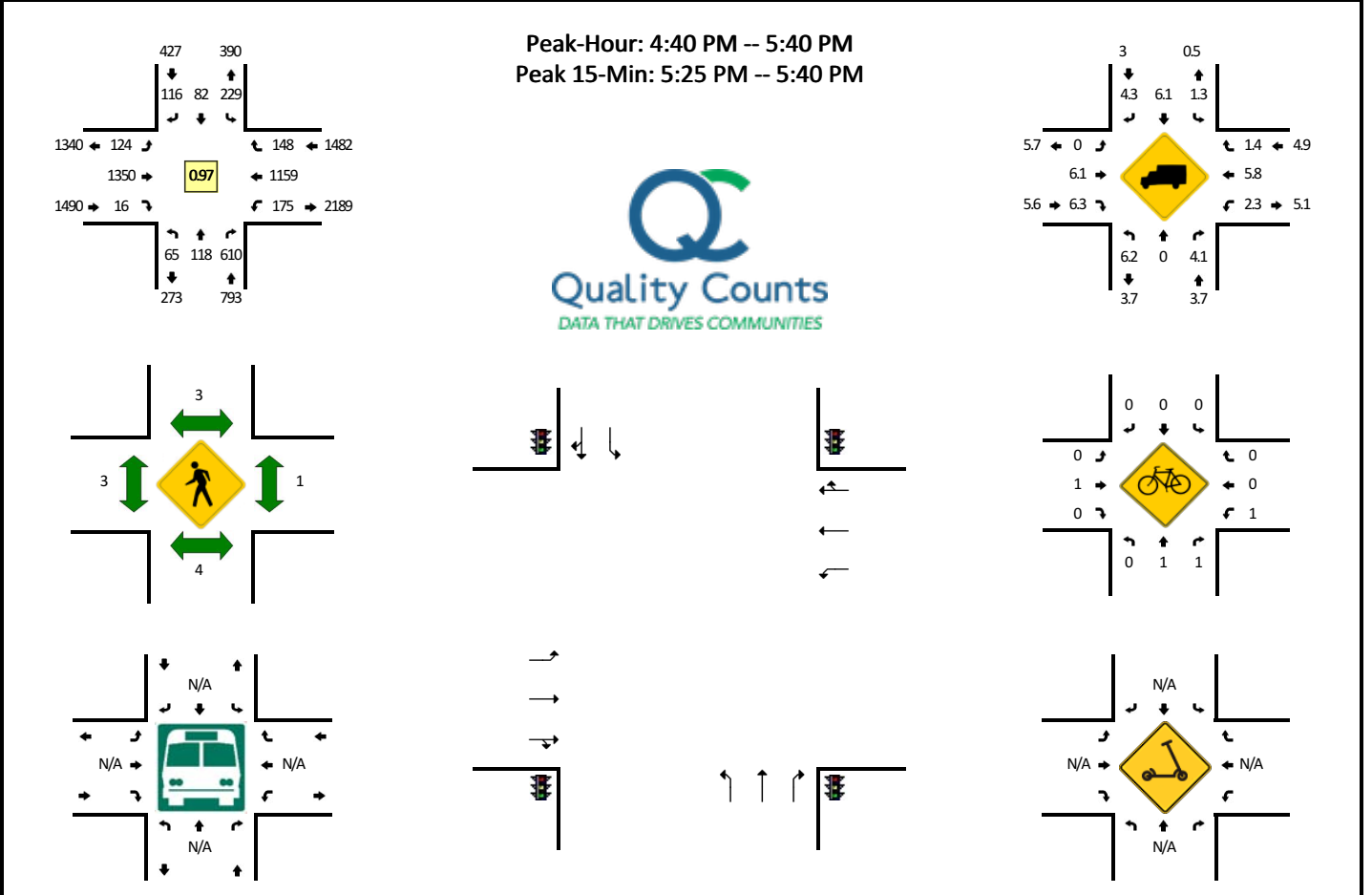


5-Min Count Period Beginning At	OR-224/SE 122nd Ave (Northbound)				OR-224/SE 122nd Ave (Southbound)				OR-212 (Eastbound)				OR-212 (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	3	6	0	0	60	12	4	0	5	68	1	0	0	51	58	0	268	
4:05 PM	4	19	1	0	69	17	4	0	8	58	4	0	2	57	68	0	311	
4:10 PM	3	16	0	0	48	12	3	0	5	66	3	0	1	77	55	0	289	
4:15 PM	3	12	2	0	60	10	4	0	6	68	3	0	2	66	55	0	291	
4:20 PM	3	16	3	0	68	15	7	0	6	56	4	0	2	55	61	0	296	
4:25 PM	2	6	0	0	50	10	5	0	3	65	4	0	3	67	45	0	260	
4:30 PM	0	8	0	0	47	9	2	0	3	74	7	0	1	46	39	0	236	
4:35 PM	1	18	1	0	66	15	2	0	3	65	7	0	2	69	60	0	309	
4:40 PM	4	13	1	0	35	15	1	0	6	77	1	0	2	65	55	0	275	
4:45 PM	4	9	2	0	36	12	2	0	1	76	4	0	0	64	51	0	261	
4:50 PM	2	6	2	0	52	24	4	0	5	57	11	0	1	57	46	0	267	
4:55 PM	2	11	0	0	53	20	3	0	6	47	3	0	1	58	58	0	262	3325
5:00 PM	2	15	1	0	45	17	4	0	2	55	7	0	2	74	69	0	293	3350
5:05 PM	4	12	1	0	49	25	7	0	5	60	3	0	2	51	61	0	280	3319
5:10 PM	2	14	6	0	58	17	4	0	3	41	7	0	1	54	71	0	278	3308
5:15 PM	2	7	2	0	53	18	4	0	2	57	3	0	2	75	47	0	272	3289
5:20 PM	1	1	1	0	55	6	3	0	3	43	3	0	3	53	49	0	221	3214
5:25 PM	3	6	1	0	77	11	4	0	1	52	1	0	2	58	55	0	271	3225
5:30 PM	1	0	0	0	53	8	3	0	3	60	2	0	0	78	48	0	256	3245
5:35 PM	0	4	1	0	61	7	6	0	2	51	1	0	2	61	54	0	250	3186
5:40 PM	0	6	3	0	77	7	3	0	3	50	0	0	4	44	44	0	241	3152
5:45 PM	2	6	2	0	48	7	2	0	1	68	0	0	2	53	36	0	227	3118
5:50 PM	1	4	2	0	44	9	0	0	5	87	1	0	0	54	41	0	248	3099
5:55 PM	0	5	1	0	58	13	2	0	1	46	1	0	2	48	57	0	234	3071
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	40	188	12	0	708	156	44	0	76	768	40	0	20	800	712	0	3564	
Heavy Trucks	8	12	0	0	36	20	0	0	8	8	16	0	0	56	12	0	176	
Buses																	0	
Pedestrians		0				0				0				0			0	
Bicycles	0	0	0		0	0	0		0	0	0		0	0	8		8	
Scoters																		

Comments:

LOCATION: SE 135th Ave -- OR-212
CITY/STATE: Happy Valley, OR

QC JOB #: 16101904
DATE: Tue, May 16 2023

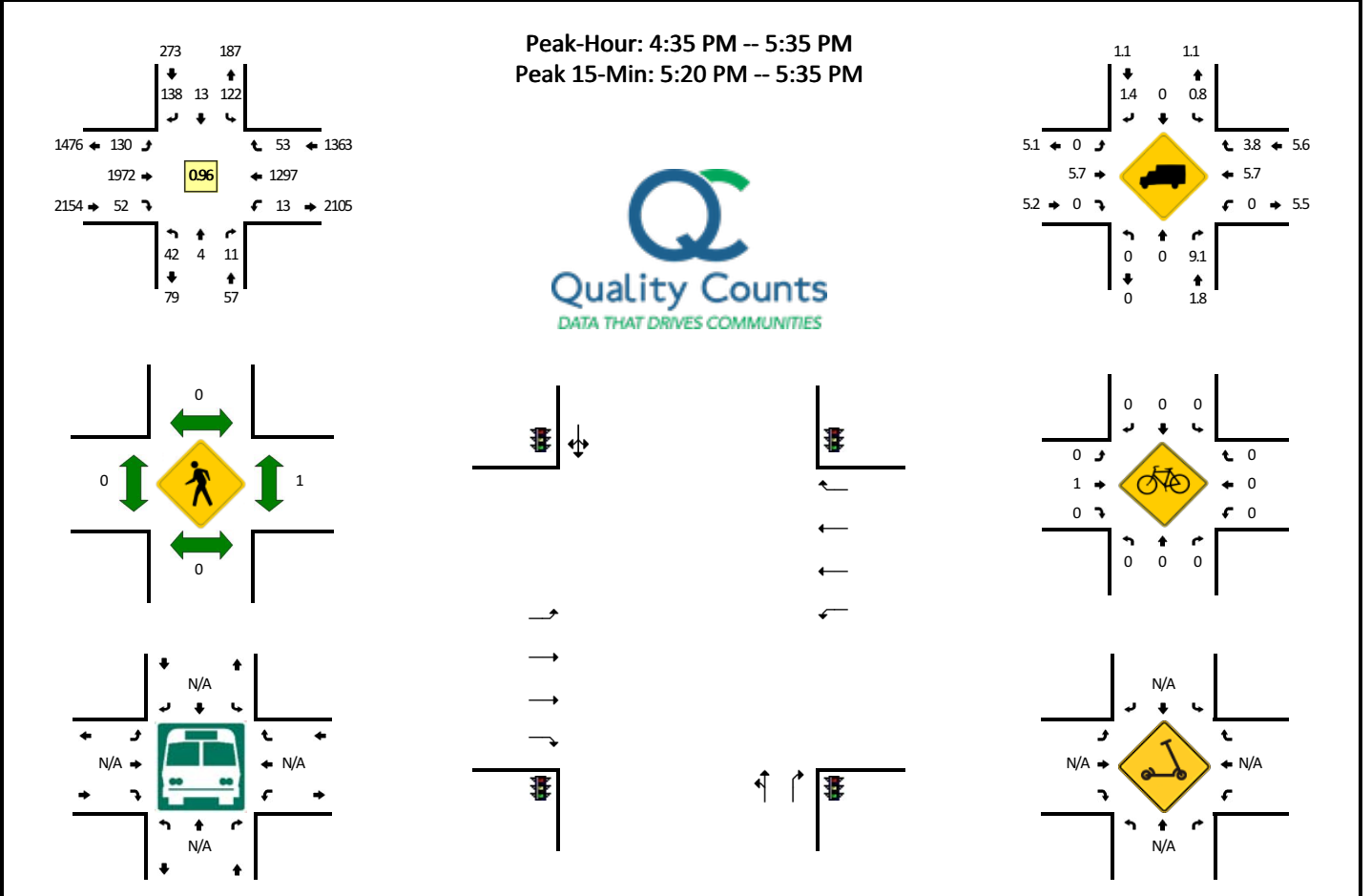


5-Min Count Period Beginning At	SE 135th Ave (Northbound)				SE 135th Ave (Southbound)				OR-212 (Eastbound)				OR-212 (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	4	13	51	0	14	9	11	0	9	100	2	0	14	84	14	0	325	
4:05 PM	8	8	44	0	20	11	17	0	7	90	4	0	14	89	5	0	317	
4:10 PM	8	8	52	0	19	4	13	0	8	108	4	0	18	97	7	0	346	
4:15 PM	6	13	55	0	17	8	23	0	12	122	3	0	11	93	5	0	368	
4:20 PM	2	8	56	0	27	14	22	0	10	100	3	0	10	66	12	0	330	
4:25 PM	4	10	53	0	21	6	14	0	10	110	2	0	17	108	15	0	370	
4:30 PM	0	11	37	0	18	3	8	0	5	136	3	0	13	85	7	0	326	
4:35 PM	8	13	51	0	21	14	7	0	7	96	3	0	14	91	12	0	337	
4:40 PM	6	12	47	0	28	8	10	0	10	98	0	0	19	87	13	0	338	
4:45 PM	3	7	48	0	17	11	7	0	11	129	2	0	15	102	16	0	368	
4:50 PM	9	13	64	0	15	6	8	0	10	101	2	0	14	78	11	0	331	
4:55 PM	7	3	56	0	23	12	18	0	10	88	0	0	18	105	9	0	349	4105
5:00 PM	5	12	47	0	12	5	5	0	6	117	2	0	18	120	10	0	359	4139
5:05 PM	7	11	54	0	15	8	9	0	10	126	1	0	8	77	7	0	333	4155
5:10 PM	7	11	58	0	27	6	11	0	9	89	2	0	15	96	8	0	339	4148
5:15 PM	8	2	49	0	15	6	11	0	9	129	3	0	13	102	10	0	357	4137
5:20 PM	3	8	50	0	13	6	10	0	11	120	1	0	14	89	18	0	343	4150
5:25 PM	5	23	55	0	28	8	11	0	12	100	1	0	8	79	18	0	348	4128
5:30 PM	2	11	57	0	17	3	6	0	13	120	0	0	20	120	14	0	383	4185
5:35 PM	3	5	25	0	19	3	10	0	13	133	2	0	13	104	14	0	344	4192
5:40 PM	5	9	45	0	27	4	7	0	7	94	1	0	14	45	11	0	269	4123
5:45 PM	9	6	36	0	20	9	7	0	9	122	2	0	10	88	17	0	335	4090
5:50 PM	4	3	24	0	10	10	8	0	13	131	1	0	13	78	15	0	310	4069
5:55 PM	6	12	47	0	7	4	3	0	14	111	3	0	4	89	7	0	307	4027
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	40	156	548	0	256	56	108	0	152	1412	12	0	164	1212	184	0	4300	
Heavy Trucks	0	0	20	0	0	8	0	0	0	68	0	0	0	40	0	0	136	
Buses																		
Pedestrians		0				4				0				0			4	
Bicycles	0	0	0		0	0	0		0	4	0		0	0	0		4	
Scoters																		

Comments:

LOCATION: SE 142nd Ave -- OR-212
CITY/STATE: Happy Valley, OR

QC JOB #: 16101906
DATE: Tue, May 16 2023

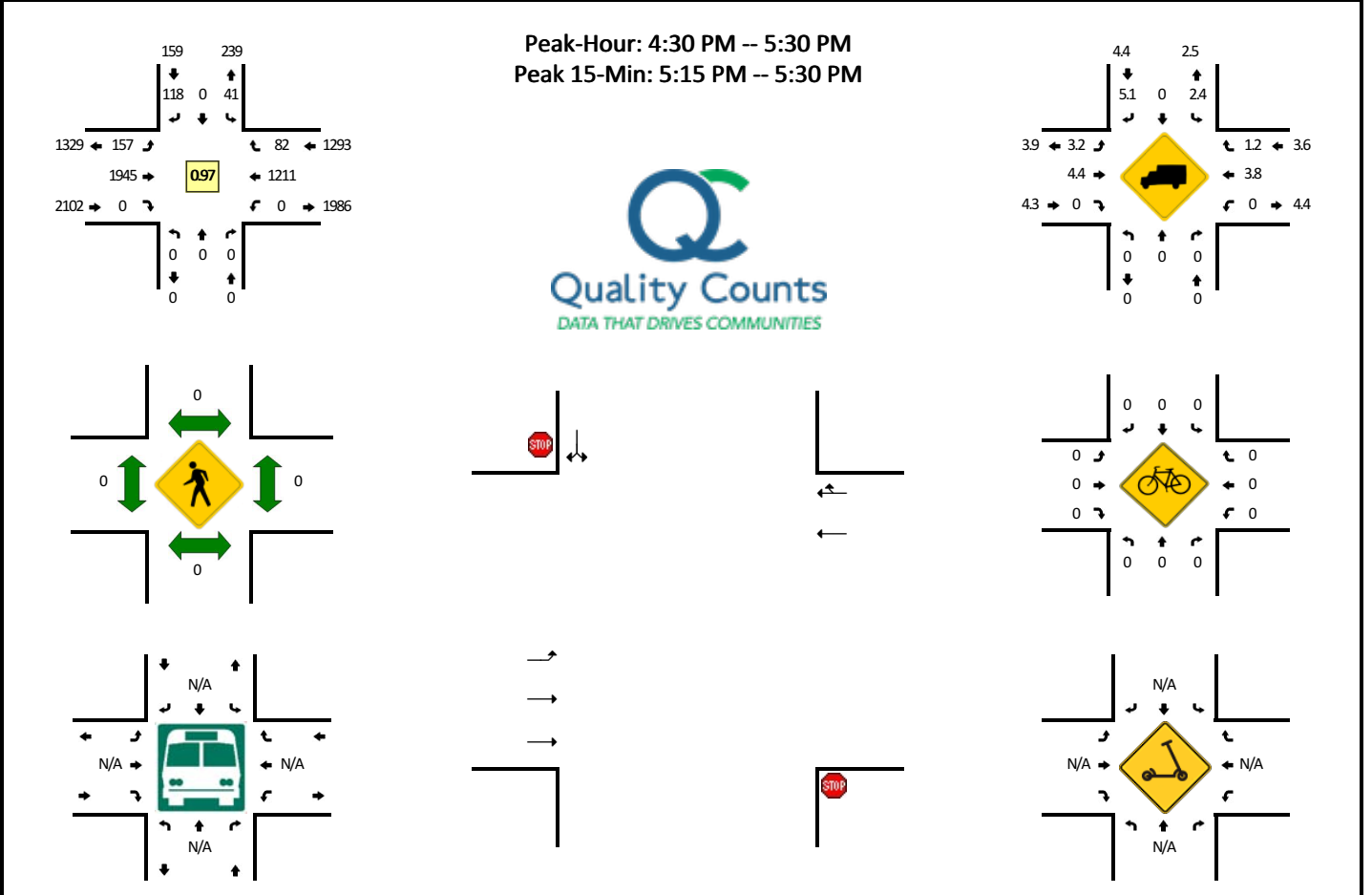


5-Min Count Period Beginning At	SE 142nd Ave (Northbound)				SE 142nd Ave (Southbound)				OR-212 (Eastbound)				OR-212 (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	1	0	3	0	10	1	12	0	5	151	5	0	0	89	2	0	279	
4:05 PM	2	4	0	0	7	1	8	0	10	164	3	0	0	106	3	0	308	
4:10 PM	0	0	3	0	1	2	11	0	12	151	5	0	2	88	4	1	280	
4:15 PM	2	0	2	0	10	1	7	0	11	167	0	0	0	101	2	0	303	
4:20 PM	1	0	1	0	15	1	5	0	9	185	4	0	0	90	6	0	317	
4:25 PM	1	0	1	0	11	0	9	0	12	168	6	0	2	108	3	0	321	
4:30 PM	0	0	4	0	21	1	11	0	14	147	3	0	2	86	1	0	290	
4:35 PM	3	1	1	0	11	1	9	0	11	165	5	0	1	131	7	0	346	
4:40 PM	2	0	1	0	10	1	14	0	9	160	6	0	0	96	4	0	303	
4:45 PM	3	1	0	0	10	0	13	0	17	138	8	0	1	93	2	0	286	
4:50 PM	4	1	1	0	7	1	11	0	10	178	3	0	1	113	5	0	335	
4:55 PM	3	0	1	0	12	1	15	0	12	165	3	0	2	136	5	0	355	3723
5:00 PM	4	0	2	0	7	0	10	0	11	151	6	0	0	76	3	0	270	3714
5:05 PM	5	0	0	0	12	3	6	0	9	157	5	0	1	99	3	0	300	3706
5:10 PM	3	0	1	0	8	1	12	0	12	190	2	0	0	120	8	0	357	3783
5:15 PM	2	0	1	0	11	0	12	0	11	168	2	0	0	88	2	0	297	3777
5:20 PM	4	1	0	0	12	2	14	0	11	150	5	0	3	105	1	0	308	3768
5:25 PM	3	0	1	0	11	1	11	0	5	175	4	0	2	120	7	0	340	3787
5:30 PM	5	0	2	1	11	2	11	0	12	175	3	0	2	120	6	0	350	3847
5:35 PM	6	2	1	0	7	0	10	0	8	140	4	0	1	89	6	0	274	3775
5:40 PM	2	1	1	0	9	0	3	0	12	177	1	0	2	73	7	0	288	3760
5:45 PM	3	0	2	1	4	2	8	0	9	178	10	0	2	100	7	0	326	3800
5:50 PM	7	1	2	0	12	1	8	0	12	121	4	0	0	81	5	0	254	3719
5:55 PM	4	0	1	0	5	0	10	0	13	172	5	0	1	107	2	0	320	3684
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	48	4	12	4	136	20	144	0	112	2000	48	0	28	1380	56	0	3992	
Heavy Trucks	0	0	0		0	0	0		0	100	0		0	40	4		144	
Buses																	0	
Pedestrians		0				0				0				0			0	
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0	
Scooters																	0	

Comments:

LOCATION: SE 152nd Ave -- OR-212
CITY/STATE: Happy Valley, OR

QC JOB #: 16101910
DATE: Tue, May 16 2023

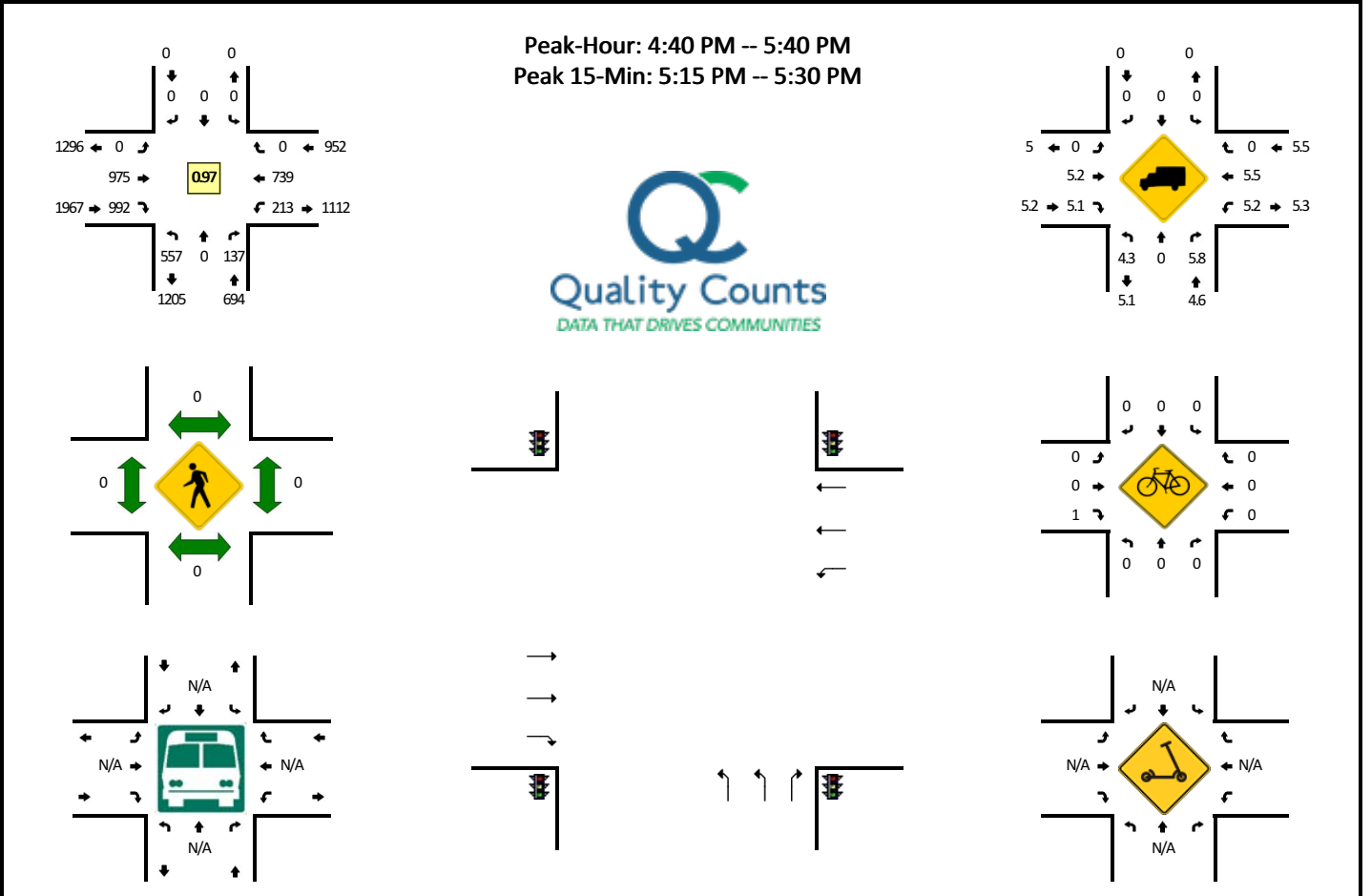


5-Min Count Period Beginning At	SE 152nd Ave (Northbound)				SE 152nd Ave (Southbound)				OR-212 (Eastbound)				OR-212 (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	0	0	0	3	0	7	0	8	148	0	0	0	85	3	0	254	
4:05 PM	0	0	0	0	2	0	12	0	13	163	0	0	0	88	5	0	283	
4:10 PM	0	0	0	0	0	0	8	0	16	153	0	0	0	110	7	0	294	
4:15 PM	0	0	0	0	4	0	7	0	5	158	0	0	0	90	6	0	270	
4:20 PM	0	0	0	0	2	0	13	0	25	163	0	0	0	77	4	0	284	
4:25 PM	0	0	0	0	4	0	13	0	18	146	0	0	0	115	7	0	303	
4:30 PM	0	0	0	0	3	0	11	0	15	164	0	0	0	90	11	0	294	
4:35 PM	0	0	0	0	4	0	17	0	13	165	0	0	0	95	6	0	300	
4:40 PM	0	0	0	0	3	0	12	0	12	159	0	0	0	87	9	0	282	
4:45 PM	0	0	0	0	2	0	4	0	12	161	0	0	0	139	11	0	329	
4:50 PM	0	0	0	0	1	0	12	0	12	159	0	0	0	88	4	0	276	
4:55 PM	0	0	0	0	3	0	12	0	13	165	0	0	0	71	4	0	268	3437
5:00 PM	0	0	0	0	4	0	12	0	6	154	0	0	0	123	8	0	307	3490
5:05 PM	0	0	0	0	7	0	9	0	16	172	0	0	0	71	3	0	278	3485
5:10 PM	0	0	0	0	3	0	6	0	14	159	0	0	0	116	7	0	305	3496
5:15 PM	0	0	0	0	3	0	9	0	13	155	0	0	0	102	7	0	289	3515
5:20 PM	0	0	0	0	3	0	5	0	13	157	0	0	0	122	9	0	309	3540
5:25 PM	0	0	0	0	5	0	9	0	18	175	0	0	0	107	3	0	317	3554
5:30 PM	0	0	0	0	0	0	7	0	17	162	0	0	0	86	5	0	277	3537
5:35 PM	0	0	0	0	4	0	8	0	12	154	0	0	0	88	10	0	276	3513
5:40 PM	0	0	0	0	6	0	10	0	25	149	0	0	0	88	7	0	285	3516
5:45 PM	0	0	0	0	4	0	11	0	14	144	0	0	0	89	6	0	268	3455
5:50 PM	0	0	0	0	5	0	6	0	8	138	0	0	0	85	3	0	245	3424
5:55 PM	0	0	0	0	7	0	10	0	13	141	0	0	0	90	3	0	264	3420
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	0	0	44	0	92	0	176	1948	0	0	0	1324	76	0	3660	
Heavy Trucks	0	0	0	0	4	0	0	0	8	68	0	0	0	32	0	0	112	
Buses																	0	
Pedestrians		0				0				0				0			0	
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0	
Scoters																	0	

Comments:

LOCATION: OR-224 -- OR-212
CITY/STATE: Damascus, OR

QC JOB #: 16101908
DATE: Tue, May 16 2023

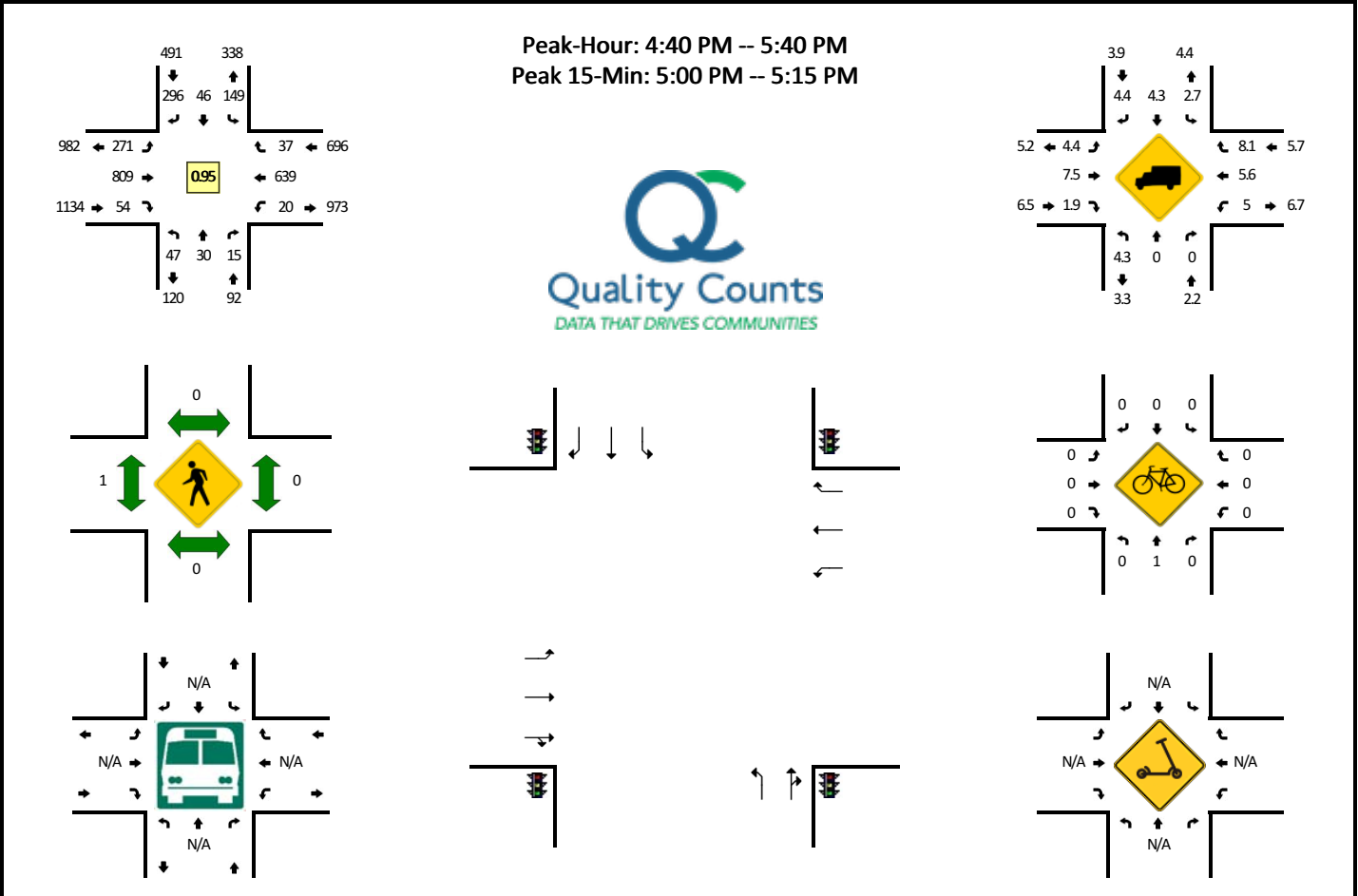


5-Min Count Period Beginning At	OR-224 (Northbound)				OR-224 (Southbound)				OR-212 (Eastbound)				OR-212 (Westbound)				Total	Hourly Totals	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U			
4:00 PM	23	0	9	0	0	0	0	0	0	0	92	80	0	22	56	0	0	282	
4:05 PM	48	0	7	0	0	0	0	0	0	0	79	81	0	21	57	0	0	293	
4:10 PM	34	0	13	0	0	0	0	0	0	0	65	79	0	26	58	0	0	275	
4:15 PM	42	0	13	0	0	0	0	0	0	0	65	89	0	15	74	0	0	298	
4:20 PM	35	0	6	0	0	0	0	0	0	0	104	84	0	5	56	0	0	290	
4:25 PM	35	0	9	0	0	0	0	0	0	0	71	85	0	22	57	0	0	279	
4:30 PM	63	0	14	0	0	0	0	0	0	0	67	91	0	12	47	0	0	294	
4:35 PM	32	0	7	0	0	0	0	0	0	0	92	80	0	16	78	0	0	305	
4:40 PM	43	0	8	0	0	0	0	0	0	0	73	86	0	25	53	0	0	288	
4:45 PM	50	0	18	0	0	0	0	0	0	0	68	89	0	22	62	0	0	309	
4:50 PM	55	0	8	0	0	0	0	0	0	0	85	85	0	13	69	0	0	315	
4:55 PM	35	0	12	0	0	0	0	0	0	0	84	81	0	19	72	0	0	303	3531
5:00 PM	45	0	10	0	0	0	0	0	0	0	71	80	0	26	41	0	0	273	3522
5:05 PM	49	0	10	0	0	0	0	0	0	0	80	72	0	10	69	0	0	290	3519
5:10 PM	40	0	7	0	0	0	0	0	0	0	102	85	0	9	46	0	0	289	3533
5:15 PM	34	0	13	0	0	0	0	0	0	0	87	77	0	26	63	0	0	300	3535
5:20 PM	65	0	11	0	0	0	0	0	0	0	81	92	0	16	57	0	0	322	3567
5:25 PM	44	0	14	0	0	0	0	0	0	0	91	70	0	15	76	0	0	310	3598
5:30 PM	49	0	7	0	0	0	0	0	0	0	75	72	0	22	74	0	0	299	3603
5:35 PM	48	0	19	0	0	0	0	0	0	0	78	103	0	10	57	0	0	315	3613
5:40 PM	20	0	9	0	0	0	0	0	0	0	87	105	0	12	50	0	0	283	3608
5:45 PM	50	0	6	0	0	0	0	0	0	0	63	69	0	27	52	0	0	267	3566
5:50 PM	56	0	20	0	0	0	0	0	0	0	68	92	0	13	46	0	0	295	3546
5:55 PM	36	0	13	0	0	0	0	0	0	0	97	69	0	20	54	0	0	289	3532
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	572	0	152	0	0	0	0	0	0	1036	956	0	228	784	0	0	3728		
Heavy Trucks	16	0	4		0	0	0		0	48	44		4	24	0		140		
Buses																			
Pedestrians		0				0				0				0			0		
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0		
Scoters																			

Comments:

LOCATION: SE 172nd Ave/SE Anderegg Pkwy -- OR-212
CITY/STATE: Damascus, OR

QC JOB #: 16101918
DATE: Tue, May 23 2023

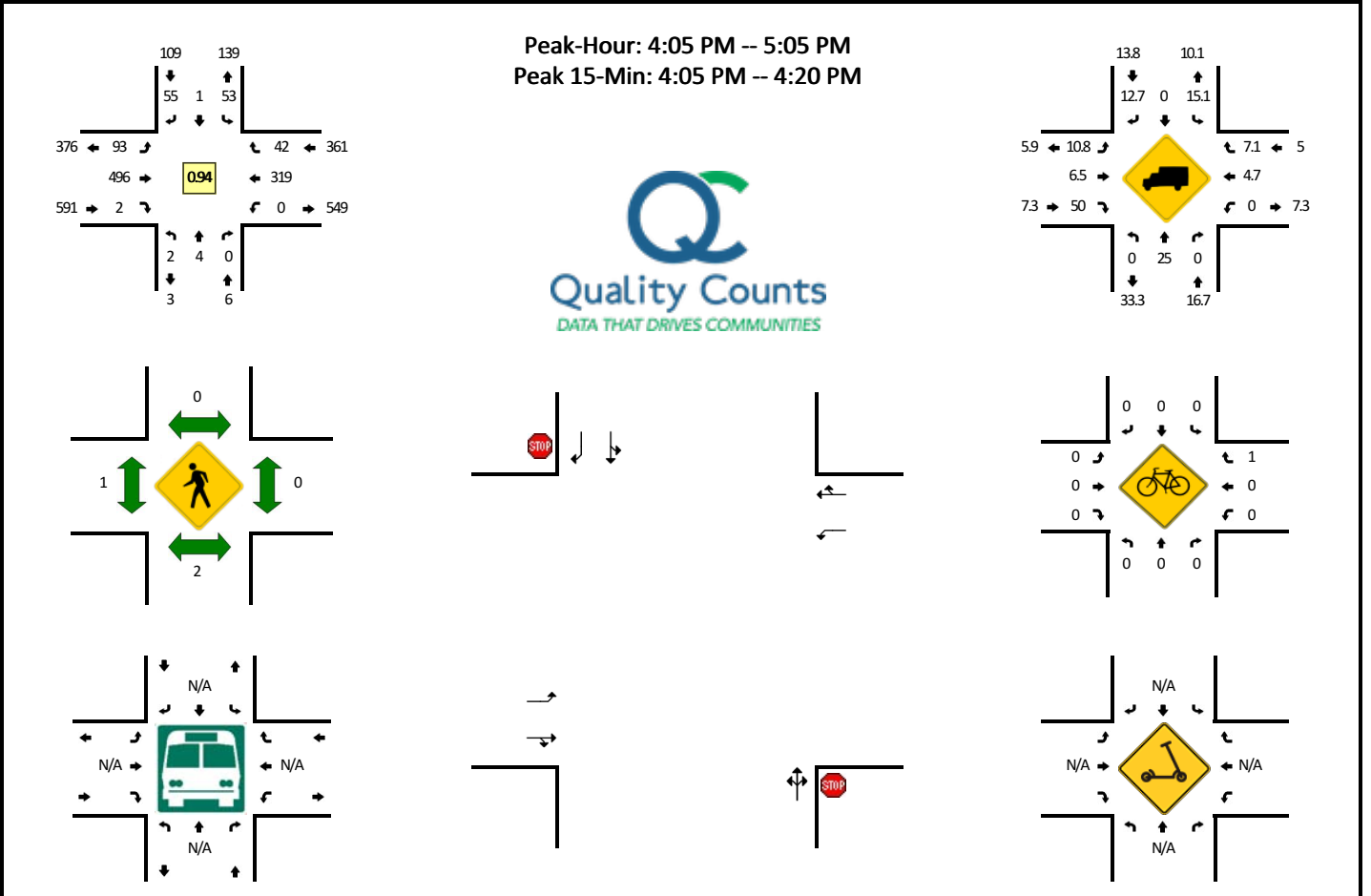


5-Min Count Period Beginning At	SE 172nd Ave/SE Anderegg Pkwy (Northbound)				SE 172nd Ave/SE Anderegg Pkwy (Southbound)				OR-212 (Eastbound)				OR-212 (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	4	5	0	0	16	5	26	0	16	76	8	0	0	55	3	0	214	
4:05 PM	1	2	3	0	12	5	25	0	27	57	5	0	1	52	4	0	194	
4:10 PM	3	1	0	0	5	3	31	0	24	69	5	0	1	54	4	0	200	
4:15 PM	1	2	3	0	18	5	29	0	13	62	7	0	0	68	4	0	212	
4:20 PM	2	5	1	0	9	6	29	0	15	61	6	0	1	48	1	0	184	
4:25 PM	2	0	2	0	9	7	22	0	15	58	6	0	1	52	3	0	177	
4:30 PM	2	1	5	0	9	5	27	0	20	56	2	0	1	59	1	0	188	
4:35 PM	3	2	2	0	23	6	22	0	14	61	6	0	1	48	0	0	188	
4:40 PM	2	2	2	0	18	5	31	0	33	59	4	0	2	45	2	0	205	
4:45 PM	1	0	2	0	11	4	26	0	26	62	2	0	0	57	5	0	196	
4:50 PM	4	4	1	0	12	6	26	0	11	65	4	0	2	42	2	0	179	
4:55 PM	2	6	0	0	9	4	21	0	27	75	6	0	2	51	3	0	206	2343
5:00 PM	3	7	2	0	15	4	21	0	14	77	1	0	2	62	1	0	209	2338
5:05 PM	1	1	0	0	7	2	31	0	30	71	4	0	3	54	5	0	209	2353
5:10 PM	8	1	3	0	16	5	32	0	21	56	4	0	2	59	7	0	214	2367
5:15 PM	4	1	1	0	11	3	23	0	20	72	2	0	1	58	0	0	196	2351
5:20 PM	5	1	1	0	13	2	17	0	29	57	12	0	2	47	3	0	189	2356
5:25 PM	6	3	2	0	14	4	24	0	13	68	5	0	1	55	1	0	196	2375
5:30 PM	4	3	1	0	10	5	25	0	23	73	7	0	1	52	5	0	209	2396
5:35 PM	7	1	0	0	13	2	19	0	24	74	3	0	2	57	3	0	205	2413
5:40 PM	4	4	2	0	14	3	16	0	10	64	2	0	1	57	5	0	182	2390
5:45 PM	5	2	1	0	6	2	22	0	25	73	5	0	2	39	5	0	187	2381
5:50 PM	5	1	1	0	12	7	27	0	26	50	5	0	3	37	3	0	177	2379
5:55 PM	3	4	2	0	18	6	13	0	25	71	5	0	0	56	7	0	210	2383
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	48	36	20	0	152	44	336	0	260	816	36	0	28	700	52	0	2528	
Heavy Trucks	4	0	0		4	4	4		16	72	0		0	52	4		160	
Buses																		
Pedestrians		0				0				0				0			0	
Bicycles	0	4	0		0	0	0		0	0	0		0	0	0		4	
Scooters																		

Comments:

LOCATION: SE 122nd Ave -- SE Jennifer St
CITY/STATE: Clackamas, OR

QC JOB #: 16101916
DATE: Tue, May 23 2023



5-Min Count Period Beginning At	SE 122nd Ave (Northbound)				SE 122nd Ave (Southbound)				SE Jennifer St (Eastbound)				SE Jennifer St (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	0	0	0	2	0	9	0	12	33	0	0	0	31	1	0	88	
4:05 PM	0	0	0	0	2	0	5	0	6	42	2	0	0	34	2	0	93	
4:10 PM	0	3	0	0	4	0	4	0	6	44	0	0	0	24	5	0	90	
4:15 PM	1	1	0	0	7	0	6	0	10	41	0	0	0	29	6	0	101	
4:20 PM	0	0	0	0	4	0	4	0	8	32	0	0	0	20	3	0	71	
4:25 PM	0	0	0	0	3	0	6	0	7	39	0	0	0	30	6	0	91	
4:30 PM	0	0	0	0	0	0	3	0	11	37	0	0	0	20	2	0	73	
4:35 PM	0	0	0	0	4	0	2	0	11	46	0	0	0	29	1	0	93	
4:40 PM	1	0	0	0	12	0	6	0	9	45	0	0	0	31	2	0	106	
4:45 PM	0	0	0	0	6	0	5	0	2	35	0	0	0	27	3	0	78	
4:50 PM	0	0	0	0	4	0	5	0	8	56	0	0	0	23	2	0	98	
4:55 PM	0	0	0	0	4	0	4	0	6	42	0	0	0	21	3	0	80	1062
5:00 PM	0	0	0	0	3	1	5	0	9	37	0	0	0	31	7	0	93	1067
5:05 PM	0	0	0	0	4	0	5	0	8	46	0	0	0	27	2	0	92	1066
5:10 PM	0	1	1	0	6	0	1	0	2	33	0	0	0	22	3	0	69	1045
5:15 PM	0	0	0	0	4	0	1	0	2	43	1	0	0	19	3	0	73	1017
5:20 PM	0	0	0	0	9	0	5	0	6	53	0	0	0	16	0	0	89	1035
5:25 PM	0	1	2	0	5	0	4	0	5	40	1	0	0	18	3	0	79	1023
5:30 PM	0	0	0	0	2	0	6	0	3	50	0	0	0	26	4	0	91	1041
5:35 PM	0	0	0	0	2	0	6	0	3	41	0	0	0	14	3	0	69	1017
5:40 PM	0	0	0	0	6	0	3	0	11	29	0	0	0	11	3	0	63	974
5:45 PM	0	0	0	0	3	0	7	0	6	41	0	0	0	10	0	0	67	963
5:50 PM	0	0	0	0	1	0	4	0	2	41	0	0	0	19	3	0	70	935
5:55 PM	0	0	0	0	0	0	3	0	3	30	0	0	0	21	1	0	58	913
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	16	0	0	52	0	60	0	88	508	8	0	0	348	52	0	1136	
Heavy Trucks	0	4	0	0	16	0	12	0	4	44	4	0	0	16	8	0	108	
Buses																		
Pedestrians		4				0				0				0			4	
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0	
Scoters																		

Comments:













Appendix C

Intersection Operations Worksheets

Existing Traffic Conditions
1: I-205 SB On-Ramp & Sunrise Pkwy

Weekday AM Peak Hour

10/10/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↗	↖	↑↑					↖		↗
Traffic Volume (vph)	0	1061	282	15	2072	0	0	0	0	85	0	241
Future Volume (vph)	0	1061	282	15	2072	0	0	0	0	85	0	241
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	4.5	3.0	4.5					4.5		4.5
Lane Util. Factor		0.95	1.00	1.00	0.95					1.00		1.00
Frt		1.00	0.85	1.00	1.00					1.00		0.85
Flt Protected		1.00	1.00	0.95	1.00					0.95		1.00
Satd. Flow (prot)		3343	1392	1228	3343					1687		1509
Flt Permitted		1.00	1.00	0.95	1.00					0.95		1.00
Satd. Flow (perm)		3343	1392	1228	3343					1687		1509
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1153	307	16	2252	0	0	0	0	92	0	262
RTOR Reduction (vph)	0	0	93	0	0	0	0	0	0	0	0	53
Lane Group Flow (vph)	0	1153	214	16	2252	0	0	0	0	92	0	209
Heavy Vehicles (%)	0%	8%	16%	47%	8%	0%	0%	0%	0%	7%	0%	7%
Turn Type		NA	Perm	Prot	NA					Prot		Perm
Protected Phases		2		1	6					4		
Permitted Phases			2							4		4
Actuated Green, G (s)		82.2	82.2	3.3	89.5					19.0		19.0
Effective Green, g (s)		83.7	83.7	4.3	91.0					20.0		20.0
Actuated g/C Ratio		0.70	0.70	0.04	0.76					0.17		0.17
Clearance Time (s)		6.0	6.0	4.0	6.0					5.5		5.5
Vehicle Extension (s)		0.5	0.5	2.3	0.5					2.3		2.3
Lane Grp Cap (vph)		2331	970	44	2535					281		251
v/s Ratio Prot		0.34		0.01	c0.67					0.05		
v/s Ratio Perm			0.15									c0.14
v/c Ratio		0.49	0.22	0.36	0.89					0.33		0.83
Uniform Delay, d1		8.4	6.5	56.5	10.7					44.1		48.4
Progression Factor		1.00	1.00	1.04	1.43					1.00		1.00
Incremental Delay, d2		0.8	0.5	1.4	2.5					0.4		19.8
Delay (s)		9.1	7.0	60.2	17.9					44.5		68.2
Level of Service		A	A	E	B					D		E
Approach Delay (s)		8.7			18.2			0.0			62.0	
Approach LOS		A			B			A			E	
Intersection Summary												
HCM 2000 Control Delay			18.6		HCM 2000 Level of Service					B		
HCM 2000 Volume to Capacity ratio			0.90									
Actuated Cycle Length (s)			120.0		Sum of lost time (s)				12.0			
Intersection Capacity Utilization			79.7%		ICU Level of Service					D		
Analysis Period (min)			15									
c Critical Lane Group												

Existing Traffic Conditions
1: I-205 SB On-Ramp & Sunrise Pkwy

Weekday AM Peak Hour
10/10/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↗	↖	↑↑					↘		↗
Traffic Volume (veh/h)	0	1061	282	15	2072	0	0	0	0	85	0	241
Future Volume (veh/h)	0	1061	282	15	2072	0	0	0	0	85	0	241
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1781	1663	1203	1781	0				1796	0	1796
Adj Flow Rate, veh/h	0	1153	0	16	2252	0				92	0	262
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	8	16	47	8	0				7	0	7
Cap, veh/h	0	2337		25	2496	0				321	0	285
Arrive On Green	0.00	0.69	0.00	0.04	1.00	0.00				0.19	0.00	0.19
Sat Flow, veh/h	0	3474	1409	1146	3474	0				1711	0	1522
Grp Volume(v), veh/h	0	1153	0	16	2252	0				92	0	262
Grp Sat Flow(s),veh/h/ln	0	1692	1409	1146	1692	0				1711	0	1522
Q Serve(g_s), s	0.0	19.2	0.0	1.6	0.0	0.0				5.5	0.0	20.3
Cycle Q Clear(g_c), s	0.0	19.2	0.0	1.6	0.0	0.0				5.5	0.0	20.3
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	2337		25	2496	0				321	0	285
V/C Ratio(X)	0.00	0.49		0.63	0.90	0.00				0.29	0.00	0.92
Avail Cap(c_a), veh/h	0	2337		210	2496	0				321	0	285
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	0.00	0.33	0.33	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	8.7	0.0	56.9	0.0	0.0				41.9	0.0	47.8
Incr Delay (d2), s/veh	0.0	0.7	0.0	5.1	2.1	0.0				0.3	0.0	32.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	11.0	0.0	0.9	1.3	0.0				4.3	0.0	15.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	9.5	0.0	62.0	2.1	0.0				42.2	0.0	80.1
LnGrp LOS	A	A		E	A	A				D	A	F
Approach Vol, veh/h		1153			2268						354	
Approach Delay, s/veh		9.5			2.5						70.3	
Approach LOS		A			A						E	
Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	5.7	87.3		27.0		93.0						
Change Period (Y+Rc), s	4.0	6.0		5.5		6.0						
Max Green Setting (Gmax), s	21.0	62.0		21.5		87.0						
Max Q Clear Time (g_c+I1), s	3.6	21.2		22.3		2.0						
Green Ext Time (p_c), s	0.0	2.6		0.0		7.9						

Intersection Summary

HCM 6th Ctrl Delay	11.0
HCM 6th LOS	B

Notes

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

Existing Traffic Conditions
2: I-205 SB Off-Ramp/OR 213 NB & Sunrise Pkwy

Weekday AM Peak Hour

10/10/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations	↘	↑↑			↑↑		↘↘	↘		↘		↘↘	
Traffic Volume (vph)	221	925	0	0	727	146	594	2	365	22	0	766	
Future Volume (vph)	221	925	0	0	727	146	594	2	365	22	0	766	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)	3.0	4.5			4.5		4.0	4.0		4.5		4.0	
Lane Util. Factor	1.00	0.95			0.95		0.97	1.00		1.00		0.88	
Frbp, ped/bikes	1.00	1.00			1.00		1.00	1.00		1.00		1.00	
Flpb, ped/bikes	1.00	1.00			1.00		1.00	1.00		1.00		1.00	
Frt	1.00	1.00			0.97		1.00	0.85		1.00		0.85	
Flt Protected	0.95	1.00			1.00		0.95	1.00		0.95		1.00	
Satd. Flow (prot)	1703	3343			3279		3242	1371		1467		2608	
Flt Permitted	0.95	1.00			1.00		0.95	1.00		0.95		1.00	
Satd. Flow (perm)	1703	3343			3279		3242	1371		1467		2608	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	
Adj. Flow (vph)	240	1005	0	0	790	159	646	2	397	24	0	833	
RTOR Reduction (vph)	0	0	0	0	14	0	0	214	0	0	0	83	
Lane Group Flow (vph)	240	1005	0	0	935	0	646	185	0	24	0	750	
Confl. Peds. (#/hr)			1	1									
Heavy Vehicles (%)	6%	8%	0%	0%	8%	4%	8%	0%	18%	23%	0%	9%	
Turn Type	Prot	NA			NA		Prot	NA		Prot		pt+ov	
Protected Phases	5	2			6		3	8		7		4 5	
Permitted Phases													
Actuated Green, G (s)	31.5	68.2			32.7		27.9	24.9		9.9		42.4	
Effective Green, g (s)	32.5	69.7			34.2		29.4	26.4		10.9		41.4	
Actuated g/C Ratio	0.27	0.58			0.29		0.24	0.22		0.09		0.34	
Clearance Time (s)	4.0	6.0			6.0		5.5	5.5		5.5			
Vehicle Extension (s)	2.3	4.6			4.6		2.3	2.3		2.3			
Lane Grp Cap (vph)	461	1941			934		794	301		133		899	
v/s Ratio Prot	0.14	0.30			c0.29		c0.20	0.14		0.02		c0.29	
v/s Ratio Perm													
v/c Ratio	0.52	0.52			1.00		0.81	0.62		0.18		0.83	
Uniform Delay, d1	37.1	15.1			42.9		42.7	42.2		50.4		36.1	
Progression Factor	0.93	1.04			1.00		1.00	1.00		1.00		1.00	
Incremental Delay, d2	3.7	0.9			29.8		6.2	3.0		0.4		6.5	
Delay (s)	38.3	16.6			72.7		48.9	45.2		50.8		42.7	
Level of Service	D	B			E		D	D		D		D	
Approach Delay (s)		20.8			72.7			47.5			42.9		
Approach LOS		C			E			D			D		
Intersection Summary													
HCM 2000 Control Delay			44.3		HCM 2000 Level of Service					D			
HCM 2000 Volume to Capacity ratio			0.89										
Actuated Cycle Length (s)			120.0		Sum of lost time (s)					16.0			
Intersection Capacity Utilization			78.9%		ICU Level of Service					D			
Analysis Period (min)			15										

c Critical Lane Group

Existing Traffic Conditions
2: I-205 SB Off-Ramp/OR 213 NB & Sunrise Pkwy

Weekday AM Peak Hour

10/10/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑			↑↑		↖↖	↑		↖		↖↖
Traffic Volume (veh/h)	221	925	0	0	727	146	594	2	365	22	0	766
Future Volume (veh/h)	221	925	0	0	727	146	594	2	365	22	0	766
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1811	1781	0	0	1781	1841	1781	1900	1633	1559	0	1767
Adj Flow Rate, veh/h	240	1005	0	0	790	159	646	2	397	24	0	833
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	6	8	0	0	8	4	8	0	18	23	0	9
Cap, veh/h	275	2412	0	0	1435	289	713	1	240	43	0	0
Arrive On Green	0.32	1.00	0.00	0.00	0.51	0.50	0.22	0.15	0.14	0.03	0.00	0.01
Sat Flow, veh/h	1725	3474	0	0	2896	565	3291	8	1603	1485	24	
Grp Volume(v), veh/h	240	1005	0	0	476	473	646	0	399	24	64.1	
Grp Sat Flow(s),veh/h/ln	1725	1692	0	0	1692	1680	1646	0	1611	1485	E	
Q Serve(g_s), s	15.7	0.0	0.0	0.0	23.0	23.1	23.0	0.0	18.0	1.9		
Cycle Q Clear(g_c), s	15.7	0.0	0.0	0.0	23.0	23.1	23.0	0.0	18.0	1.9		
Prop In Lane	1.00		0.00	0.00		0.34	1.00		0.99	1.00		
Lane Grp Cap(c), veh/h	275	2412	0	0	865	859	713	0	242	43		
V/C Ratio(X)	0.87	0.42	0.00	0.00	0.55	0.55	0.91	0.00	1.65	0.55		
Avail Cap(c_a), veh/h	546	2412	0	0	865	859	713	0	242	217		
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	0.88	0.88	0.00	0.00	0.98	0.98	1.00	0.00	1.00	1.00		
Uniform Delay (d), s/veh	39.7	0.0	0.0	0.0	20.0	20.2	45.8	0.0	51.7	57.5		
Incr Delay (d2), s/veh	4.8	0.5	0.0	0.0	1.1	1.1	15.0	0.0	310.6	6.6		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(95%),veh/ln	9.8	0.3	0.0	0.0	14.1	14.1	16.2	0.0	44.1	1.4		
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	44.4	0.5	0.0	0.0	21.1	21.3	60.8	0.0	362.4	64.1		
LnGrp LOS	D	A	A	A	C	C	E	A	F	E		
Approach Vol, veh/h		1245			949			1045				
Approach Delay, s/veh		8.9			21.2			176.0				
Approach LOS		A			C			F				
Timer - Assigned Phs		2	3		5	6	7	8				
Phs Duration (G+Y+Rc), s		90.0	30.0		24.2	65.8	8.0	22.0				
Change Period (Y+Rc), s		6.0	5.5		6.0	* 6	5.5	5.5				
Max Green Setting (Gmax), s		70.0	24.5		37.0	* 29	16.5	16.5				
Max Q Clear Time (g_c+I1), s		2.0	25.0		17.7	25.1	3.9	20.0				
Green Ext Time (p_c), s		18.4	0.0		0.4	2.7	0.0	0.0				

Intersection Summary

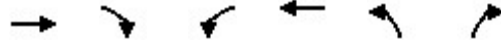
HCM 6th Ctrl Delay	66.4
HCM 6th LOS	E

Notes

- User approved pedestrian interval to be less than phase max green.
- * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Existing Traffic Conditions
3: I-205 NB On-Ramp & Sunrise Pkwy

Weekday AM Peak Hour
10/10/2023



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↓	↑↑		
Traffic Volume (vph)	754	558	325	873	0	0
Future Volume (vph)	754	558	325	873	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	1.0	4.0		
Lane Util. Factor	0.95	1.00	1.00	0.95		
Frt	1.00	0.85	1.00	1.00		
Flt Protected	1.00	1.00	0.95	1.00		
Satd. Flow (prot)	3223	1509	1517	3505		
Flt Permitted	1.00	1.00	0.95	1.00		
Satd. Flow (perm)	3223	1509	1517	3505		
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	769	569	332	891	0	0
RTOR Reduction (vph)	0	189	0	0	0	0
Lane Group Flow (vph)	769	380	332	891	0	0
Heavy Vehicles (%)	12%	7%	19%	3%	0%	0%
Turn Type	NA	Perm	Prot	NA		
Protected Phases	2		1	6		
Permitted Phases		2				
Actuated Green, G (s)	28.5	28.5	18.1	57.6		
Effective Green, g (s)	31.5	31.5	21.1	57.6		
Actuated g/C Ratio	0.55	0.55	0.37	1.00		
Clearance Time (s)	7.0	7.0	4.0	7.0		
Vehicle Extension (s)	4.7	4.7	2.3	4.7		
Lane Grp Cap (vph)	1762	825	555	3505		
v/s Ratio Prot	0.24		c0.22	0.25		
v/s Ratio Perm		c0.25				
v/c Ratio	0.44	0.46	0.60	0.25		
Uniform Delay, d1	7.8	7.9	14.8	0.0		
Progression Factor	1.00	1.00	1.00	1.00		
Incremental Delay, d2	0.3	0.8	1.3	0.1		
Delay (s)	8.1	8.7	16.1	0.1		
Level of Service	A	A	B	A		
Approach Delay (s)	8.3			4.4	0.0	
Approach LOS	A			A	A	

Intersection Summary			
HCM 2000 Control Delay	6.5	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	57.6	Sum of lost time (s)	12.0
Intersection Capacity Utilization	59.2%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

HCM 6th Edition methodology does not support exclusive ped or hold phases.

Existing Traffic Conditions
4: SE 122nd Avenue/Sunrise Pkwy & OR 212

Weekday AM Peak Hour
10/10/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	21	665	45	18	963	1091	20	86	10	470	176	108
Future Volume (vph)	21	665	45	18	963	1091	20	86	10	470	176	108
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.2		4.0	4.2	5.4	4.0	4.8		3.0	3.8	3.0
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00	1.00	1.00		0.97	1.00	1.00
Frt	1.00	0.99		1.00	1.00	0.85	1.00	0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1388	3114		1543	3343	1568	1203	1289		3242	1597	1417
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1388	3114		1543	3343	1568	1203	1289		3242	1597	1417
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	22	707	48	19	1024	1161	21	91	11	500	187	115
RTOR Reduction (vph)	0	3	0	0	0	397	0	4	0	0	0	0
Lane Group Flow (vph)	22	752	0	19	1024	764	21	98	0	500	187	115
Heavy Vehicles (%)	30%	14%	27%	17%	8%	3%	50%	48%	20%	8%	19%	14%
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA		Prot	NA	Free
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases						6						Free
Actuated Green, G (s)	5.6	69.8		3.1	67.3	67.3	5.1	14.2		24.7	33.8	130.0
Effective Green, g (s)	5.6	71.0		3.1	68.5	67.3	5.1	14.2		25.7	34.8	130.0
Actuated g/C Ratio	0.04	0.55		0.02	0.53	0.52	0.04	0.11		0.20	0.27	1.00
Clearance Time (s)	4.0	5.4		4.0	5.4	5.4	4.0	4.8		4.0	4.8	
Vehicle Extension (s)	2.0	4.6		2.0	4.6	4.6	2.3	2.3		2.3	2.3	
Lane Grp Cap (vph)	59	1700		36	1761	811	47	140		640	427	1417
v/s Ratio Prot	0.02	c0.24		0.01	0.31		0.02	c0.08		c0.15	0.12	
v/s Ratio Perm						c0.49						0.08
v/c Ratio	0.37	0.44		0.53	0.58	0.94	0.45	0.70		0.78	0.44	0.08
Uniform Delay, d1	60.5	17.7		62.7	21.0	29.5	61.1	55.9		49.5	39.5	0.0
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	1.4	0.8		6.3	1.4	20.2	3.9	13.2		5.8	0.4	0.1
Delay (s)	61.9	18.5		69.0	22.4	49.7	65.0	69.1		55.3	39.9	0.1
Level of Service	E	B		E	C	D	E	E		E	D	A
Approach Delay (s)		19.7			37.2			68.4			43.8	
Approach LOS		B			D			E			D	

Intersection Summary		
HCM 2000 Control Delay	36.1	HCM 2000 Level of Service D
HCM 2000 Volume to Capacity ratio	0.85	
Actuated Cycle Length (s)	130.0	Sum of lost time (s) 16.0
Intersection Capacity Utilization	87.9%	ICU Level of Service E
Analysis Period (min)	15	
c Critical Lane Group		

Existing Traffic Conditions
4: SE 122nd Avenue/Sunrise Pkwy & OR 212

Weekday AM Peak Hour
10/10/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	21	665	45	18	963	1091	20	86	10	470	176	108
Future Volume (veh/h)	21	665	45	18	963	1091	20	86	10	470	176	108
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1455	1693	1500	1648	1781	1856	1159	1189	1604	1781	1618	1693
Adj Flow Rate, veh/h	22	707	48	19	1024	0	21	91	11	500	187	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	30	14	27	17	8	3	50	48	20	8	19	14
Cap, veh/h	252	1784	121	24	1376		19	107	13	557	421	
Arrive On Green	0.18	0.58	0.57	0.01	0.13	0.00	0.02	0.10	0.10	0.17	0.26	0.00
Sat Flow, veh/h	1386	3056	207	1570	3385	1572	1104	1040	126	3291	1618	1434
Grp Volume(v), veh/h	22	372	383	19	1024	0	21	0	102	500	187	0
Grp Sat Flow(s),veh/h/ln	1386	1608	1655	1570	1692	1572	1104	0	1166	1646	1618	1434
Q Serve(g_s), s	1.7	16.3	16.3	1.6	37.8	0.0	2.3	0.0	11.2	19.3	12.6	0.0
Cycle Q Clear(g_c), s	1.7	16.3	16.3	1.6	37.8	0.0	2.3	0.0	11.2	19.3	12.6	0.0
Prop In Lane	1.00		0.13	1.00		1.00	1.00		0.11	1.00		1.00
Lane Grp Cap(c), veh/h	252	939	966	24	1376		19	0	119	557	421	
V/C Ratio(X)	0.09	0.40	0.40	0.79	0.74		1.08	0.00	0.85	0.90	0.44	
Avail Cap(c_a), veh/h	252	939	966	133	1635		119	0	163	557	421	
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	44.2	14.6	14.7	64.5	49.8	0.0	63.9	0.0	57.4	52.9	40.2	0.0
Incr Delay (d2), s/veh	0.1	1.3	1.2	19.1	3.7	0.0	98.8	0.0	22.8	17.0	0.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.1	10.3	10.6	1.4	24.9	0.0	2.1	0.0	7.3	14.3	8.8	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	44.3	15.9	15.9	83.6	53.5	0.0	162.7	0.0	80.2	69.9	40.7	0.0
LnGrp LOS	D	B	B	F	D		F	A	F	E	D	
Approach Vol, veh/h		777			1043			123			687	
Approach Delay, s/veh		16.7			54.0			94.3			62.0	
Approach LOS		B			D			F			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	6.0	80.1	6.3	37.6	29.0	57.0	25.8	18.1				
Change Period (Y+Rc), s	4.0	* 5.4	4.0	4.8	* 5.4	* 5.4	4.8	* 4.8				
Max Green Setting (Gmax), s	11.0	* 62	14.0	25.2	* 11	* 62	21.0	* 18				
Max Q Clear Time (g_c+I1), s	3.6	18.3	4.3	14.6	3.7	39.8	21.3	13.2				
Green Ext Time (p_c), s	0.0	10.3	0.0	0.5	0.0	11.8	0.0	0.1				

Intersection Summary

HCM 6th Ctrl Delay	47.0
HCM 6th LOS	D

Notes

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

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

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

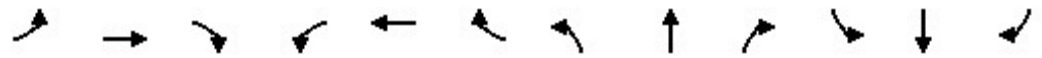
Existing Traffic Conditions
5: 135th Ave & OR 212

Weekday AM Peak Hour
10/10/2023

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	57	809	48	211	1893	113	97	48	196	91	110	149
Future Volume (vph)	57	809	48	211	1893	113	97	48	196	91	110	149
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.1	4.4	5.4	3.1	4.4		4.0	4.5	4.5	4.0	4.5	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		1.00	1.00	1.00	1.00	1.00	
Frbp, ped/bikes	1.00	1.00	0.98	1.00	1.00		1.00	1.00	0.99	1.00	0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85	1.00	0.91	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1626	3167	1346	1671	3313		1671	1727	1396	1736	1646	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1626	3167	1346	1671	3313		1671	1727	1396	1736	1646	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	60	852	51	222	1993	119	102	51	206	96	116	157
RTOR Reduction (vph)	0	0	25	0	3	0	0	0	190	0	38	0
Lane Group Flow (vph)	60	852	26	222	2109	0	102	51	16	96	235	0
Confl. Peds. (#/hr)	1		2	2		1	1		2	2		1
Confl. Bikes (#/hr)						3						1
Heavy Vehicles (%)	11%	14%	17%	8%	8%	6%	8%	10%	14%	4%	4%	5%
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2						8			
Actuated Green, G (s)	7.1	65.7	65.7	18.9	77.5		12.0	9.8	9.8	17.7	15.5	
Effective Green, g (s)	8.0	66.7	65.7	19.8	78.5		12.0	9.8	9.8	17.7	15.5	
Actuated g/C Ratio	0.06	0.51	0.51	0.15	0.60		0.09	0.08	0.08	0.14	0.12	
Clearance Time (s)	4.0	5.4	5.4	4.0	5.4		4.0	4.5	4.5	4.0	4.5	
Vehicle Extension (s)	2.3	4.5	4.5	2.3	4.5		2.3	3.0	3.0	2.3	3.0	
Lane Grp Cap (vph)	100	1624	680	254	2000		154	130	105	236	196	
v/s Ratio Prot	0.04	0.27		c0.13	c0.64		c0.06	0.03		0.06	c0.14	
v/s Ratio Perm			0.02						0.01			
v/c Ratio	0.60	0.52	0.04	0.87	1.05		0.66	0.39	0.15	0.41	1.20	
Uniform Delay, d1	59.4	21.1	16.2	53.9	25.8		57.0	57.3	56.2	51.3	57.2	
Progression Factor	1.00	1.00	1.00	0.98	0.94		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	7.2	1.2	0.1	15.5	31.5		8.8	2.0	0.7	0.7	128.4	
Delay (s)	66.7	22.3	16.3	68.1	55.7		65.8	59.2	56.8	52.0	185.7	
Level of Service	E	C	B	E	E		E	E	E	D	F	
Approach Delay (s)		24.8			56.9			59.7			150.9	
Approach LOS		C			E			E			F	
Intersection Summary												
HCM 2000 Control Delay			58.1			HCM 2000 Level of Service			E			
HCM 2000 Volume to Capacity ratio			1.02									
Actuated Cycle Length (s)			130.0			Sum of lost time (s)			16.0			
Intersection Capacity Utilization			94.2%			ICU Level of Service			F			
Analysis Period (min)			15									
c Critical Lane Group												

Existing Traffic Conditions
5: 135th Ave & OR 212

Weekday AM Peak Hour
10/10/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	57	809	48	211	1893	113	97	48	196	91	110	149
Future Volume (veh/h)	57	809	48	211	1893	113	97	48	196	91	110	149
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.98	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1737	1693	1648	1781	1781	1811	1781	1752	1693	1841	1841	1826
Adj Flow Rate, veh/h	60	852	51	222	1993	119	102	51	0	96	116	157
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	11	14	17	8	8	6	8	10	14	4	4	5
Cap, veh/h	85	1758	751	234	2052	121	124	90		247	84	113
Arrive On Green	0.10	1.00	1.00	0.28	1.00	1.00	0.07	0.05	0.00	0.14	0.12	0.12
Sat Flow, veh/h	1654	3216	1394	1697	3243	191	1697	1752	1434	1753	701	948
Grp Volume(v), veh/h	60	852	51	222	1029	1083	102	51	0	96	0	273
Grp Sat Flow(s),veh/h/ln	1654	1608	1394	1697	1692	1742	1697	1752	1434	1753	0	1649
Q Serve(g_s), s	4.6	0.0	0.0	16.7	0.0	0.0	7.7	3.7	0.0	6.5	0.0	15.5
Cycle Q Clear(g_c), s	4.6	0.0	0.0	16.7	0.0	0.0	7.7	3.7	0.0	6.5	0.0	15.5
Prop In Lane	1.00		1.00	1.00		0.11	1.00		1.00	1.00		0.58
Lane Grp Cap(c), veh/h	85	1758	751	234	1071	1102	124	90		247	0	197
V/C Ratio(X)	0.70	0.48	0.07	0.95	0.96	0.98	0.82	0.57		0.39	0.00	1.39
Avail Cap(c_a), veh/h	126	1758	751	234	1071	1102	196	209		247	0	197
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.39	0.39	0.39	1.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	57.3	0.0	0.0	46.7	0.0	0.0	59.4	60.3	0.0	50.7	0.0	57.3
Incr Delay (d2), s/veh	6.2	1.0	0.2	24.9	10.2	13.4	9.9	5.5	0.0	0.6	0.0	203.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	3.6	0.4	0.1	10.6	4.8	6.2	6.6	3.2	0.0	5.2	0.0	27.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	63.6	1.0	0.2	71.5	10.2	13.4	69.3	65.8	0.0	51.3	0.0	260.4
LnGrp LOS	E	A	A	E	B	B	E	E		D	A	F
Approach Vol, veh/h		963			2334			153				369
Approach Delay, s/veh		4.8			17.5			68.2				206.0
Approach LOS		A			B			E				F
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	21.0	75.5	13.5	20.0	9.8	86.7	22.3	11.2				
Change Period (Y+Rc), s	4.0	* 5.4	4.0	4.5	4.0	* 5.4	4.0	4.5				
Max Green Setting (Gmax), s	17.0	* 65	15.0	15.5	9.0	* 73	15.0	15.5				
Max Q Clear Time (g_c+I1), s	18.7	2.0	9.7	17.5	6.6	2.0	8.5	5.7				
Green Ext Time (p_c), s	0.0	14.3	0.1	0.0	0.0	58.9	0.1	0.1				

Intersection Summary

HCM 6th Ctrl Delay	34.5
HCM 6th LOS	C

Notes

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

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

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

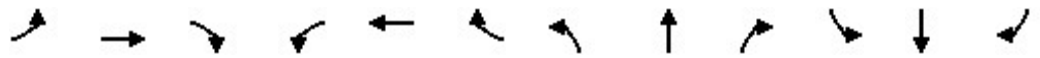
Existing Traffic Conditions
6: 142nd Ave & OR 212

Weekday AM Peak Hour
10/10/2023

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (vph)	47	1020	23	6	1963	61	40	6	17	57	1	196	
Future Volume (vph)	47	1020	23	6	1963	61	40	6	17	57	1	196	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)	4.0	5.4	4.8	4.0	5.4	5.4		4.0	4.0		4.8		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00		1.00	1.00		1.00		
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00	0.98		1.00	0.98		1.00		
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00		
Frt	1.00	1.00	0.85	1.00	1.00	0.85		1.00	0.85		0.90		
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00		0.96	1.00		0.99		
Satd. Flow (prot)	1597	3195	1396	1805	3343	1533		1789	1346		1625		
Flt Permitted	0.04	1.00	1.00	0.23	1.00	1.00		0.38	1.00		0.91		
Satd. Flow (perm)	72	3195	1396	446	3343	1533		710	1346		1494		
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	
Adj. Flow (vph)	49	1062	24	6	2045	64	42	6	18	59	1	204	
RTOR Reduction (vph)	0	0	21	0	0	15	0	0	15	0	93	0	
Lane Group Flow (vph)	49	1063	3	6	2045	49	0	48	3	0	171	0	
Confl. Peds. (#/hr)			1	1					4	4			
Confl. Bikes (#/hr)						4							
Heavy Vehicles (%)	13%	13%	13%	0%	8%	3%	2%	0%	18%	5%	0%	3%	
Turn Type	pm+pt	NA	custom	pm+pt	NA	Perm	Perm	NA	Perm	Perm	NA		
Protected Phases	5	2		1	6			8			4		
Permitted Phases	2		4	6		6	8		8	4			
Actuated Green, G (s)	101.4	92.8	18.2	93.8	89.0	89.0		19.0	19.0		18.2		
Effective Green, g (s)	101.4	92.8	18.2	93.8	89.0	89.0		19.0	19.0		18.2		
Actuated g/C Ratio	0.78	0.71	0.14	0.72	0.68	0.68		0.15	0.15		0.14		
Clearance Time (s)	4.0	5.4	4.8	4.0	5.4	5.4		4.0	4.0		4.8		
Vehicle Extension (s)	2.3	4.5	2.5	2.3	4.5	4.5		2.5	2.5		2.5		
Lane Grp Cap (vph)	157	2280	195	371	2288	1049		103	196		209		
v/s Ratio Prot	c0.02	0.33		0.00	c0.61								
v/s Ratio Perm	0.22		0.00	0.01		0.03		0.07	0.00		c0.11		
v/c Ratio	0.31	0.47	0.02	0.02	0.89	0.05		0.47	0.01		0.82		
Uniform Delay, d1	37.4	8.0	48.2	8.8	16.7	6.7		50.9	47.5		54.3		
Progression Factor	0.69	1.17	7.99	1.00	1.00	1.00		1.00	1.00		1.00		
Incremental Delay, d2	0.6	0.6	0.0	0.0	5.9	0.1		2.4	0.0		21.0		
Delay (s)	26.3	9.9	385.2	8.8	22.6	6.8		53.3	47.5		75.3		
Level of Service	C	A	F	A	C	A		D	D		E		
Approach Delay (s)		18.5			22.0			51.7			75.3		
Approach LOS		B			C			D			E		
Intersection Summary													
HCM 2000 Control Delay			25.4									HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio			0.84										
Actuated Cycle Length (s)			130.0									Sum of lost time (s)	14.2
Intersection Capacity Utilization			84.7%									ICU Level of Service	E
Analysis Period (min)			15										
c Critical Lane Group													

Existing Traffic Conditions
6: 142nd Ave & OR 212

Weekday AM Peak Hour
10/10/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗	↘	↖	↗	↘	↖	↗	↘	↖	↗	↘
Traffic Volume (veh/h)	47	1020	23	6	1963	61	40	6	17	57	1	196
Future Volume (veh/h)	47	1020	23	6	1963	61	40	6	17	57	1	196
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.98	1.00		0.99	0.99		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1707	1707	1707	1900	1781	1856	1870	1900	1633	1826	1900	1856
Adj Flow Rate, veh/h	49	1062	0	6	2045	64	42	6	18	59	1	204
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	13	13	13	0	8	3	2	0	18	5	0	3
Cap, veh/h	213	1242		827	2264	1028	126	15	171	56	6	96
Arrive On Green	0.19	0.77	0.00	0.38	0.67	0.67	0.12	0.12	0.12	0.12	0.12	0.12
Sat Flow, veh/h	1626	3244	1447	1810	3385	1536	592	118	1371	175	51	769
Grp Volume(v), veh/h	49	1062	0	6	2045	64	48	0	18	264	0	0
Grp Sat Flow(s),veh/h/ln	1626	1622	1447	1810	1692	1536	710	0	1371	995	0	0
Q Serve(g_s), s	0.0	28.9	0.0	0.0	65.7	1.9	0.0	0.0	1.5	8.2	0.0	0.0
Cycle Q Clear(g_c), s	0.0	28.9	0.0	0.0	65.7	1.9	8.0	0.0	1.5	16.2	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	0.87		1.00	0.22		0.77
Lane Grp Cap(c), veh/h	213	1242		827	2264	1028	140	0	171	158	0	0
V/C Ratio(X)	0.23	0.86		0.01	0.90	0.06	0.34	0.00	0.11	1.67	0.00	0.00
Avail Cap(c_a), veh/h	213	2211		827	2307	1047	148	0	179	158	0	0
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.82	0.82	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	47.3	12.8	0.0	14.6	18.0	7.4	53.1	0.0	50.5	59.9	0.0	0.0
Incr Delay (d2), s/veh	0.3	6.4	0.0	0.0	6.5	0.1	1.1	0.0	0.2	328.9	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	2.4	9.1	0.0	0.2	33.8	1.2	2.7	0.0	1.0	31.9	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	47.6	19.2	0.0	14.6	24.4	7.5	54.2	0.0	50.7	388.8	0.0	0.0
LnGrp LOS	D	B		B	C	A	D	A	D	F	A	A
Approach Vol, veh/h		1111			2115			66			264	
Approach Delay, s/veh		20.4			23.9			53.2			388.8	
Approach LOS		C			C			D			F	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	53.8	55.2		21.0	16.6	92.4		21.0				
Change Period (Y+Rc), s	* 4	5.4		4.8	* 4	5.4		* 4.8				
Max Green Setting (Gmax), s	* 11	88.6		16.2	* 11	88.6		* 17				
Max Q Clear Time (g_c+I1), s	2.0	30.9		18.2	2.0	67.7		10.0				
Green Ext Time (p_c), s	0.0	18.9		0.0	0.0	19.3		0.1				

Intersection Summary

HCM 6th Ctrl Delay	50.5
HCM 6th LOS	D

Notes

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

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

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

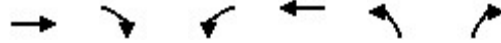
Intersection						
Int Delay, s/veh	11.8					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	84	992	1902	91	24	145
Future Vol, veh/h	84	992	1902	91	24	145
Conflicting Peds, #/hr	1	0	0	1	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	220	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	1	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	7	11	5	4	0	3
Mvmt Flow	88	1044	2002	96	25	153

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	2099	0	-	0	2749 1050
Stage 1	-	-	-	-	2051 -
Stage 2	-	-	-	-	698 -
Critical Hdwy	4.24	-	-	-	6.8 6.96
Critical Hdwy Stg 1	-	-	-	-	5.8 -
Critical Hdwy Stg 2	-	-	-	-	5.8 -
Follow-up Hdwy	2.27	-	-	-	3.5 3.33
Pot Cap-1 Maneuver	241	-	-	-	~ 16 222
Stage 1	-	-	-	-	87 -
Stage 2	-	-	-	-	460 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	241	-	-	-	~ 10 222
Mov Cap-2 Maneuver	-	-	-	-	46 -
Stage 1	-	-	-	-	55 -
Stage 2	-	-	-	-	460 -

Approach	EB	WB	SB
HCM Control Delay, s	2.2	0	212.2
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	241	-	-	-	144
HCM Lane V/C Ratio	0.367	-	-	-	1.235
HCM Control Delay (s)	28.3	-	-	-	212.2
HCM Lane LOS	D	-	-	-	F
HCM 95th %tile Q(veh)	1.6	-	-	-	10.6

Notes
 ~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↵	↑↑	↵↵	↵
Traffic Volume (vph)	636	380	158	1086	907	177
Future Volume (vph)	636	380	158	1086	907	177
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	5.4	4.0	6.0	5.4	4.0
Lane Util. Factor	0.95	1.00	1.00	0.95	0.97	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	3223	1404	1752	3343	3273	1495
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	3223	1404	1752	3343	3273	1495
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	669	400	166	1143	955	186
RTOR Reduction (vph)	0	127	0	0	0	0
Lane Group Flow (vph)	669	273	166	1143	955	186
Heavy Vehicles (%)	12%	15%	3%	8%	7%	8%
Turn Type	NA	pm+ov	Prot	NA	Prot	Free
Protected Phases	2	8	1	6	8	
Permitted Phases		2				Free
Actuated Green, G (s)	28.7	61.7	13.2	45.9	33.0	90.3
Effective Green, g (s)	28.7	61.7	13.2	45.9	33.0	90.3
Actuated g/C Ratio	0.32	0.68	0.15	0.51	0.37	1.00
Clearance Time (s)	6.0	5.4	4.0	6.0	5.4	
Vehicle Extension (s)	4.8	2.5	3.5	4.8	2.5	
Lane Grp Cap (vph)	1024	1043	256	1699	1196	1495
v/s Ratio Prot	0.21	0.10	0.09	c0.34	c0.29	
v/s Ratio Perm		0.10				0.12
v/c Ratio	0.65	0.26	0.65	0.67	0.80	0.12
Uniform Delay, d1	26.5	5.5	36.4	16.6	25.7	0.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.9	0.1	5.8	1.3	3.7	0.2
Delay (s)	28.5	5.6	42.2	17.9	29.4	0.2
Level of Service	C	A	D	B	C	A
Approach Delay (s)	19.9			21.0	24.6	
Approach LOS	B			C	C	

Intersection Summary			
HCM 2000 Control Delay	21.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	90.3	Sum of lost time (s)	15.4
Intersection Capacity Utilization	65.4%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Existing Traffic Conditions
8: OR 224 & OR 212

Weekday AM Peak Hour
10/10/2023



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↓	↑↑	↓	↓
Traffic Volume (veh/h)	636	380	158	1086	907	177
Future Volume (veh/h)	636	380	158	1086	907	177
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1722	1678	1856	1781	1796	1781
Adj Flow Rate, veh/h	669	400	166	1143	955	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	12	15	3	8	7	8
Cap, veh/h	1126	958	218	1819	1093	
Arrive On Green	0.34	0.34	0.12	0.54	0.33	0.00
Sat Flow, veh/h	3358	1422	1767	3474	3319	1510
Grp Volume(v), veh/h	669	400	166	1143	955	0
Grp Sat Flow(s),veh/h/ln	1636	1422	1767	1692	1659	1510
Q Serve(g_s), s	14.4	10.9	7.8	20.2	23.2	0.0
Cycle Q Clear(g_c), s	14.4	10.9	7.8	20.2	23.2	0.0
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	1126	958	218	1819	1093	
V/C Ratio(X)	0.59	0.42	0.76	0.63	0.87	
Avail Cap(c_a), veh/h	1758	1232	227	3399	1961	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	23.1	6.4	36.3	13.8	27.0	0.0
Incr Delay (d2), s/veh	1.0	0.6	14.1	0.7	1.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	9.3	11.6	7.5	11.6	14.0	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	24.1	6.9	50.4	14.5	28.8	0.0
LnGrp LOS	C	A	D	B	C	
Approach Vol, veh/h	1069			1309	955	
Approach Delay, s/veh	17.7			19.1	28.8	
Approach LOS	B			B	C	
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	16.6	35.5			52.0	33.6
Change Period (Y+Rc), s	6.0	* 6			6.0	5.4
Max Green Setting (Gmax), s	11.0	* 46			86.0	50.6
Max Q Clear Time (g_c+I1), s	9.8	16.4			22.2	25.2
Green Ext Time (p_c), s	0.1	13.0			23.8	3.0

Intersection Summary

HCM 6th Ctrl Delay		21.4	
HCM 6th LOS		C	

Notes

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

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

Existing Traffic Conditions
9: 172nd Ave & OR 212























Weekday AM Peak Hour
10/10/2023

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (vph)	252	539	16	9	804	71	77	59	17	69	23	298	
Future Volume (vph)	252	539	16	9	804	71	77	59	17	69	23	298	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)	4.5	6.5		4.5	6.5	6.5	5.0	5.0		6.2	6.2	4.5	
Lane Util. Factor	1.00	0.95		1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	
Frbp, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	0.99	1.00		1.00	1.00	1.00	
Frt	1.00	1.00		1.00	1.00	0.85	1.00	0.97		1.00	1.00	0.85	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	
Satd. Flow (prot)	1656	3154		1626	1759	1429	1788	1776		1700	1827	1520	
Flt Permitted	0.10	1.00		0.42	1.00	1.00	0.74	1.00		0.70	1.00	1.00	
Satd. Flow (perm)	176	3154		716	1759	1429	1394	1776		1256	1827	1520	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	
Adj. Flow (vph)	280	599	18	10	893	79	86	66	19	77	26	331	
RTOR Reduction (vph)	0	1	0	0	0	35	0	10	0	0	0	57	
Lane Group Flow (vph)	280	616	0	10	893	44	86	75	0	77	26	274	
Confl. Peds. (#/hr)							5		1	1		5	
Heavy Vehicles (%)	9%	14%	12%	11%	8%	13%	0%	2%	6%	6%	4%	5%	
Turn Type	pm+pt	NA		pm+pt	NA	Perm	Perm	NA		Perm	NA	pm+ov	
Protected Phases	5	2		1	6			8			4	5	
Permitted Phases	2			6		6	8			4		4	
Actuated Green, G (s)	89.1	83.6		65.6	64.6	64.6	14.9	14.9		13.7	13.7	33.7	
Effective Green, g (s)	89.1	83.6		65.6	64.6	64.6	14.9	14.9		13.7	13.7	33.7	
Actuated g/C Ratio	0.77	0.72		0.57	0.56	0.56	0.13	0.13		0.12	0.12	0.29	
Clearance Time (s)	4.5	6.5		4.5	6.5	6.5	5.0	5.0		6.2	6.2	4.5	
Vehicle Extension (s)	2.3	5.4		2.3	5.4	5.4	2.5	2.5		2.5	2.5	2.3	
Lane Grp Cap (vph)	392	2282		414	983	799	179	229		148	216	443	
v/s Ratio Prot	c0.12	0.20		0.00	c0.51			0.04			0.01	c0.11	
v/s Ratio Perm	0.43			0.01		0.03	0.06			0.06		0.07	
v/c Ratio	0.71	0.27		0.02	0.91	0.06	0.48	0.33		0.52	0.12	0.62	
Uniform Delay, d1	28.0	5.5		10.8	22.8	11.6	46.7	45.8		47.8	45.5	35.4	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	
Incremental Delay, d2	5.4	0.2		0.0	12.7	0.1	1.5	0.6		2.5	0.2	2.1	
Delay (s)	33.4	5.6		10.9	35.5	11.6	48.2	46.4		50.3	45.7	37.4	
Level of Service	C	A		B	D	B	D	D		D	D	D	
Approach Delay (s)		14.3			33.3			47.3			40.2		
Approach LOS		B			C			D			D		
Intersection Summary													
HCM 2000 Control Delay			28.6		HCM 2000 Level of Service						C		
HCM 2000 Volume to Capacity ratio			0.83										
Actuated Cycle Length (s)			115.5		Sum of lost time (s)						17.2		
Intersection Capacity Utilization			83.3%		ICU Level of Service						E		
Analysis Period (min)			15										

c Critical Lane Group

Existing Traffic Conditions
9: 172nd Ave & OR 212

Weekday AM Peak Hour
10/10/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	252	539	16	9	804	71	77	59	17	69	23	298
Future Volume (veh/h)	252	539	16	9	804	71	77	59	17	69	23	298
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	0.99		0.99	0.99		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1767	1693	1722	1737	1781	1707	1900	1870	1811	1811	1841	1826
Adj Flow Rate, veh/h	280	599	18	10	893	0	86	66	19	77	26	331
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	9	14	12	11	8	13	0	2	6	6	4	5
Cap, veh/h	305	2034	61	451	894		265	292	84	274	386	546
Arrive On Green	0.15	0.64	0.64	0.01	0.50	0.00	0.21	0.21	0.21	0.21	0.21	0.21
Sat Flow, veh/h	1682	3187	96	1654	1781	1447	1033	1392	401	1259	1841	1529
Grp Volume(v), veh/h	280	302	315	10	893	0	86	0	85	77	26	331
Grp Sat Flow(s),veh/h/ln	1682	1608	1675	1654	1781	1447	1033	0	1793	1259	1841	1529
Q Serve(g_s), s	15.4	10.1	10.1	0.4	60.4	0.0	8.8	0.0	4.7	6.5	1.4	21.5
Cycle Q Clear(g_c), s	15.4	10.1	10.1	0.4	60.4	0.0	10.1	0.0	4.7	11.3	1.4	21.5
Prop In Lane	1.00		0.06	1.00		1.00	1.00		0.22	1.00		1.00
Lane Grp Cap(c), veh/h	305	1026	1069	451	894		265	0	376	274	386	546
V/C Ratio(X)	0.92	0.29	0.29	0.02	1.00		0.32	0.00	0.23	0.28	0.07	0.61
Avail Cap(c_a), veh/h	346	1026	1069	648	894		348	0	520	374	531	667
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.2	9.7	9.7	14.5	30.0	0.0	42.2	0.0	39.5	44.2	38.2	32.0
Incr Delay (d2), s/veh	25.7	0.4	0.4	0.0	29.9	0.0	0.5	0.0	0.2	0.4	0.1	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	15.2	6.4	6.7	0.2	41.4	0.0	4.1	0.0	3.8	3.7	1.1	12.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	65.9	10.1	10.1	14.5	59.9	0.0	42.8	0.0	39.7	44.6	38.2	32.8
LnGrp LOS	E	B	B	B	E		D	A	D	D	D	C
Approach Vol, veh/h		897			903			171			434	
Approach Delay, s/veh		27.6			59.4			41.3			35.2	
Approach LOS		C			E			D			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.6	83.4		31.5	22.1	67.0		31.5				
Change Period (Y+Rc), s	4.5	6.5		6.2	4.5	6.5		* 6.2				
Max Green Setting (Gmax), s	15.5	60.5		34.8	20.5	60.5		* 35				
Max Q Clear Time (g_c+I1), s	2.4	12.1		23.5	17.4	62.4		12.1				
Green Ext Time (p_c), s	0.0	10.2		1.0	0.2	0.0		0.6				
Intersection Summary												
HCM 6th Ctrl Delay				41.9								
HCM 6th LOS				D								
Notes												
User approved pedestrian interval to be less than phase max green.												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												
Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.												

Intersection												
Int Delay, s/veh	3.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	66	239	3	1	226	33	0	1	0	52	4	114
Future Vol, veh/h	66	239	3	1	226	33	0	1	0	52	4	114
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	75	-	-	-	-	-	-	-	-	-	-	150
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	61	12	0	100	14	12	0	0	0	12	0	32
Mvmt Flow	72	260	3	1	246	36	0	1	0	57	4	124













Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	282	0	0	263	0	0	736	690	262	672	673	264
Stage 1	-	-	-	-	-	-	406	406	-	266	266	-
Stage 2	-	-	-	-	-	-	330	284	-	406	407	-
Critical Hdwy	4.71	-	-	5.1	-	-	7.1	6.5	6.2	7.22	6.5	6.52
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.22	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.22	5.5	-
Follow-up Hdwy	2.749	-	-	3.1	-	-	3.5	4	3.3	3.608	4	3.588
Pot Cap-1 Maneuver	1007	-	-	894	-	-	337	371	782	356	379	707
Stage 1	-	-	-	-	-	-	626	601	-	718	692	-
Stage 2	-	-	-	-	-	-	687	680	-	602	601	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1007	-	-	894	-	-	260	344	782	335	352	707
Mov Cap-2 Maneuver	-	-	-	-	-	-	260	344	-	335	352	-
Stage 1	-	-	-	-	-	-	582	558	-	667	691	-
Stage 2	-	-	-	-	-	-	562	679	-	558	558	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	1.9			0			15.5			13.5		
HCM LOS							C			B		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	344	1007	-	-	894	-	-	336	707
HCM Lane V/C Ratio	0.003	0.071	-	-	0.001	-	-	0.181	0.175
HCM Control Delay (s)	15.5	8.8	-	-	9	0	-	18.1	11.2
HCM Lane LOS	C	A	-	-	A	A	-	C	B
HCM 95th %tile Q(veh)	0	0.2	-	-	0	-	-	0.7	0.6

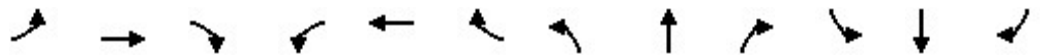
Existing Traffic Conditions
1: I-205 SB On-Ramp & Sunrise Pkwy

Weekday PM Peak Hour
10/10/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↗	↖	↑↑					↖		↗
Traffic Volume (vph)	0	1621	597	31	1322	0	0	0	0	96	0	324
Future Volume (vph)	0	1621	597	31	1322	0	0	0	0	96	0	324
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	2.5	4.0					3.5		3.5
Lane Util. Factor		0.95	1.00	1.00	0.95					1.00		1.00
Frt		1.00	0.85	1.00	1.00					1.00		0.85
Flt Protected		1.00	1.00	0.95	1.00					0.95		1.00
Satd. Flow (prot)		3438	1538	1597	3471					1736		1583
Flt Permitted		1.00	1.00	0.95	1.00					0.95		1.00
Satd. Flow (perm)		3438	1538	1597	3471					1736		1583
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	0	1671	615	32	1363	0	0	0	0	99	0	334
RTOR Reduction (vph)	0	0	215	0	0	0	0	0	0	0	0	55
Lane Group Flow (vph)	0	1671	400	32	1363	0	0	0	0	99	0	279
Heavy Vehicles (%)	0%	5%	5%	13%	4%	0%	0%	0%	0%	4%	0%	2%
Turn Type		NA	Perm	Prot	NA					Prot		Perm
Protected Phases		2		1	6					4		
Permitted Phases			2									4
Actuated Green, G (s)		82.5	82.5	5.3	91.8					26.7		26.7
Effective Green, g (s)		84.5	84.5	6.8	93.8					28.7		28.7
Actuated g/C Ratio		0.65	0.65	0.05	0.72					0.22		0.22
Clearance Time (s)		6.0	6.0	4.0	6.0					5.5		5.5
Vehicle Extension (s)		0.5	0.5	2.3	0.5					2.3		2.3
Lane Grp Cap (vph)		2234	999	83	2504					383		349
v/s Ratio Prot		c0.49		0.02	c0.39					0.06		
v/s Ratio Perm			0.26									c0.18
v/c Ratio		0.75	0.40	0.39	0.54					0.26		0.80
Uniform Delay, d1		15.5	10.8	59.6	8.3					41.9		47.9
Progression Factor		1.00	1.00	1.21	0.64					1.00		1.00
Incremental Delay, d2		2.3	1.2	1.4	0.7					0.2		11.9
Delay (s)		17.8	12.0	73.4	6.0					42.1		59.9
Level of Service		B	B	E	A					D		E
Approach Delay (s)		16.3			7.5			0.0			55.8	
Approach LOS		B			A			A			E	
Intersection Summary												
HCM 2000 Control Delay			17.5			HCM 2000 Level of Service				B		
HCM 2000 Volume to Capacity ratio			0.75									
Actuated Cycle Length (s)			130.0			Sum of lost time (s)			10.0			
Intersection Capacity Utilization			63.3%			ICU Level of Service				B		
Analysis Period (min)			15									
c Critical Lane Group												

Existing Traffic Conditions
1: I-205 SB On-Ramp & Sunrise Pkwy

Weekday PM Peak Hour
10/10/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↗	↖	↑↑					↘		↗
Traffic Volume (veh/h)	0	1621	597	31	1322	0	0	0	0	96	0	324
Future Volume (veh/h)	0	1621	597	31	1322	0	0	0	0	96	0	324
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1826	1826	1707	1841	0				1841	0	1870
Adj Flow Rate, veh/h	0	1671	0	32	1363	0				99	0	334
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97				0.97	0.97	0.97
Percent Heavy Veh, %	0	5	5	13	4	0				4	0	2
Cap, veh/h	0	2253		57	2462	0				418	0	378
Arrive On Green	0.00	0.65	0.00	0.07	1.00	0.00				0.24	0.00	0.24
Sat Flow, veh/h	0	3561	1547	1626	3589	0				1753	0	1585
Grp Volume(v), veh/h	0	1671	0	32	1363	0				99	0	334
Grp Sat Flow(s),veh/h/ln	0	1735	1547	1626	1749	0				1753	0	1585
Q Serve(g_s), s	0.0	42.4	0.0	2.5	0.0	0.0				5.9	0.0	26.4
Cycle Q Clear(g_c), s	0.0	42.4	0.0	2.5	0.0	0.0				5.9	0.0	26.4
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	2253		57	2462	0				418	0	378
V/C Ratio(X)	0.00	0.74		0.56	0.55	0.00				0.24	0.00	0.88
Avail Cap(c_a), veh/h	0	2253		219	2462	0				492	0	445
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	0.00	0.69	0.69	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	15.4	0.0	59.4	0.0	0.0				40.0	0.0	47.8
Incr Delay (d2), s/veh	0.0	2.3	0.0	3.6	0.6	0.0				0.2	0.0	15.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	23.1	0.0	1.9	0.4	0.0				4.7	0.0	17.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	17.7	0.0	63.0	0.6	0.0				40.1	0.0	63.5
LnGrp LOS	A	B		E	A	A				D	A	E
Approach Vol, veh/h		1671			1395						433	
Approach Delay, s/veh		17.7			2.1						58.2	
Approach LOS		B			A						E	
Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	7.1	88.4		34.5		95.5						
Change Period (Y+Rc), s	4.0	6.0		5.5		6.0						
Max Green Setting (Gmax), s	16.0	64.0		34.5		84.0						
Max Q Clear Time (g_c+I1), s	4.5	44.4		28.4		2.0						
Green Ext Time (p_c), s	0.0	4.1		0.6		3.2						

Intersection Summary

HCM 6th Ctrl Delay	16.5
HCM 6th LOS	B

Notes

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

Existing Traffic Conditions
2: I-205 SB Off-Ramp/OR 213 NB & Sunrise Pkwy

Weekday PM Peak Hour

10/10/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑			↑↑		↘↘	↑		↘		↘↘
Traffic Volume (vph)	449	1268	0	0	472	193	479	8	253	20	0	402
Future Volume (vph)	449	1268	0	0	472	193	479	8	253	20	0	402
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	4.0			4.0		4.5	4.5		4.5		4.5
Lane Util. Factor	1.00	0.95			0.95		0.97	1.00		1.00		0.88
Frt	1.00	1.00			0.96		1.00	0.85		1.00		0.85
Flt Protected	0.95	1.00			1.00		0.95	1.00		0.95		1.00
Satd. Flow (prot)	1770	3406			3339		3335	1390		1641		2707
Flt Permitted	0.95	1.00			1.00		0.95	1.00		0.95		1.00
Satd. Flow (perm)	1770	3406			3339		3335	1390		1641		2707
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	483	1363	0	0	508	208	515	9	272	22	0	432
RTOR Reduction (vph)	0	0	0	0	35	0	0	166	0	0	0	90
Lane Group Flow (vph)	483	1363	0	0	681	0	515	115	0	22	0	342
Heavy Vehicles (%)	2%	6%	0%	0%	4%	2%	5%	12%	17%	10%	0%	5%
Turn Type	Prot	NA			NA		Prot	NA		Prot		pt+ov
Protected Phases	5	2			6		3	8		7		4 5
Permitted Phases												
Actuated Green, G (s)	45.0	81.9			32.9		26.2	21.9		9.2		53.9
Effective Green, g (s)	46.0	83.9			34.9		27.2	22.9		10.2		51.9
Actuated g/C Ratio	0.35	0.65			0.27		0.21	0.18		0.08		0.40
Clearance Time (s)	4.0	6.0			6.0		5.5	5.5		5.5		
Vehicle Extension (s)	2.3	4.6			4.6		2.3	2.3		2.3		
Lane Grp Cap (vph)	626	2198			896		697	244		128		1080
v/s Ratio Prot	c0.27	0.40			c0.20		c0.15	c0.08		0.01		0.13
v/s Ratio Perm												
v/c Ratio	0.77	0.62			0.76		0.74	0.47		0.17		0.32
Uniform Delay, d1	37.3	13.6			43.7		48.1	48.1		56.0		26.9
Progression Factor	0.85	0.52			0.90		1.00	1.00		1.00		1.00
Incremental Delay, d2	6.7	1.0			4.2		3.7	0.8		0.4		0.1
Delay (s)	38.5	8.1			43.6		51.8	48.9		56.3		27.0
Level of Service	D	A			D		D	D		E		C
Approach Delay (s)		16.0			43.6			50.8			28.4	
Approach LOS		B			D			D			C	

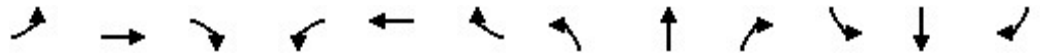
Intersection Summary

HCM 2000 Control Delay	29.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	74.8%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Existing Traffic Conditions
2: I-205 SB Off-Ramp/OR 213 NB & Sunrise Pkwy

Weekday PM Peak Hour

10/10/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑			↑↑		↘↘	↑		↘		↗↗
Traffic Volume (veh/h)	449	1268	0	0	472	193	479	8	253	20	0	402
Future Volume (veh/h)	449	1268	0	0	472	193	479	8	253	20	0	402
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1811	0	0	1841	1870	1826	1722	1648	1752	0	1826
Adj Flow Rate, veh/h	483	1363	0	0	508	208	515	9	272	22	0	432
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	6	0	0	4	2	5	12	17	10	0	5
Cap, veh/h	505	2549	0	0	1015	413	654	6	191	41	0	0
Arrive On Green	0.57	1.00	0.00	0.00	0.14	0.13	0.19	0.13	0.13	0.02	0.00	0.01
Sat Flow, veh/h	1781	3532	0	0	2516	988	3374	47	1420	1668	22	
Grp Volume(v), veh/h	483	1363	0	0	366	350	515	0	281	22	69.2	
Grp Sat Flow(s),veh/h/ln	1781	1721	0	0	1749	1663	1687	0	1467	1668	E	
Q Serve(g_s), s	33.3	0.0	0.0	0.0	25.2	25.4	18.9	0.0	17.5	1.7		
Cycle Q Clear(g_c), s	33.3	0.0	0.0	0.0	25.2	25.4	18.9	0.0	17.5	1.7		
Prop In Lane	1.00		0.00	0.00		0.59	1.00		0.97	1.00		
Lane Grp Cap(c), veh/h	505	2549	0	0	732	696	654	0	197	41		
V/C Ratio(X)	0.96	0.53	0.00	0.00	0.50	0.50	0.79	0.00	1.42	0.54		
Avail Cap(c_a), veh/h	575	2549	0	0	732	696	740	0	197	212		
HCM Platoon Ratio	2.00	2.00	1.00	1.00	0.33	0.33	1.00	1.00	1.00	1.00		
Upstream Filter(I)	0.64	0.64	0.00	0.00	0.99	0.99	1.00	0.00	1.00	1.00		
Uniform Delay (d), s/veh	27.3	0.0	0.0	0.0	43.4	43.7	49.9	0.0	56.7	62.7		
Incr Delay (d2), s/veh	18.4	0.5	0.0	0.0	0.9	1.0	4.6	0.0	217.3	6.5		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(95%),veh/ln	17.7	0.3	0.0	0.0	17.7	17.1	13.1	0.0	29.1	1.4		
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	45.7	0.5	0.0	0.0	44.4	44.7	54.5	0.0	274.1	69.2		
LnGrp LOS	D	A	A	A	D	D	D	A	F	E		
Approach Vol, veh/h		1846			716			796				
Approach Delay, s/veh		12.3			44.5			132.0				
Approach LOS		B			D			F				
Timer - Assigned Phs		2	3		5	6	7	8				
Phs Duration (G+Y+Rc), s		100.3	29.7		41.9	58.4	7.7	22.0				
Change Period (Y+Rc), s		6.0	5.5		6.0	* 6	5.5	5.5				
Max Green Setting (Gmax), s		81.0	27.5		41.0	* 36	15.5	16.5				
Max Q Clear Time (g_c+I1), s		2.0	20.9		35.3	27.4	3.7	19.5				
Green Ext Time (p_c), s		32.3	0.8		0.6	4.2	0.0	0.0				

Intersection Summary

HCM 6th Ctrl Delay	47.7
HCM 6th LOS	D

Notes

- User approved pedestrian interval to be less than phase max green.
- * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Existing Traffic Conditions
 3: I-205 NB On-Ramp & Sunrise Pkwy

Weekday PM Peak Hour
 10/10/2023



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↑	↑↑		
Traffic Volume (vph)	930	611	258	665	0	0
Future Volume (vph)	930	611	258	665	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	1.0	4.0		
Lane Util. Factor	0.95	1.00	1.00	0.95		
Frpb, ped/bikes	1.00	0.98	1.00	1.00		
Flpb, ped/bikes	1.00	1.00	1.00	1.00		
Frt	1.00	0.85	1.00	1.00		
Flt Protected	1.00	1.00	0.95	1.00		
Satd. Flow (prot)	3374	1521	1703	3574		
Flt Permitted	1.00	1.00	0.95	1.00		
Satd. Flow (perm)	3374	1521	1703	3574		
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	1000	657	277	715	0	0
RTOR Reduction (vph)	0	150	0	0	0	0
Lane Group Flow (vph)	1000	507	277	715	0	0
Confl. Bikes (#/hr)		1				
Heavy Vehicles (%)	7%	4%	6%	1%	0%	0%
Turn Type	NA	Perm	Prot	NA		
Protected Phases	2		1	6		
Permitted Phases		2				
Actuated Green, G (s)	92.7	92.7	26.3	130.0		
Effective Green, g (s)	95.7	95.7	29.3	130.0		
Actuated g/C Ratio	0.74	0.74	0.23	1.00		
Clearance Time (s)	7.0	7.0	4.0	7.0		
Vehicle Extension (s)	4.7	4.7	2.3	4.7		
Lane Grp Cap (vph)	2483	1119	383	3574		
v/s Ratio Prot	0.30		c0.16	0.20		
v/s Ratio Perm		c0.33				
v/c Ratio	0.40	0.45	0.72	0.20		
Uniform Delay, d1	6.4	6.8	46.6	0.0		
Progression Factor	1.00	1.41	1.15	1.00		
Incremental Delay, d2	0.4	1.1	4.7	0.1		
Delay (s)	6.8	10.6	58.4	0.1		
Level of Service	A	B	E	A		
Approach Delay (s)	8.3			16.4	0.0	
Approach LOS	A			B	A	























Intersection Summary			
HCM 2000 Control Delay	11.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	58.8%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

HCM 6th Edition methodology does not support exclusive ped or hold phases.

Existing Traffic Conditions
4: 122nd Ave/Sunrise Pkwy & OR 212

Weekday PM Peak Hour
10/10/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	51	772	61	19	757	727	29	145	19	682	200	48
Future Volume (vph)	51	772	61	19	757	727	29	145	19	682	200	48
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.4		4.0	4.4	5.4	3.8	3.8		3.8	3.8	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00	1.00	1.00		0.97	1.00	1.00
Frbp, ped/bikes	1.00	1.00		1.00	1.00	0.98	1.00	1.00		1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.99		1.00	1.00	0.85	1.00	0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1703	3374		1719	3343	1548	1687	1774		3367	1681	1561
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1703	3374		1719	3343	1548	1687	1774		3367	1681	1561
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	53	796	63	20	780	749	30	149	20	703	206	49
RTOR Reduction (vph)	0	4	0	0	0	428	0	3	0	0	0	0
Lane Group Flow (vph)	53	855	0	20	780	321	30	166	0	703	206	49
Confl. Peds. (#/hr)	1					1	8		2	2		8
Heavy Vehicles (%)	6%	5%	16%	5%	8%	2%	7%	5%	5%	4%	13%	2%
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA		Prot	NA	Free
Protected Phases	5	2		1	6		3	8		7		4
Permitted Phases						6						Free
Actuated Green, G (s)	8.2	59.4		4.2	55.4	55.4	16.0	16.9		31.3	32.2	130.0
Effective Green, g (s)	8.2	60.4		4.2	56.4	55.4	16.2	17.9		31.5	33.2	130.0
Actuated g/C Ratio	0.06	0.46		0.03	0.43	0.43	0.12	0.14		0.24	0.26	1.00
Clearance Time (s)	4.0	5.4		4.0	5.4	5.4	4.0	4.8		4.0	4.8	
Vehicle Extension (s)	2.0	4.6		2.0	4.6	4.6	2.3	2.3		2.3	2.3	
Lane Grp Cap (vph)	107	1567		55	1450	659	210	244		815	429	1561
v/s Ratio Prot	0.03	c0.25		0.01	c0.23		0.02	c0.09		c0.21	0.12	
v/s Ratio Perm						0.21						c0.03
v/c Ratio	0.50	0.55		0.36	0.54	0.49	0.14	0.68		0.86	0.48	0.03
Uniform Delay, d1	58.9	25.0		61.6	27.2	27.0	50.7	53.3		47.2	41.1	0.0
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.20	1.14	1.00
Incremental Delay, d2	1.3	1.4		1.5	1.4	2.6	0.2	6.3		8.6	0.5	0.0
Delay (s)	60.2	26.3		63.1	28.6	29.6	50.9	59.6		65.2	47.4	0.0
Level of Service	E	C		E	C	C	D	E		E	D	A
Approach Delay (s)		28.3			29.5			58.3			58.0	
Approach LOS		C			C			E			E	
Intersection Summary												
HCM 2000 Control Delay			38.3									HCM 2000 Level of Service D
HCM 2000 Volume to Capacity ratio			0.66									
Actuated Cycle Length (s)			130.0									Sum of lost time (s) 16.0
Intersection Capacity Utilization			69.9%									ICU Level of Service C
Analysis Period (min)			15									

c Critical Lane Group

Existing Traffic Conditions
4: 122nd Ave/Sunrise Pkwy & OR 212

Weekday PM Peak Hour
10/10/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	51	772	61	19	757	727	29	145	19	682	200	48
Future Volume (veh/h)	51	772	61	19	757	727	29	145	19	682	200	48
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1811	1826	1663	1826	1781	1870	1796	1826	1826	1841	1707	1870
Adj Flow Rate, veh/h	53	796	63	20	780	0	30	149	20	703	206	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	6	5	16	5	8	2	7	5	5	4	13	2
Cap, veh/h	379	1690	134	28	1029		296	186	25	762	279	
Arrive On Green	0.22	0.52	0.51	0.01	0.20	0.00	0.17	0.12	0.11	0.22	0.16	0.00
Sat Flow, veh/h	1725	3256	258	1739	3385	1585	1711	1571	211	3401	1707	1585
Grp Volume(v), veh/h	53	424	435	20	780	0	30	0	169	703	206	0
Grp Sat Flow(s),veh/h/ln	1725	1735	1779	1739	1692	1585	1711	0	1782	1700	1707	1585
Q Serve(g_s), s	3.2	20.2	20.3	1.5	28.2	0.0	1.9	0.0	12.0	26.3	14.9	0.0
Cycle Q Clear(g_c), s	3.2	20.2	20.3	1.5	28.2	0.0	1.9	0.0	12.0	26.3	14.9	0.0
Prop In Lane	1.00		0.14	1.00		1.00	1.00		0.12	1.00		1.00
Lane Grp Cap(c), veh/h	379	900	923	28	1029		296	0	211	762	279	
V/C Ratio(X)	0.14	0.47	0.47	0.73	0.76		0.10	0.00	0.80	0.92	0.74	
Avail Cap(c_a), veh/h	379	900	923	147	1317		296	0	222	816	383	
HCM Platoon Ratio	1.00	1.00	1.00	0.67	0.67	0.67	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	40.8	19.9	20.0	64.0	47.3	0.0	45.3	0.0	55.9	49.3	51.8	0.0
Incr Delay (d2), s/veh	0.1	1.8	1.7	12.7	5.2	0.0	0.1	0.0	17.0	15.0	3.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	2.5	13.4	13.7	1.4	19.1	0.0	1.5	0.0	10.6	18.6	10.9	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	40.9	21.7	21.7	76.7	52.5	0.0	45.3	0.0	72.9	64.3	55.3	0.0
LnGrp LOS	D	C	C	E	D		D	A	E	E	E	
Approach Vol, veh/h		912			800			199			909	
Approach Delay, s/veh		22.8			53.1			68.7			62.3	
Approach LOS		C			D			E			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	6.1	71.9	27.1	25.0	34.0	43.9	32.9	19.2				
Change Period (Y+Rc), s	4.0	* 5.4	4.8	* 4.8	* 5.4	* 5.4	4.0	4.8				
Max Green Setting (Gmax), s	11.0	* 55	18.0	* 28	* 16	* 50	31.0	15.2				
Max Q Clear Time (g_c+I1), s	3.5	22.3	3.9	16.9	5.2	30.2	28.3	14.0				
Green Ext Time (p_c), s	0.0	11.1	0.0	0.6	0.0	8.3	0.6	0.1				

Intersection Summary

HCM 6th Ctrl Delay	47.4
HCM 6th LOS	D

Notes

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

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

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
























Existing Traffic Conditions
5: 135th Ave & OR 212

Weekday PM Peak Hour
10/10/2023

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	110	1367	23	172	1155	125	64	124	626	241	101	142
Future Volume (vph)	110	1367	23	172	1155	125	64	124	626	241	101	142
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.4	5.4	4.0	4.4		4.0	3.6	3.6	4.0	3.6	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes	1.00	1.00	0.97	1.00	1.00		1.00	1.00	0.98	1.00	0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85	1.00	0.91	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1787	3406	1507	1752	3326		1671	1881	1510	1752	1659	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1787	3406	1507	1752	3326		1671	1881	1510	1752	1659	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	113	1409	24	177	1191	129	66	128	645	248	104	146
RTOR Reduction (vph)	0	0	14	0	6	0	0	0	189	0	36	0
Lane Group Flow (vph)	113	1409	10	177	1314	0	66	128	456	248	214	0
Confl. Peds. (#/hr)	4		4	4		4	3		3	3		3
Confl. Bikes (#/hr)						2			2			
Heavy Vehicles (%)	1%	6%	4%	3%	7%	3%	8%	1%	5%	3%	3%	4%
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2						8			
Actuated Green, G (s)	16.4	54.5	54.5	15.3	53.4		8.7	25.5	25.5	16.8	33.6	
Effective Green, g (s)	16.4	55.5	54.5	15.3	54.4		8.7	26.4	26.4	16.8	34.5	
Actuated g/C Ratio	0.13	0.43	0.42	0.12	0.42		0.07	0.20	0.20	0.13	0.27	
Clearance Time (s)	4.0	5.4	5.4	4.0	5.4		4.0	4.5	4.5	4.0	4.5	
Vehicle Extension (s)	2.3	4.5	4.5	2.3	4.5		2.3	3.0	3.0	2.3	3.0	
Lane Grp Cap (vph)	225	1454	631	206	1391		111	381	306	226	440	
v/s Ratio Prot	0.06	c0.41		0.10	c0.40		0.04	0.07		c0.14	0.13	
v/s Ratio Perm			0.01						c0.30			
v/c Ratio	0.50	0.97	0.02	0.86	0.94		0.59	0.34	1.49	1.10	0.49	
Uniform Delay, d1	53.0	36.4	22.1	56.3	36.3		58.9	44.3	51.8	56.6	40.3	
Progression Factor	1.00	1.00	1.00	1.04	1.53		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	1.0	17.3	0.0	23.6	12.1		6.4	0.5	237.4	88.3	0.8	
Delay (s)	54.0	53.7	22.1	82.2	67.7		65.4	44.8	289.2	144.9	41.1	
Level of Service	D	D	C	F	E		E	D	F	F	D	
Approach Delay (s)		53.2			69.4			234.3			92.8	
Approach LOS		D			E			F			F	
Intersection Summary												
HCM 2000 Control Delay			97.9			HCM 2000 Level of Service			F			
HCM 2000 Volume to Capacity ratio			1.12									
Actuated Cycle Length (s)			130.0			Sum of lost time (s)			16.0			
Intersection Capacity Utilization			100.6%			ICU Level of Service			G			
Analysis Period (min)			15									
c Critical Lane Group												

Existing Traffic Conditions
5: 135th Ave & OR 212

Weekday PM Peak Hour
10/10/2023

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	110	1367	23	172	1155	125	64	124	626	241	101	142
Future Volume (veh/h)	110	1367	23	172	1155	125	64	124	626	241	101	142
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.97	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1811	1841	1856	1796	1856	1781	1885	1826	1856	1856	1841
Adj Flow Rate, veh/h	113	1409	24	177	1191	129	66	128	0	248	104	146
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	1	6	4	3	7	3	8	1	5	3	3	4
Cap, veh/h	383	1831	815	202	1309	141	84	194		217	126	177
Arrive On Green	0.43	1.00	1.00	0.08	0.28	0.28	0.05	0.10	0.00	0.12	0.18	0.17
Sat Flow, veh/h	1795	3441	1554	1767	3097	335	1697	1885	1547	1767	696	977
Grp Volume(v), veh/h	113	1409	24	177	655	665	66	128	0	248	0	250
Grp Sat Flow(s),veh/h/ln	1795	1721	1554	1767	1706	1725	1697	1885	1547	1767	0	1674
Q Serve(g_s), s	5.4	0.0	0.0	12.9	48.1	48.5	5.0	8.5	0.0	16.0	0.0	18.7
Cycle Q Clear(g_c), s	5.4	0.0	0.0	12.9	48.1	48.5	5.0	8.5	0.0	16.0	0.0	18.7
Prop In Lane	1.00		1.00	1.00		0.19	1.00		1.00	1.00		0.58
Lane Grp Cap(c), veh/h	383	1831	815	202	721	729	84	194		217	0	303
V/C Ratio(X)	0.29	0.77	0.03	0.87	0.91	0.91	0.79	0.66		1.14	0.00	0.83
Avail Cap(c_a), veh/h	383	1831	815	217	730	738	209	383		217	0	340
HCM Platoon Ratio	2.00	2.00	2.00	0.67	0.67	0.67	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.65	0.65	0.65	1.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	30.8	0.0	0.0	59.1	44.2	44.3	61.1	56.1	0.0	57.0	0.0	51.5
Incr Delay (d2), s/veh	0.3	3.2	0.1	20.0	12.3	12.7	9.7	3.8	0.0	104.0	0.0	14.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	4.0	1.5	0.0	10.6	30.0	30.5	4.3	7.6	0.0	20.5	0.0	14.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	31.1	3.2	0.1	79.1	56.5	57.0	70.8	59.8	0.0	161.0	0.0	65.5
LnGrp LOS	C	A	A	E	E	E	E	E		F	A	E
Approach Vol, veh/h		1546			1497			194				498
Approach Delay, s/veh		5.2			59.4			63.6				113.1
Approach LOS		A			E			E				F
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	18.9	73.6	10.4	27.1	33.1	59.3	20.5	17.0				
Change Period (Y+Rc), s	4.0	* 5.4	4.0	4.5	* 5.4	* 5.4	4.5	* 4.5				
Max Green Setting (Gmax), s	16.0	* 55	16.0	25.5	* 16	* 55	16.0	* 26				
Max Q Clear Time (g_c+I1), s	14.9	2.0	7.0	20.7	7.4	50.5	18.0	10.5				
Green Ext Time (p_c), s	0.0	28.2	0.0	0.6	0.1	3.5	0.0	0.5				

Intersection Summary

HCM 6th Ctrl Delay	44.3
HCM 6th LOS	D

Notes

User approved pedestrian interval to be less than phase max green.
 * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.
 Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

Existing Traffic Conditions
6: 142nd Ave & OR 212

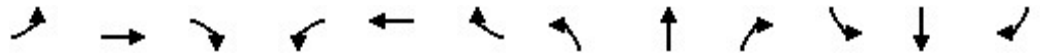
Weekday PM Peak Hour
10/10/2023

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	137	2054	51	10	1302	49	31	3	15	134	11	122
Future Volume (vph)	137	2054	51	10	1302	49	31	3	15	134	11	122
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.2	5.4	4.0	4.2	5.4		3.0	3.0		3.8	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00		1.00	1.00		1.00	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00	0.98		1.00	0.99		1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85		1.00	0.85		0.94	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00		0.96	1.00		0.98	
Satd. Flow (prot)	1787	3406	1551	1805	3374	1549		1768	1327		1690	
Flt Permitted	0.11	1.00	1.00	0.06	1.00	1.00		0.68	1.00		0.82	
Satd. Flow (perm)	209	3406	1551	109	3374	1549		1263	1327		1426	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	141	2118	53	10	1342	51	32	3	15	138	11	126
RTOR Reduction (vph)	0	0	17	0	0	23	0	0	11	0	21	0
Lane Group Flow (vph)	141	2118	36	10	1342	28	0	35	4	0	254	0
Confl. Peds. (#/hr)									2	2		
Confl. Bikes (#/hr)			1			2						
Heavy Vehicles (%)	1%	6%	2%	0%	7%	2%	3%	0%	20%	3%	9%	2%
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm	Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2		2	6		6	8		8	4		
Actuated Green, G (s)	91.9	85.4	85.4	70.7	69.6	69.6		30.1	30.1		29.3	
Effective Green, g (s)	91.9	86.6	85.4	70.7	70.8	69.6		31.1	31.1		30.3	
Actuated g/C Ratio	0.71	0.67	0.66	0.54	0.54	0.54		0.24	0.24		0.23	
Clearance Time (s)	4.0	5.4	5.4	4.0	5.4	5.4		4.0	4.0		4.8	
Vehicle Extension (s)	2.3	4.5	4.5	2.3	4.5	4.5		2.5	2.5		2.5	
Lane Grp Cap (vph)	352	2268	1018	73	1837	829		302	317		332	
v/s Ratio Prot	c0.05	c0.62		0.00	0.40							
v/s Ratio Perm	0.23		0.02	0.07		0.02		0.03	0.00		c0.18	
v/c Ratio	0.40	0.93	0.04	0.14	0.73	0.03		0.12	0.01		0.77	
Uniform Delay, d1	31.5	19.2	7.8	60.3	22.4	14.3		38.7	37.7		46.5	
Progression Factor	0.77	0.90	1.72	0.69	0.89	0.77		1.00	1.00		1.00	
Incremental Delay, d2	0.0	1.0	0.0	0.5	2.5	0.1		0.1	0.0		9.7	
Delay (s)	24.4	18.3	13.5	42.3	22.3	11.0		38.8	37.7		56.2	
Level of Service	C	B	B	D	C	B		D	D		E	
Approach Delay (s)		18.6			22.0			38.5			56.2	
Approach LOS		B			C			D			E	
Intersection Summary												
HCM 2000 Control Delay			22.6		HCM 2000 Level of Service			C				
HCM 2000 Volume to Capacity ratio			0.89									
Actuated Cycle Length (s)			130.0		Sum of lost time (s)			12.0				
Intersection Capacity Utilization			92.4%		ICU Level of Service			F				
Analysis Period (min)			15									
c Critical Lane Group												

Existing Traffic Conditions
6: 142nd Ave & OR 212

Weekday PM Peak Hour

10/10/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗	↘	↖	↗	↘		↖	↗		↖	↗
Traffic Volume (veh/h)	137	2054	51	10	1302	49	31	3	15	134	11	122
Future Volume (veh/h)	137	2054	51	10	1302	49	31	3	15	134	11	122
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.98	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1811	1870	1900	1796	1870	1856	1900	1604	1856	1767	1870
Adj Flow Rate, veh/h	141	2118	0	10	1342	51	32	3	15	138	11	126
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	1	6	2	0	7	2	3	0	20	3	9	2
Cap, veh/h	566	2012		458	1792	800	184	15	189	118	6	70
Arrive On Green	0.49	1.00	0.00	0.18	0.53	0.52	0.13	0.14	0.14	0.13	0.14	0.13
Sat Flow, veh/h	1795	3441	1585	1810	3413	1551	934	108	1353	549	44	501
Grp Volume(v), veh/h	141	2118	0	10	1342	51	35	0	15	275	0	0
Grp Sat Flow(s),veh/h/ln	1795	1721	1585	1810	1706	1551	1042	0	1353	1094	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	40.0	2.1	0.0	0.0	1.3	13.4	0.0	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	0.0	40.0	2.1	3.8	0.0	1.3	17.2	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	0.91		1.00	0.50		0.46
Lane Grp Cap(c), veh/h	566	2012		458	1792	800	191	0	189	186	0	0
V/C Ratio(X)	0.25	1.05		0.02	0.75	0.06	0.18	0.00	0.08	1.48	0.00	0.00
Avail Cap(c_a), veh/h	566	2377		458	2358	1057	199	0	198	186	0	0
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.09	0.09	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	18.7	0.0	0.0	13.9	24.2	15.8	50.0	0.0	48.6	59.3	0.0	0.0
Incr Delay (d2), s/veh	0.0	25.2	0.0	0.0	2.9	0.2	0.3	0.0	0.1	240.8	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	3.0	8.7	0.0	0.3	23.2	1.4	1.9	0.0	0.8	29.8	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	18.7	25.2	0.0	13.9	27.1	15.9	50.4	0.0	48.7	300.1	0.0	0.0
LnGrp LOS	B	F		B	C	B	D	A	D	F	A	A
Approach Vol, veh/h		2259			1403			50				275
Approach Delay, s/veh		24.8			26.6			49.9				300.1
Approach LOS		C			C			D				F
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	30.5	77.5		22.0	35.5	72.5		22.0				
Change Period (Y+Rc), s	* 4	5.4		4.8	* 4	5.4		* 4.8				
Max Green Setting (Gmax), s	* 10	88.6		17.2	* 10	88.6		* 18				
Max Q Clear Time (g_c+I1), s	2.0	2.0		19.2	2.0	42.0		5.8				
Green Ext Time (p_c), s	0.0	67.5		0.0	0.1	25.1		0.1				

Intersection Summary

HCM 6th Ctrl Delay	44.7
HCM 6th LOS	D

Notes

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

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

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

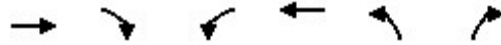
Intersection						
Int Delay, s/veh	4.2					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	161	2013	1220	81	40	128
Future Vol, veh/h	161	2013	1220	81	40	128
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	220	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	1	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	2	5	4	4	0	5
Mvmt Flow	168	2097	1271	84	42	133

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	1355	0	-	0	2698 678
Stage 1	-	-	-	-	1313 -
Stage 2	-	-	-	-	1385 -
Critical Hdwy	4.14	-	-	-	6.8 7
Critical Hdwy Stg 1	-	-	-	-	5.8 -
Critical Hdwy Stg 2	-	-	-	-	5.8 -
Follow-up Hdwy	2.22	-	-	-	3.5 3.35
Pot Cap-1 Maneuver	504	-	-	-	~ 18 388
Stage 1	-	-	-	-	220 -
Stage 2	-	-	-	-	201 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	504	-	-	-	~ 12 388
Mov Cap-2 Maneuver	-	-	-	-	83 -
Stage 1	-	-	-	-	147 -
Stage 2	-	-	-	-	201 -

Approach	EB	WB	SB
HCM Control Delay, s	1.2	0	76.1
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	504	-	-	-	207
HCM Lane V/C Ratio	0.333	-	-	-	0.845
HCM Control Delay (s)	15.7	-	-	-	76.1
HCM Lane LOS	C	-	-	-	F
HCM 95th %tile Q(veh)	1.4	-	-	-	6.3

Notes
 ~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↑	↑↑	↑↑	↑
Traffic Volume (vph)	1003	1050	194	755	546	122
Future Volume (vph)	1003	1050	194	755	546	122
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	4.4	2.6	4.6	4.4	3.0
Lane Util. Factor	0.95	1.00	1.00	0.95	0.97	1.00
Frbp, ped/bikes	1.00	0.99	1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	3406	1507	1719	3374	3335	1538
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	3406	1507	1719	3374	3335	1538
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	1056	1105	204	795	575	128
RTOR Reduction (vph)	0	81	0	0	0	0
Lane Group Flow (vph)	1056	1024	204	795	575	128
Confl. Bikes (#/hr)		3				
Heavy Vehicles (%)	6%	6%	5%	7%	5%	5%
Turn Type	NA	pm+ov	Prot	NA	Prot	Free
Protected Phases	2	8	1	6	8	
Permitted Phases		2				Free
Actuated Green, G (s)	48.2	93.9	20.7	72.9	45.7	130.0
Effective Green, g (s)	49.2	95.9	22.1	74.3	46.7	130.0
Actuated g/C Ratio	0.38	0.74	0.17	0.57	0.36	1.00
Clearance Time (s)	6.0	5.4	4.0	6.0	5.4	
Vehicle Extension (s)	4.8	2.5	3.5	4.8	2.5	
Lane Grp Cap (vph)	1289	1162	292	1928	1198	1538
v/s Ratio Prot	0.31	c0.32	c0.12	0.24	0.17	
v/s Ratio Perm		0.36				0.08
v/c Ratio	0.82	0.88	0.70	0.41	0.48	0.08
Uniform Delay, d1	36.4	12.8	50.8	15.6	32.2	0.0
Progression Factor	0.77	0.47	1.00	1.00	1.00	1.00
Incremental Delay, d2	2.9	4.1	7.4	0.7	0.2	0.1
Delay (s)	30.8	10.2	58.2	16.3	32.5	0.1
Level of Service	C	B	E	B	C	A
Approach Delay (s)	20.3			24.8	26.6	
Approach LOS	C			C	C	

Intersection Summary			
HCM 2000 Control Delay	22.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	82.8%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Existing Traffic Conditions
8: OR 224 & OR 212

Weekday PM Peak Hour
10/10/2023



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↙	↑↑	↙↘	↙
Traffic Volume (veh/h)	1003	1050	194	755	546	122
Future Volume (veh/h)	1003	1050	194	755	546	122
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		0.98	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1811	1811	1826	1796	1826	1826
Adj Flow Rate, veh/h	1056	1105	204	795	575	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	6	6	5	7	5	5
Cap, veh/h	1323	883	536	2497	672	
Arrive On Green	0.38	0.38	0.31	0.73	0.20	0.00
Sat Flow, veh/h	3532	1500	1739	3503	3374	1547
Grp Volume(v), veh/h	1056	1105	204	795	575	0
Grp Sat Flow(s),veh/h/ln	1721	1500	1739	1706	1687	1547
Q Serve(g_s), s	35.4	50.0	11.9	10.6	21.4	0.0
Cycle Q Clear(g_c), s	35.4	50.0	11.9	10.6	21.4	0.0
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	1323	883	536	2497	672	
V/C Ratio(X)	0.80	1.25	0.38	0.32	0.86	
Avail Cap(c_a), veh/h	1323	883	536	2497	1054	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	35.5	21.7	35.2	6.1	50.2	0.0
Incr Delay (d2), s/veh	5.1	122.8	0.5	0.3	3.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	22.1	83.7	8.9	6.6	14.4	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	40.6	144.4	35.8	6.4	53.8	0.0
LnGrp LOS	D	F	D	A	D	
Approach Vol, veh/h	2161			999	575	
Approach Delay, s/veh	93.7			12.4	53.8	
Approach LOS	F			B	D	
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	44.7	55.0			99.7	30.3
Change Period (Y+Rc), s	6.0	* 6			6.0	5.4
Max Green Setting (Gmax), s	26.0	* 49			79.0	39.6
Max Q Clear Time (g_c+I1), s	13.9	52.0			12.6	23.4
Green Ext Time (p_c), s	0.6	0.0			13.7	1.5

Intersection Summary























HCM 6th Ctrl Delay	65.8
HCM 6th LOS	E

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.
Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

Existing Traffic Conditions
9: 172nd Ave & OR 212

Weekday PM Peak Hour
10/10/2023

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (vph)	239	795	52	17	672	34	31	31	23	156	59	317	
Future Volume (vph)	239	795	52	17	672	34	31	31	23	156	59	317	
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)	3.5	4.3		3.5	4.3	5.5	4.0	3.0		5.2	4.2	3.5	
Lane Util. Factor	1.00	0.95		1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	
Frbp, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	0.99		1.00	1.00	0.98	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	0.99	1.00		1.00	1.00	1.00	
Frt	1.00	0.99		1.00	1.00	0.85	1.00	0.94		1.00	1.00	0.85	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	
Satd. Flow (prot)	1719	3295		1805	1792	1482	1626	1705		1787	1810	1514	
Flt Permitted	0.16	1.00		0.32	1.00	1.00	0.72	1.00		0.72	1.00	1.00	
Satd. Flow (perm)	285	3295		601	1792	1482	1225	1705		1354	1810	1514	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	
Adj. Flow (vph)	254	846	55	18	715	36	33	33	24	166	63	337	
RTOR Reduction (vph)	0	2	0	0	0	18	0	19	0	0	0	94	
Lane Group Flow (vph)	254	899	0	18	715	18	33	38	0	166	63	243	
Confl. Peds. (#/hr)							6					6	
Confl. Bikes (#/hr)									1				
Heavy Vehicles (%)	5%	9%	2%	0%	6%	9%	10%	3%	4%	1%	5%	5%	
Turn Type	pm+pt	NA		pm+pt	NA	Perm	Perm	NA		Perm	NA	pm+ov	
Protected Phases	5	2		1	6			8			4	5	
Permitted Phases	2			6		6	8			4		4	
Actuated Green, G (s)	71.1	64.8		51.3	49.5	49.5	19.4	19.4		18.2	18.2	35.3	
Effective Green, g (s)	72.1	67.0		53.3	51.7	50.5	20.4	21.4		19.2	20.2	37.3	
Actuated g/C Ratio	0.71	0.66		0.52	0.51	0.50	0.20	0.21		0.19	0.20	0.37	
Clearance Time (s)	4.5	6.5		4.5	6.5	6.5	5.0	5.0		6.2	6.2	4.5	
Vehicle Extension (s)	2.3	5.4		2.3	5.4	5.4	2.5	2.5		2.5	2.5	2.3	
Lane Grp Cap (vph)	455	2164		347	908	733	245	357		254	358	553	
v/s Ratio Prot	c0.10	0.27		0.00	c0.40			0.02			0.03	0.08	
v/s Ratio Perm	0.29			0.03		0.01	0.03			c0.12		0.08	
v/c Ratio	0.56	0.42		0.05	0.79	0.02	0.13	0.11		0.65	0.18	0.44	
Uniform Delay, d1	13.1	8.3		11.7	20.6	13.2	33.5	32.6		38.3	34.0	24.5	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	
Incremental Delay, d2	1.1	0.3		0.0	5.4	0.0	0.2	0.1		5.3	0.2	0.3	
Delay (s)	14.2	8.6		11.8	26.1	13.2	33.7	32.7		43.6	34.2	24.8	
Level of Service	B	A		B	C	B	C	C		D	C	C	
Approach Delay (s)		9.8			25.1			33.1			31.3		
Approach LOS		A			C			C			C		
Intersection Summary													
HCM 2000 Control Delay			19.9		HCM 2000 Level of Service						B		
HCM 2000 Volume to Capacity ratio			0.70										
Actuated Cycle Length (s)			102.0		Sum of lost time (s)						12.0		
Intersection Capacity Utilization			76.1%		ICU Level of Service						D		
Analysis Period (min)			15										
c	Critical Lane Group												

Existing Traffic Conditions
9: 172nd Ave & OR 212

Weekday PM Peak Hour
10/10/2023



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖↗		↖	↖	↖	↖	↖	↖	↖	↖	↖
Traffic Volume (veh/h)	239	795	52	17	672	34	31	31	23	156	59	317
Future Volume (veh/h)	239	795	52	17	672	34	31	31	23	156	59	317
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	0.99		0.97	0.99		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1826	1767	1870	1900	1811	1767	1752	1856	1841	1885	1826	1826
Adj Flow Rate, veh/h	254	846	55	18	715	0	33	33	24	166	63	337
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	5	9	2	0	6	9	10	3	4	1	5	5
Cap, veh/h	379	1855	121	390	912		284	255	186	379	474	540
Arrive On Green	0.10	0.58	0.56	0.03	0.50	0.00	0.25	0.26	0.24	0.25	0.26	0.25
Sat Flow, veh/h	1739	3199	208	1810	1811	1497	916	983	715	1343	1826	1529
Grp Volume(v), veh/h	254	444	457	18	715	0	33	0	57	166	63	337
Grp Sat Flow(s),veh/h/ln	1739	1678	1729	1810	1811	1497	916	0	1697	1343	1826	1529
Q Serve(g_s), s	5.9	13.6	13.7	0.4	29.1	0.0	2.6	0.0	2.3	9.9	2.4	16.5
Cycle Q Clear(g_c), s	5.9	13.6	13.7	0.4	29.1	0.0	5.0	0.0	2.3	12.2	2.4	16.5
Prop In Lane	1.00		0.12	1.00		1.00	1.00		0.42	1.00		1.00
Lane Grp Cap(c), veh/h	379	973	1002	390	912		284	0	441	379	474	540
V/C Ratio(X)	0.67	0.46	0.46	0.05	0.78		0.12	0.00	0.13	0.44	0.13	0.62
Avail Cap(c_a), veh/h	615	1169	1204	672	1261		422	0	698	579	746	767
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	16.1	10.8	10.9	10.8	18.3	0.0	28.2	0.0	25.9	31.0	25.5	24.3
Incr Delay (d2), s/veh	1.3	0.9	0.8	0.0	4.3	0.0	0.1	0.0	0.1	0.6	0.1	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	4.3	8.4	8.7	0.3	18.1	0.0	1.0	0.0	1.7	5.8	1.9	9.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	17.3	11.7	11.8	10.9	22.6	0.0	28.4	0.0	25.9	31.6	25.6	25.1
LnGrp LOS	B	B	B	B	C		C	A	C	C	C	C
Approach Vol, veh/h		1155			733			90				566
Approach Delay, s/veh		13.0			22.3			26.8				27.1
Approach LOS		B			C			C				C
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.9	56.5		27.6	12.8	49.7		27.6				
Change Period (Y+Rc), s	4.5	6.5		6.2	4.5	6.5		* 6.2				
Max Green Setting (Gmax), s	15.5	60.5		34.8	20.5	60.5		* 35				
Max Q Clear Time (g_c+I1), s	2.4	15.7		18.5	7.9	31.1		7.0				
Green Ext Time (p_c), s	0.0	16.6		1.5	0.4	12.0		0.4				

Intersection Summary

HCM 6th Ctrl Delay	19.3
HCM 6th LOS	B

Notes

- User approved pedestrian interval to be less than phase max green.
- * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.
- Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Intersection												
Int Delay, s/veh	3.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	91	489	0	0	310	40	2	2	1	57	1	52
Future Vol, veh/h	91	489	0	0	310	40	2	2	1	57	1	52
Conflicting Peds, #/hr	0	0	1	1	0	0	1	0	0	0	0	1
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	75	-	-	-	-	-	-	-	-	-	-	150
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	12	5	0	0	4	5	0	50	0	12	0	13
Mvmt Flow	98	526	0	0	333	43	2	2	1	61	1	56

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	376	0	0	527	0	0	1107	1099	527	1079	1078	356
Stage 1	-	-	-	-	-	-	723	723	-	355	355	-
Stage 2	-	-	-	-	-	-	384	376	-	724	723	-
Critical Hdwy	4.22	-	-	4.1	-	-	7.1	7	6.2	7.22	6.5	6.33
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	6	-	6.22	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	6	-	6.22	5.5	-
Follow-up Hdwy	2.308	-	-	2.2	-	-	3.5	4.45	3.3	3.608	4	3.417
Pot Cap-1 Maneuver	1130	-	-	1050	-	-	189	175	555	188	220	664
Stage 1	-	-	-	-	-	-	421	367	-	642	633	-
Stage 2	-	-	-	-	-	-	643	541	-	402	434	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1130	-	-	1049	-	-	161	160	554	173	201	663
Mov Cap-2 Maneuver	-	-	-	-	-	-	161	160	-	173	201	-
Stage 1	-	-	-	-	-	-	384	335	-	586	633	-
Stage 2	-	-	-	-	-	-	587	541	-	364	396	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	1.3			0			24.8			24.7		
HCM LOS							C			C		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	187	1130	-	-	1049	-	-	173	663
HCM Lane V/C Ratio	0.029	0.087	-	-	-	-	-	0.36	0.084
HCM Control Delay (s)	24.8	8.5	-	-	0	-	-	37.1	10.9
HCM Lane LOS	C	A	-	-	A	-	-	E	B
HCM 95th %tile Q(veh)	0.1	0.3	-	-	0	-	-	1.5	0.3

Sunrise Refinement Plan

Vistro File: H:\...\Sunrise_AM_2023.vistro

Scenario 1 1 2023 AM No-Build

Report File: H:\...\2023_ExistingAM.pdf

3/17/2025

Intersection Analysis Summary




ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	OR 213 SB Ramps/OR 224	Signalized	HCM 7th Edition	WB Left	0.833	11.8	B
2	OR 213 NB Ramps/I-205 SB Ramps/OR 224	Signalized	HCM 7th Edition	WB Right	0.825	118.2	F
3	I-205 NB Ramps/OR 224	Signalized	HCM 7th Edition	WB Left	0.677	12.3	B
4	122nd Avenue/OR 224/OR 212	Signalized	HCM 7th Edition	NB Left	0.692	26.6	C
5	135th Avenue/OR 212	Signalized	HCM 7th Edition	EB Left	0.921	46.2	D
6	142nd Avenue/OR 212	Signalized	HCM 7th Edition	EB Left	0.858	20.6	C
7	152nd Avenue/OR 212	Two-way stop	HCM 7th Edition	SB Left	2.469	1,417.1	F
8	OR 212/OR 224 (Rock Creek Junction)	Signalized	HCM 7th Edition	WB Left	0.732	20.1	C
9	172nd Avenue/OR 212	Signalized	HCM 7th Edition	SB Left	0.586	24.9	C
10	122nd Avenue/Jennifer Street	Two-way stop	HCM 7th Edition	SB Left	0.173	18.4	C

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: OR 213 SB Ramps/OR 224

Control Type:	Signalized	Delay (sec / veh):	11.8
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.833

Intersection Setup

Name	I-205 SB On-Ramp			I-205 SB On-Ramp			Sunrise Pkwy			Sunrise Pkwy		
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	0	0	1	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	1000.00	75.00	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]	0.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present				No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name	I-205 SB On-Ramp			I-205 SB On-Ramp			Sunrise Pkwy			Sunrise Pkwy		
Base Volume Input [veh/h]	0	0	0	85	0	241	0	1061	282	15	2072	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 [%]	0.00	0.00	0.00	7.00	0.00	7.00	0.00	8.00	16.00	47.00	8.00	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	121	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	85	0	120	0	1061	282	15	2072	0
Peak Hour Factor	1.0000	1.0000	1.0000	0.9200	1.0000	0.9200	1.0000	0.9200	0.9200	0.9200	0.9200	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	0	0	23	0	33	0	288	77	4	563	0
Total Analysis Volume [veh/h]	0	0	0	92	0	130	0	1153	307	16	2252	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			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			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]	120
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	14.0
Offset Reference	End of Lagging Red
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Permiss	Permiss	Permiss	Split	Split	Split	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	0	0	4	0	4	0	2	2	1	6	0
Auxiliary Signal Groups												
Maximum Green [s]	0	0	0	29	0	29	0	72	72	4	80	0
Amber [s]	0.0	0.0	0.0	4.0	0.0	4.0	0.0	5.0	5.0	3.5	5.0	0.0
All red [s]	0.0	0.0	0.0	1.5	0.0	1.5	0.0	1.0	1.0	0.5	1.0	0.0
Walk [s]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	0	0	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	0.0	0.0	2.0	0.0	2.0	0.0	2.0	2.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	0.0	0.0	3.5	0.0	3.5	0.0	4.0	4.0	2.0	4.0	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	20.0	0.0	20.0	0.0	6.0	6.0	20.0	6.0	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]	0	0	0	34	0	34	0	78	78	8	86	0
Lead / Lag	-	-	-	Lag	-	-	-	-	-	Lead	-	-
Minimum Green [s]	0	0	0	6	0	6	0	10	10	4	10	0
Vehicle Extension [s]	0.0	0.0	0.0	2.3	0.0	2.3	0.0	0.5	0.5	2.3	0.5	0.0
Minimum Recall				No				Yes		No	Yes	
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	R	C	R	L	C
C, Cycle Length [s]		120	120	120	120	120	120
L, Total Lost Time per Cycle [s]		5.50	5.50	6.00	6.00	4.00	6.00
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]		3.50	3.50	4.00	4.00	2.00	4.00
g_i, Effective Green Time [s]		12	12	90	90	2	96
g / C, Green / Cycle		0.10	0.10	0.75	0.75	0.01	0.80
(v / s)_i Volume / Saturation Flow Rate		0.05	0.09	0.34	0.22	0.01	0.66
s, saturation flow rate [veh/h]		1709	1526	3389	1411	1138	3389
c, Capacity [veh/h]		179	160	2549	1061	16	2710
d1, Uniform Delay [s]		50.85	52.59	5.58	4.71	59.16	7.18
k, delay calibration		0.07	0.07	0.50	0.50	0.07	0.50
l, Upstream Filtering Factor		1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]		1.40	6.11	0.58	0.69	81.24	3.14
d3, Initial Queue Delay [s]		0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio		1.00	1.00	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		0.51	0.81	0.45	0.29	1.00	0.83
d, Delay for Lane Group [s/veh]		52.25	58.70	6.17	5.40	140.40	10.32
Lane Group LOS		D	E	A	A	F	B
Critical Lane Group		No	Yes	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]		2.69	4.11	4.88	2.30	0.85	13.85
50th-Percentile Queue Length [ft/ln]		67.34	102.64	122.00	57.55	21.21	346.15
95th-Percentile Queue Length [veh/ln]		4.85	7.39	8.50	4.14	1.53	19.95
95th-Percentile Queue Length [ft/ln]		121.21	184.76	212.57	103.59	38.17	498.71

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	52.25	0.00	58.70	0.00	6.17	5.40	140.40	10.32	0.00
Movement LOS				D		E		A	A	F	B	
d_A, Approach Delay [s/veh]	0.00			56.03			6.01			11.24		
Approach LOS	A			E			A			B		
d_I, Intersection Delay [s/veh]	11.82											
Intersection LOS	B											
Intersection V/C	0.833											

Emissions

Vehicle Miles Traveled [mph]		17.80	25.16	365.25	97.25	2.52	355.08
Stops [stops/h]		80.80	123.17	292.78	69.06	25.45	830.72
Fuel consumption [US gal/h]		2.16	3.27	18.10	4.72	0.70	23.94
CO [g/h]		150.80	228.49	1265.23	330.09	49.04	1673.19
NOx [g/h]		29.34	44.46	246.17	64.22	9.54	325.54
VOC [g/h]		34.95	52.95	293.23	76.50	11.36	387.78

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
I_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	475	1200	1333
d_b, Bicycle Delay [s]	60.00	34.89	9.60	6.67
I_b,int, Bicycle LOS Score for Intersection	4.132	1.560	2.764	3.431
Bicycle LOS	D	A	C	C

Sequence

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 2: OR 213 NB Ramps/I-205 SB Ramps/OR 224

Control Type:	Signalized	Delay (sec / veh):	118.2
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.825

Intersection Setup

Name	I-205 SB Off-Ramp			OR 213 NB			Sunrise Pkwy			Sunrise Pkwy		
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	1	0	1	1	0	0	0	0	0
Entry Pocket Length [ft]	415.00	100.00	100.00	160.00	100.00	405.00	365.00	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]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			No			Yes		

Volumes

Name	I-205 SB Off-Ramp			OR 213 NB			Sunrise Pkwy			Sunrise Pkwy		
Base Volume Input [veh/h]	594	2	365	22	0	766	221	925	0	0	727	146
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 [%]	8.00	2.00	18.00	23.00	0.00	9.00	6.00	8.00	0.00	0.00	8.00	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	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	594	2	365	22	0	766	221	925	0	0	727	146
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	1.0000	0.9200	0.9200	0.9200	1.0000	1.0000	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]	161	1	99	6	0	208	60	251	0	0	198	40
Total Analysis Volume [veh/h]	646	2	397	24	0	833	240	1005	0	0	790	159
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	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	1			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			1			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]	120
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	81.0
Offset Reference	End of Lagging Red
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Protecte	Permiss	Permiss	Permiss	Permiss	Overlap	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	3	8	8	7	0	4	5	2	0	0	6	6
Auxiliary Signal Groups						4,5						
Maximum Green [s]	22	31	31	18	0	27	30	54	0	0	20	20
Amber [s]	4.0	4.0	4.0	4.0	0.0	4.0	3.5	5.0	0.0	0.0	5.0	5.0
All red [s]	1.5	1.5	1.5	1.5	0.0	1.5	0.5	1.0	0.0	0.0	1.0	1.0
Walk [s]	7	7	7	0	0	0	0	7	0	0	7	7
Pedestrian Clearance [s]	12	24	24	0	0	0	0	20	0	0	12	12
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]	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	3.5	3.5	3.5	3.5	0.0	3.5	2.0	4.0	0.0	0.0	4.0	4.0
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]	20.0	6.0	6.0	20.0	0.0	0.0	20.0	20.0	0.0	0.0	6.0	6.0
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]	27	37	37	24	0	33	34	60	0	0	26	26
Lead / Lag	Lag	-	-	Lag	-	-	Lag	-	-	-	-	-
Minimum Green [s]	6	4	4	4	0	4	4	6	0	0	6	6
Vehicle Extension [s]	2.3	2.3	2.3	2.3	0.0	2.3	2.3	4.6	0.0	0.0	4.6	4.6
Minimum Recall	No	No		No		No	Yes	Yes			No	
Maximum Recall	No	No		No		No	No	No			No	
Pedestrian Recall	No	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	C	L	R	L	C	C	C
C, Cycle Length [s]	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	5.50	5.50	5.50	5.50	4.00	6.00	6.00	6.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.50	3.50	3.50	0.00	2.00	4.00	4.00	4.00
g_i, Effective Green Time [s]	22	31	18	61	30	54	20	20
g / C, Green / Cycle	0.18	0.26	0.15	0.51	0.25	0.45	0.17	0.17
(v / s)_i Volume / Saturation Flow Rate	0.20	0.25	0.02	0.31	0.14	0.30	0.27	0.28
s, saturation flow rate [veh/h]	3292	1591	1481	2655	1724	3389	1780	1681
c, Capacity [veh/h]	597	417	219	1355	428	1520	297	280
d1, Uniform Delay [s]	49.13	43.62	44.28	20.96	39.37	25.95	50.00	50.00
k, delay calibration	0.07	0.38	0.07	0.16	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	1.00
d2, Incremental Delay [s]	41.83	29.16	0.13	0.67	5.22	2.28	285.10	327.31
d3, Initial Queue Delay [s]	0.00	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	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	1.08	0.96	0.11	0.61	0.56	0.66	1.60	1.69
d, Delay for Lane Group [s/veh]	90.96	72.79	44.41	21.63	44.59	28.23	335.10	377.31
Lane Group LOS	F	E	D	C	D	C	F	F
Critical Lane Group	Yes	No	No	Yes	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	12.37	14.94	0.63	8.26	6.80	11.54	32.35	33.83
50th-Percentile Queue Length [ft/ln]	309.25	373.44	15.78	206.60	169.93	288.54	808.87	845.82
95th-Percentile Queue Length [veh/ln]	18.86	21.28	1.14	12.98	11.07	17.11	50.14	52.87
95th-Percentile Queue Length [ft/ln]	471.55	531.90	28.41	324.47	276.82	427.83	1253.42	1321.73

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	90.96	72.79	72.79	44.41	0.00	21.63	44.59	28.23	0.00	0.00	351.96	377.31
Movement LOS	F	E	E	D		C	D	C			F	F
d_A, Approach Delay [s/veh]	84.02			22.26			31.38			356.20		
Approach LOS	F			C			C			F		
d_I, Intersection Delay [s/veh]	118.16											
Intersection LOS	F											
Intersection V/C	0.825											

Emissions

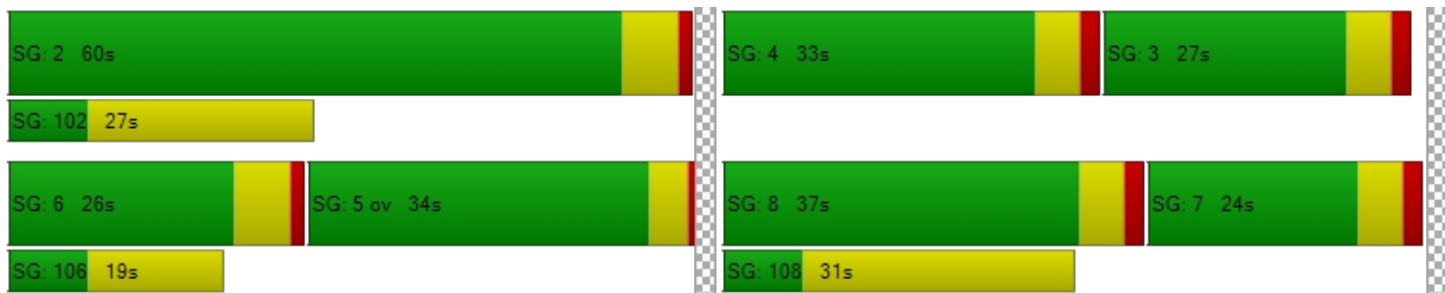
Vehicle Miles Traveled [mph]	135.32	83.58	3.42	118.87	37.84	158.46	125.57	125.57
Stops [stops/h]	742.20	448.12	18.94	495.85	203.91	692.50	970.65	1014.98
Fuel consumption [US gal/h]	21.63	11.83	0.46	11.30	4.86	16.12	42.88	47.20
CO [g/h]	1511.74	826.63	32.33	789.79	339.87	1126.93	2997.45	3299.41
NOx [g/h]	294.13	160.83	6.29	153.66	66.13	219.26	583.20	641.95
VOC [g/h]	350.36	191.58	7.49	183.04	78.77	261.18	694.69	764.67

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	0.0	11.0
M_corner, Corner Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	49.50	49.50	0.00	49.50
I_p,int, Pedestrian LOS Score for Intersectio	2.294	2.452	0.000	2.726
Crosswalk LOS	B	B	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	525	308	900	333
d_b, Bicycle Delay [s]	32.63	42.93	18.15	41.67
I_b,int, Bicycle LOS Score for Intersection	3.284	1.560	2.587	2.343
Bicycle LOS	C	A	B	B

Sequence

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



**Intersection Level Of Service Report
Intersection 3: I-205 NB Ramps/OR 224**

Control Type:	Signalized	Delay (sec / veh):	12.3
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.677

Intersection Setup

Name	I-205 NB On-Ramp		Sunrise Pkwy		Sunrise Pkwy	
Approach	Eastbound		Westbound		Southeastbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	2	0	0	2
Entry Pocket Length [ft]	100.00	100.00	630.00	100.00	100.00	220.00
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]	0.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present			No		No	
Crosswalk	No		No		No	

Volumes

Name	I-205 NB On-Ramp		Sunrise Pkwy		Sunrise Pkwy	
Base Volume Input [veh/h]	0	0	325	873	754	558
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	19.00	3.00	12.00	7.00
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	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	325	873	754	558
Peak Hour Factor	1.0000	1.0000	0.9800	0.9800	0.9800	0.9800
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	83	223	192	142
Total Analysis Volume [veh/h]	0	0	332	891	769	569
Presence of On-Street Parking			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]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	101
Active Pattern	Free Running (No Pattern)
Coordination Type	<i>Free Running</i>
Actuation Type	<i>Fully actuated</i>
Offset [s]	32.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	8.00

Phasing & Timing (Basic)

Control Type	Permissive	Permissive	Protected	Permissive	Permissive	Permissive
Signal Group	0	0	1	6	2	2
Auxiliary Signal Groups						
Maximum Green [s]	0	0	24	60	32	32
Amber [s]	0.0	0.0	3.5	5.0	5.0	5.0
All red [s]	0.0	0.0	0.5	2.0	2.0	2.0
Walk [s]	0	0	0	0	7	7
Pedestrian Clearance [s]	0	0	0	0	17	17
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk				No	No	
I1, Start-Up Lost Time [s]	0.0	0.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	0.0	0.0	2.0	5.0	5.0	5.0
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	6.0	6.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Free Running (No Pattern)

Split [s]	0	0	30	30	30	30
Lead / Lag	-	-	Lag	-	-	-
Minimum Green [s]	0	0	4	10	10	10
Vehicle Extension [s]	0.0	0.0	2.3	4.7	4.7	4.7
Minimum Recall			No	Yes	Yes	
Maximum Recall			No	No	No	
Pedestrian Recall			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	R
C, Cycle Length [s]	61	61	61	61
L, Total Lost Time per Cycle [s]	4.00	7.00	7.00	7.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	5.00	5.00	5.00
g_i, Effective Green Time [s]	15	47	28	28
g / C, Green / Cycle	0.25	0.77	0.46	0.46
(v / s)_i Volume / Saturation Flow Rate	0.22	0.25	0.23	0.37
s, saturation flow rate [veh/h]	1538	3532	3275	1526
c, Capacity [veh/h]	379	2725	1505	701
d1, Uniform Delay [s]	22.19	2.14	11.70	14.28
k, delay calibration	0.07	0.20	0.20	0.27
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.54	0.13	0.50	5.63
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.88	0.33	0.51	0.81
d, Delay for Lane Group [s/veh]	26.73	2.27	12.20	19.91
Lane Group LOS	C	A	B	B
Critical Lane Group	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	4.68	0.65	3.27	6.82
50th-Percentile Queue Length [ft/ln]	117.07	16.20	81.82	170.45
95th-Percentile Queue Length [veh/ln]	8.23	1.17	5.89	11.10
95th-Percentile Queue Length [ft/ln]	205.80	29.16	147.28	277.51

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	0.00	26.73	2.27	12.20	19.91
Movement LOS			C	A	B	B
d_A, Approach Delay [s/veh]	0.00		8.91		15.48	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	12.34					
Intersection LOS	B					
Intersection V/C	0.677					

Emissions

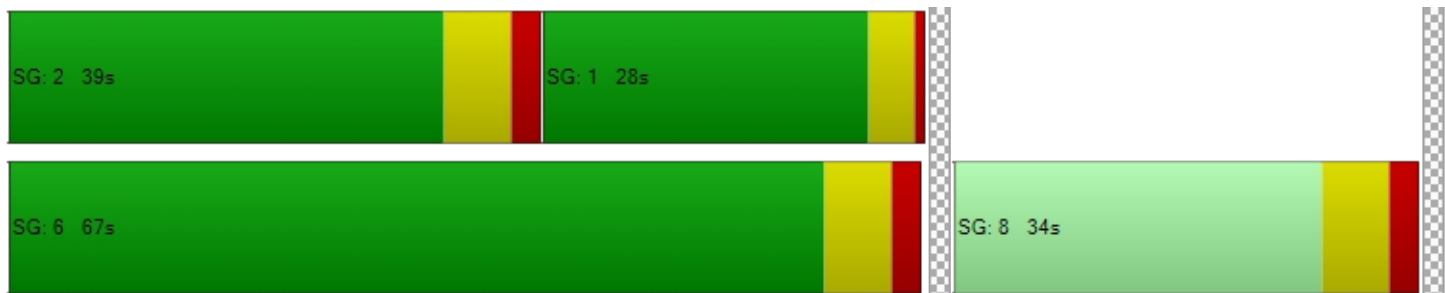
Vehicle Miles Traveled [mph]		469.07	1258.87	203.50	150.58
Stops [stops/h]		275.45	76.24	385.02	401.03
Fuel consumption [US gal/h]		22.64	52.66	12.41	10.72
CO [g/h]		1582.38	3680.64	867.76	749.32
NOx [g/h]		307.87	716.12	168.83	145.79
VOC [g/h]		366.73	853.02	201.11	173.66

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft ² /ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00
I_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000
Crosswalk LOS	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	1961	1046
d_b, Bicycle Delay [s]	30.60	0.01	6.97
I_b,int, Bicycle LOS Score for Intersection	4.132	2.569	2.663
Bicycle LOS	D	B	B

Sequence

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



Intersection Level Of Service Report
Intersection 4: 122nd Avenue/OR 224/OR 212

Control Type:	Signalized	Delay (sec / veh):	26.6
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.692

Intersection Setup

Name	122nd Avenue			122nd Avenue			Highway 212			Highway 212		
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	1	0	1	1	0	0	1	0	1
Entry Pocket Length [ft]	135.00	100.00	100.00	525.00	100.00	350.00	220.00	100.00	100.00	255.00	100.00	410.00
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]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	122nd Avenue			122nd Avenue			Highway 212			Highway 212		
Base Volume Input [veh/h]	20	86	10	470	176	108	21	665	45	18	963	1091
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 [%]	50.00	48.00	20.00	8.00	19.00	14.00	30.00	14.00	27.00	17.00	8.00	3.00
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	546
Total Hourly Volume [veh/h]	20	86	10	470	176	108	21	665	45	18	963	545
Peak Hour Factor	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	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	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	23	3	125	47	29	6	177	12	5	256	145
Total Analysis Volume [veh/h]	21	91	11	500	187	115	22	707	48	19	1024	580
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	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			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]	130
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	18.0
Offset Reference	End of Lagging Red
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Protecte	Permiss	Permiss	ProtPer	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	3	8	8	7	4	4	5	2	2	1	6	6
Auxiliary Signal Groups												
Maximum Green [s]	8	35	35	4	31	31	4	67	67	6	69	69
Amber [s]	3.5	4.3	4.3	3.5	4.3	4.3	3.5	4.7	4.7	3.5	4.7	4.7
All red [s]	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.7	0.7	0.5	0.7	0.7
Walk [s]	0	9	9	0	7	7	0	8	8	0	7	7
Pedestrian Clearance [s]	0	26	26	0	21	21	0	23	23	0	18	18
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]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.0	2.8	2.8	2.0	2.8	2.8	2.0	3.4	3.4	2.0	3.4	3.4
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]	20.0	6.0	6.0	20.0	6.0	6.0	20.0	6.0	6.0	20.0	6.0	6.0
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]	12	40	40	8	36	36	8	72	72	10	74	74
Lead / Lag	Lead	-	-	Lag	-	-	Lag	-	-	Lead	-	-
Minimum Green [s]	4	6	6	4	6	6	4	10	10	4	10	10
Vehicle Extension [s]	2.3	2.3	2.3	2.3	2.3	2.3	2.0	4.6	4.6	2.0	4.6	4.6
Minimum Recall	No	No		No	No		No	Yes		No	Yes	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		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	C	L	C	R	L	C	C	L	C	R
C, Cycle Length [s]	130	130	130	130	130	130	130	130	130	130	130
L, Total Lost Time per Cycle [s]	4.00	4.80	4.40	4.80	4.80	4.00	5.40	5.40	4.00	5.40	5.40
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.80	0.00	2.80	2.80	2.00	3.40	3.40	2.00	3.40	3.40
g_i, Effective Green Time [s]	2	13	28	28	28	2	80	80	2	80	80
g / C, Green / Cycle	0.02	0.10	0.22	0.21	0.21	0.02	0.61	0.61	0.02	0.61	0.61
(v / s)_i Volume / Saturation Flow Rate	0.02	0.09	0.16	0.12	0.08	0.02	0.23	0.23	0.01	0.30	0.37
s, saturation flow rate [veh/h]	1095	1157	3141	1615	1436	1381	1690	1652	1567	3389	1577
c, Capacity [veh/h]	20	117	603	342	304	24	1039	1015	24	2076	966
d1, Uniform Delay [s]	63.82	57.63	47.68	45.66	43.88	63.80	12.47	12.48	63.80	13.97	15.42
k, delay calibration	0.07	0.07	0.07	0.07	0.07	0.04	0.50	0.50	0.04	0.50	0.50
l, 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
d2, Incremental Delay [s]	88.66	11.67	1.87	0.83	0.47	36.65	1.00	1.03	18.93	0.84	2.76
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	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	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	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	1.06	0.87	0.83	0.55	0.38	0.93	0.37	0.37	0.79	0.49	0.60
d, Delay for Lane Group [s/veh]	152.48	69.30	49.55	46.49	44.36	100.45	13.48	13.50	82.72	14.81	18.18
Lane Group LOS	F	E	D	D	D	F	B	B	F	B	B
Critical Lane Group	No	Yes	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.15	3.69	7.62	5.48	3.23	0.97	5.73	5.62	0.75	8.40	10.94
50th-Percentile Queue Length [ft/ln]	28.77	92.20	190.60	137.09	80.86	24.26	143.35	140.49	18.87	209.92	273.43
95th-Percentile Queue Length [veh/ln]	2.07	6.64	12.15	9.32	5.82	1.75	9.66	9.51	1.36	13.15	16.36
95th-Percentile Queue Length [ft/ln]	51.78	165.96	303.80	233.11	145.55	43.67	241.52	237.69	33.96	328.73	409.03

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	152.48	69.30	69.30	49.55	46.49	44.36	100.45	13.49	13.50	82.72	14.81	18.18
Movement LOS	F	E	E	D	D	D	F	B	B	F	B	B
d_A, Approach Delay [s/veh]	83.50			48.09			15.95			16.81		
Approach LOS	F			D			B			B		
d_I, Intersection Delay [s/veh]	26.62											
Intersection LOS	C											
Intersection V/C	0.692											

Emissions

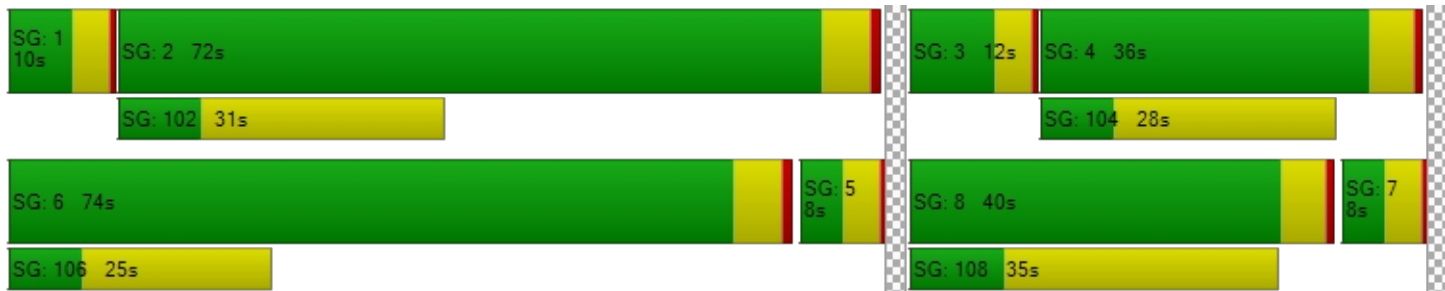
Vehicle Miles Traveled [mph]	4.73	22.99	115.45	43.18	26.55	19.77	342.96	335.65	12.53	675.14	382.40
Stops [stops/h]	31.86	102.13	422.24	151.86	89.57	26.87	158.78	155.62	20.90	465.06	302.88
Fuel consumption [US gal/h]	1.02	2.95	12.13	4.39	2.63	1.41	16.04	15.70	0.95	33.45	19.56
CO [g/h]	71.46	206.11	847.63	306.54	183.55	98.71	1121.34	1097.69	66.47	2338.07	1367.33
NOx [g/h]	13.90	40.10	164.92	59.64	35.71	19.21	218.17	213.57	12.93	454.90	266.03
VOC [g/h]	16.56	47.77	196.45	71.04	42.54	22.88	259.88	254.40	15.41	541.87	316.89

Other Modes

g_Walk,mi, Effective Walk Time [s]	12.0	11.0	11.0	13.0
M_corner, Corner Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	53.55	54.47	54.47	52.65
I_p,int, Pedestrian LOS Score for Intersectio	2.080	2.802	2.695	3.876
Crosswalk LOS	B	C	B	D
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	542	480	1025	1055
d_b, Bicycle Delay [s]	34.57	37.54	15.46	14.50
I_b,int, Bicycle LOS Score for Intersection	1.763	2.883	2.201	3.349
Bicycle LOS	A	C	B	C

Sequence

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



**Intersection Level Of Service Report
Intersection 5: 135th Avenue/OR 212**

Control Type:	Signalized	Delay (sec / veh):	46.2
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.921

Intersection Setup

Name	135th Ave			135th Ave			Highway 212			Highway 212		
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	1	1	0	0	1	0	1	1	0	0
Entry Pocket Length [ft]	300.00	100.00	60.00	320.00	100.00	100.00	415.00	100.00	60.00	200.00	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]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	135th Ave			135th Ave			Highway 212			Highway 212		
Base Volume Input [veh/h]	97	48	196	91	110	149	57	809	48	211	1893	113
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 [%]	8.00	10.00	14.00	4.00	4.00	5.00	11.00	14.00	17.00	8.00	8.00	6.00
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	98	0	0	18	0	0	24	0	0	113
Total Hourly Volume [veh/h]	97	48	98	91	110	131	57	809	24	211	1893	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	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]	26	13	26	24	29	34	15	213	6	56	498	0
Total Analysis Volume [veh/h]	102	51	103	96	116	138	60	852	25	222	1993	0
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	1			1			1			0		
v_di, Inbound Pedestrian Volume crossing m	1			0			1			1		
v_co, Outbound Pedestrian Volume crossing	1			0			1			1		
v_ci, Inbound Pedestrian Volume crossing mi	1			1			0			1		
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]	130
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	50.0
Offset Reference	End of Lagging Red
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	3	8	8	7	4	4	5	2	2	1	6	6
Auxiliary Signal Groups												
Maximum Green [s]	5	32	32	8	35	35	4	42	42	30	68	68
Amber [s]	3.5	4.0	4.0	3.5	4.0	4.0	3.5	4.7	4.7	3.5	4.7	4.7
All red [s]	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.7	0.7	0.5	0.7	0.7
Walk [s]	0	8	8	0	10	10	0	8	8	0	7	7
Pedestrian Clearance [s]	0	22	22	0	25	25	0	18	18	0	14	14
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]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.0	2.5	2.5	2.0	2.5	2.5	2.0	3.4	3.4	2.0	3.4	3.4
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]	20.0	6.0	6.0	20.0	6.0	6.0	20.0	6.0	6.0	20.0	6.0	6.0
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]	9	37	37	12	40	40	8	48	48	34	74	74
Lead / Lag	Lag	-	-	Lag	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	4	6	6	4	6	6	4	10	10	4	10	10
Vehicle Extension [s]	2.3	3.0	3.0	2.3	3.0	3.0	2.3	4.5	4.5	2.3	4.5	4.5
Minimum Recall	No	No		No	No		No	Yes		No	Yes	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		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	C	R	L	C	L	C	R	L	C	C
C, Cycle Length [s]	130	130	130	130	130	130	130	130	130	130	130
L, Total Lost Time per Cycle [s]	4.00	4.50	4.50	4.00	4.50	4.00	5.40	5.40	4.00	5.40	5.40
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.50	2.50	2.00	2.50	2.00	3.40	3.40	2.00	3.40	3.40
g_i, Effective Green Time [s]	10	12	12	19	22	4	61	61	19	77	77
g / C, Green / Cycle	0.07	0.09	0.09	0.15	0.17	0.03	0.47	0.47	0.15	0.59	0.59
(v / s)_i Volume / Saturation Flow Rate	0.06	0.03	0.07	0.05	0.15	0.04	0.26	0.02	0.13	0.56	0.56
s, saturation flow rate [veh/h]	1695	1750	1436	1752	1677	1652	3217	1395	1695	1780	1780
c, Capacity [veh/h]	124	163	134	262	285	51	1522	660	248	1048	1048
d1, Uniform Delay [s]	59.44	55.03	57.56	49.76	52.79	63.00	24.54	18.37	54.49	24.97	24.97
k, delay calibration	0.07	0.11	0.11	0.07	0.12	0.31	0.50	0.50	0.09	0.50	0.50
l, 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
d2, Incremental Delay [s]	8.20	1.08	8.85	0.52	10.48	156.68	1.49	0.11	9.58	18.22	18.22
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	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	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	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.83	0.31	0.77	0.37	0.89	1.18	0.56	0.04	0.89	0.95	0.95
d, Delay for Lane Group [s/veh]	67.64	56.11	66.40	50.28	63.27	219.67	26.03	18.48	64.08	43.19	43.19
Lane Group LOS	E	E	E	D	E	F	C	B	E	D	D
Critical Lane Group	Yes	No	No	No	Yes	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	3.60	1.62	3.64	2.86	8.94	3.90	9.67	0.43	7.80	32.41	32.41
50th-Percentile Queue Length [ft/ln]	90.02	40.44	91.07	71.59	223.50	97.43	241.81	10.77	194.96	810.31	810.31
95th-Percentile Queue Length [veh/ln]	6.48	2.91	6.56	5.15	13.84	7.01	14.77	0.78	12.38	41.75	41.75
95th-Percentile Queue Length [ft/ln]	162.04	72.79	163.93	128.85	346.09	175.37	369.32	19.38	309.45	1043.73	1043.73

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	67.64	56.11	66.40	50.28	63.27	63.27	219.67	26.03	18.48	64.08	43.19	43.19
Movement LOS	E	E	E	D	E	E	F	C	B	E	D	D
d_A, Approach Delay [s/veh]	64.85			59.71			38.23			45.28		
Approach LOS	E			E			D			D		
d_I, Intersection Delay [s/veh]	46.20											
Intersection LOS	D											
Intersection V/C	0.921											

Emissions

Vehicle Miles Traveled [mph]	19.96	9.98	20.15	4.80	12.71	39.56	561.74	16.48	66.12	296.80	296.80
Stops [stops/h]	99.72	44.79	100.88	79.30	247.57	107.92	535.70	11.93	215.95	897.58	897.58
Fuel consumption [US gal/h]	2.78	1.24	2.78	1.62	5.16	4.91	30.60	0.84	6.81	25.93	25.93
CO [g/h]	194.07	86.71	194.23	113.10	360.77	342.96	2138.79	58.61	475.98	1812.84	1812.84
NOx [g/h]	37.76	16.87	37.79	22.01	70.19	66.73	416.13	11.40	92.61	352.71	352.71
VOC [g/h]	44.98	20.10	45.02	26.21	83.61	79.48	495.69	13.58	110.31	420.14	420.14

Other Modes

g_Walk,mi, Effective Walk Time [s]	12.0		11.0		14.0		12.0	
M_corner, Corner Circulation Area [ft ² /ped]	0.00		0.00		0.00		0.00	
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00		0.00		0.00		0.00	
d_p, Pedestrian Delay [s]	53.55		54.47		51.75		53.55	
I_p,int, Pedestrian LOS Score for Intersectio	2.468		2.176		3.025		3.156	
Crosswalk LOS	B		B		C		C	
s_b, Saturation Flow Rate of the bicycle lane	2000		2000		2000		2000	
c_b, Capacity of the bicycle lane [bicycles/h]	500		546		655		1055	
d_b, Bicycle Delay [s]	36.56		34.35		29.38		14.50	
I_b,int, Bicycle LOS Score for Intersection	2.144		2.167		2.352		3.480	
Bicycle LOS	B		B		B		C	

Sequence

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



**Intersection Level Of Service Report
Intersection 6: 142nd Avenue/OR 212**

Control Type:	Signalized	Delay (sec / veh):	20.6
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.858

Intersection Setup

Name	142nd Ave			142nd Ave			Highway 212			Highway 212		
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	0	1	0	1	1	0	1
Entry Pocket Length [ft]	100.00	100.00	20.00	100.00	100.00	100.00	225.00	100.00	165.00	220.00	100.00	70.00
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]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			No			Yes		

Volumes

Name	142nd Ave			142nd Ave			Highway 212			Highway 212		
Base Volume Input [veh/h]	40	6	17	57	1	196	47	1020	23	6	1963	61
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	2.00	18.00	5.00	0.00	3.00	13.00	13.00	13.00	2.00	8.00	3.00
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	9	0	0	0	0	0	12	0	0	31
Total Hourly Volume [veh/h]	40	6	8	57	1	196	47	1020	11	6	1963	30
Peak Hour Factor	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600	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]	10	2	2	15	0	51	12	266	3	2	511	8
Total Analysis Volume [veh/h]	42	6	8	59	1	204	49	1063	11	6	2045	31
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	2		0			0			2			
v_di, Inbound Pedestrian Volume crossing m	2		0			0			2			
v_co, Outbound Pedestrian Volume crossing	1		0			0			0			
v_ci, Inbound Pedestrian Volume crossing mi	0		0			1			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]	112
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	30.0
Offset Reference	End of Lagging Red
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	ProtPer	Permiss	Protecte	ProtPer	Permiss	Permiss
Signal Group	8	8	8	4	4	4	5	2	4	1	6	6
Auxiliary Signal Groups												
Maximum Green [s]	33	33	33	33	33	33	7	60	33	5	58	58
Amber [s]	4.3	4.3	4.3	4.3	4.3	4.3	3.5	4.7	4.3	3.5	4.7	4.7
All red [s]	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.7	0.5	0.5	0.7	0.7
Walk [s]	7	7	7	0	0	0	0	8	0	0	7	7
Pedestrian Clearance [s]	26	26	26	0	0	0	0	26	0	0	18	18
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]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.8	2.8	2.8	2.8	2.8	2.8	2.0	3.4	2.8	2.0	3.4	3.4
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]	6.0	6.0	6.0	6.0	6.0	6.0	20.0	6.0	6.0	20.0	6.0	6.0
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]	38	38	38	38	38	38	11	66	38	9	64	64
Lead / Lag	Lag	-	-	Lag	-	-	Lag	-	-	Lead	-	-
Minimum Green [s]	6	6	6	6	6	6	4	10	6	4	10	10
Vehicle Extension [s]	2.3	2.3	2.3	2.3	2.3	2.3	2.0	4.6	2.3	2.0	4.6	4.6
Minimum Recall		No			No		No	Yes	No	No	Yes	
Maximum Recall		No			No		No	No	No	No	No	
Pedestrian Recall		No			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	C	R	C	L	C	R	L	C	R
C, Cycle Length [s]	112	112	112	112	112	112	112	112	112
L, Total Lost Time per Cycle [s]	4.80	4.80	4.80	4.70	5.40	4.80	5.40	5.40	5.40
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	2.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.80	2.80	2.80	0.00	3.40	2.80	0.00	3.40	3.40
g_i, Effective Green Time [s]	20	20	20	79	77	20	75	75	75
g / C, Green / Cycle	0.18	0.18	0.18	0.70	0.69	0.18	0.67	0.67	0.67
(v / s)_i Volume / Saturation Flow Rate	0.07	0.01	0.16	0.13	0.33	0.01	0.01	0.60	0.02
s, saturation flow rate [veh/h]	670	1376	1651	376	3246	1449	576	3389	1577
c, Capacity [veh/h]	179	244	333	201	2237	257	395	2262	1052
d1, Uniform Delay [s]	40.54	38.09	44.82	44.91	8.04	38.16	7.68	15.63	6.32
k, delay calibration	0.07	0.07	0.07	0.50	0.50	0.07	0.04	0.50	0.50
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.48	0.03	2.67	2.86	0.73	0.04	0.01	6.53	0.05
d3, Initial Queue Delay [s]	0.00	0.00	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	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.27	0.03	0.79	0.24	0.48	0.04	0.02	0.90	0.03
d, Delay for Lane Group [s/veh]	41.03	38.12	47.49	47.77	8.77	38.20	7.69	22.15	6.37
Lane Group LOS	D	D	D	D	A	D	A	C	A
Critical Lane Group	No	No	Yes	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	1.20	0.19	7.37	0.48	5.57	0.25	0.05	21.24	0.25
50th-Percentile Queue Length [ft/ln]	29.93	4.63	184.17	12.04	139.25	6.37	1.14	530.94	6.26
95th-Percentile Queue Length [veh/ln]	2.15	0.33	11.82	0.87	9.44	0.46	0.08	28.80	0.45
95th-Percentile Queue Length [ft/ln]	53.87	8.33	295.45	21.68	236.01	11.46	2.04	719.89	11.27

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	41.03	41.03	38.12	47.49	47.49	47.49	47.77	8.77	38.20	7.69	22.15	6.37
Movement LOS	D	D	D	D	D	D	D	A	D	A	C	A
d_A, Approach Delay [s/veh]	40.61			47.49			10.76			21.88		
Approach LOS	D			D			B			C		
d_I, Intersection Delay [s/veh]	20.55											
Intersection LOS	C											
Intersection V/C	0.858											

Emissions

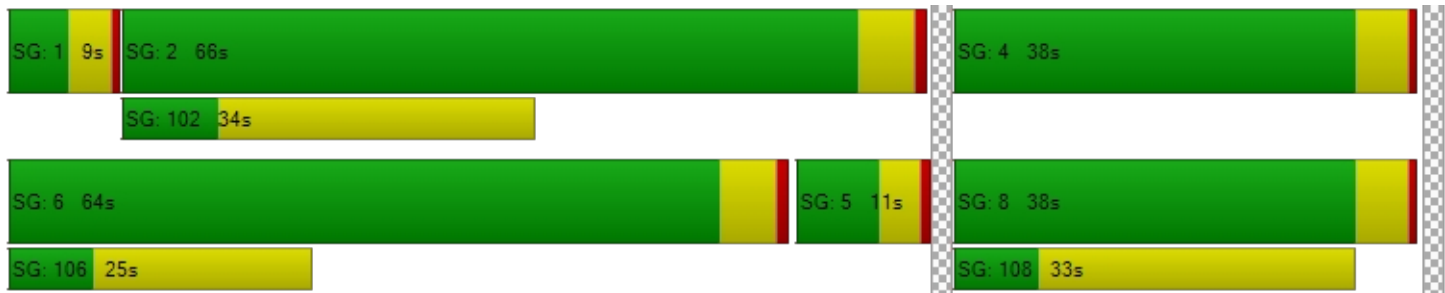
Vehicle Miles Traveled [mph]	4.99	0.83	25.76	7.72	167.48	1.73	0.90	305.87	4.64
Stops [stops/h]	38.48	5.95	236.79	15.48	358.07	8.19	1.46	1365.27	8.05
Fuel consumption [US gal/h]	0.82	0.13	4.92	0.88	10.77	0.20	0.05	29.35	0.28
CO [g/h]	57.24	9.03	343.91	61.48	752.85	14.13	3.80	2051.79	19.26
NOx [g/h]	11.14	1.76	66.91	11.96	146.48	2.75	0.74	399.20	3.75
VOC [g/h]	13.27	2.09	79.70	14.25	174.48	3.27	0.88	475.52	4.46

Other Modes

g_Walk,mi, Effective Walk Time [s]	12.0	11.0	0.0	11.0
M_corner, Corner Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	44.64	45.54	0.00	45.54
l_p,int, Pedestrian LOS Score for Intersectio	1.999	1.974	0.000	3.120
Crosswalk LOS	A	A	F	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	593	593	1082	1046
d_b, Bicycle Delay [s]	27.72	27.72	11.79	12.73
l_b,int, Bicycle LOS Score for Intersection	1.667	1.995	2.496	3.303
Bicycle LOS	A	A	B	C

Sequence

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



**Intersection Level Of Service Report
Intersection 7: 152nd Avenue/OR 212**

Control Type:	Two-way stop	Delay (sec / veh):	1,417.1
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	2.469

Intersection Setup

Name	152nd Ave		Highway 212		Highway 212	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	220.00	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]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	152nd Ave		Highway 212		Highway 212	
Base Volume Input [veh/h]	24	145	84	992	1902	91
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	3.00	7.00	11.00	5.00	4.00
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]	24	145	84	992	1902	91
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	38	22	261	501	24
Total Analysis Volume [veh/h]	25	153	88	1044	2002	96
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	2.47	0.69	0.36	0.01	0.02	0.00
d_M, Delay for Movement [s/veh]	1417.09	1077.78	28.19	0.00	0.00	0.00
Movement LOS	F	F	D	A	A	A
95th-Percentile Queue Length [veh/ln]	18.76	18.76	1.59	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	469.01	469.01	39.68	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	1125.44		2.19		0.00	
Approach LOS	F		A		A	
d_I, Intersection Delay [s/veh]	59.51					
Intersection LOS	F					

Intersection Level Of Service Report
Intersection 8: OR 212/OR 224 (Rock Creek Junction)

Control Type:	Signalized	Delay (sec / veh):	20.1
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.732

Intersection Setup

Name	Highway 224		Highway 212		Highway 212	
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	1	1	0	1	1	0
Entry Pocket Length [ft]	155.00	70.00	100.00	125.00	230.00	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]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		No		Yes	

Volumes

Name	Highway 224		Highway 212		Highway 212	
Base Volume Input [veh/h]	907	177	636	380	158	1086
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	7.00	8.00	12.00	15.00	3.00	8.00
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	0	0	0	0	0
Total Hourly Volume [veh/h]	907	177	636	380	158	1086
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	239	47	167	100	42	286
Total Analysis Volume [veh/h]	955	186	669	400	166	1143
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]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	148
Active Pattern	Free Running (No Pattern)
Coordination Type	<i>Free Running</i>
Actuation Type	<i>Fully actuated</i>
Offset [s]	42.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Split	Split	Permissive	Overlap	Protected	Permissive
Signal Group	8	0	2	2	1	6
Auxiliary Signal Groups				2,8		
Maximum Green [s]	54	0	41	41	38	83
Amber [s]	4.7	0.0	5.0	5.0	3.5	5.0
All red [s]	0.7	0.0	1.0	1.0	0.5	1.0
Walk [s]	8	0	7	7	7	0
Pedestrian Clearance [s]	16	0	14	14	10	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	0.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	3.4	0.0	4.0	4.0	2.0	4.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	20.0	0.0	6.0	6.0	20.0	6.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Free Running (No Pattern)

Split [s]	30	0	30	30	30	30
Lead / Lag	Lag	-	-	-	Lead	-
Minimum Green [s]	8	0	10	10	4	10
Vehicle Extension [s]	2.5	0.0	4.8	4.8	3.5	4.8
Minimum Recall	No		No	No	No	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	R	C	R	L	C
C, Cycle Length [s]	82	82	82	82	82	82
L, Total Lost Time per Cycle [s]	5.40	5.40	6.00	5.40	4.00	6.00
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]	3.40	3.40	4.00	0.00	2.00	4.00
g_i, Effective Green Time [s]	30	30	26	63	10	40
g / C, Green / Cycle	0.37	0.37	0.32	0.76	0.12	0.49
(v / s)_i Volume / Saturation Flow Rate	0.29	0.12	0.20	0.28	0.09	0.34
s, saturation flow rate [veh/h]	3320	1513	3275	1424	1767	3389
c, Capacity [veh/h]	1227	559	1055	1089	214	1667
d1, Uniform Delay [s]	22.94	18.63	23.74	3.17	35.08	16.03
k, delay calibration	0.08	0.08	0.21	0.22	0.13	0.21
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.82	0.26	1.24	0.42	7.14	0.99
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	0.78	0.33	0.63	0.37	0.78	0.69
d, Delay for Lane Group [s/veh]	23.76	18.89	24.98	3.58	42.22	17.01
Lane Group LOS	C	B	C	A	D	B
Critical Lane Group	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	7.84	2.48	5.47	1.51	3.57	7.74
50th-Percentile Queue Length [ft/ln]	196.11	61.94	136.63	37.67	89.21	193.38
95th-Percentile Queue Length [veh/ln]	12.44	4.46	9.30	2.71	6.42	12.30
95th-Percentile Queue Length [ft/ln]	310.95	111.49	232.48	67.80	160.58	307.41

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	23.76	18.89	24.98	3.58	42.22	17.01
Movement LOS	C	B	C	A	D	B
d_A, Approach Delay [s/veh]	22.97		16.97		20.21	
Approach LOS	C		B		C	
d_I, Intersection Delay [s/veh]	20.12					
Intersection LOS	C					
Intersection V/C	0.732					

Emissions

Vehicle Miles Traveled [mph]	312.36	60.84	97.43	58.25	10.45	71.98
Stops [stops/h]	688.09	108.66	479.39	66.08	156.50	678.49
Fuel consumption [US gal/h]	21.28	3.82	10.06	3.05	2.72	10.67
CO [g/h]	1487.38	267.01	703.22	213.54	190.20	745.80
NOx [g/h]	289.39	51.95	136.82	41.55	37.01	145.11
VOC [g/h]	344.71	61.88	162.98	49.49	44.08	172.85

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	0.0	12.0
M_corner, Corner Circulation Area [ft ² /ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	30.78	0.00	29.92
I_p,int, Pedestrian LOS Score for Intersectio	2.542	0.000	2.715
Crosswalk LOS	B	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1316	999	2022
d_b, Bicycle Delay [s]	4.80	10.28	0.01
I_b,int, Bicycle LOS Score for Intersection	1.560	2.442	2.640
Bicycle LOS	A	B	B

Sequence

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



**Intersection Level Of Service Report
Intersection 9: 172nd Avenue/OR 212**

Control Type:	Signalized	Delay (sec / veh):	24.9
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.586

Intersection Setup

Name	172nd Ave			172nd Ave			Highway 212			Highway 212		
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	1	0	1	1	0	0	1	0	1
Entry Pocket Length [ft]	110.00	100.00	100.00	235.00	100.00	290.00	550.00	100.00	100.00	395.00	100.00	420.00
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]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name	172nd Ave			172nd Ave			Highway 212			Highway 212		
Base Volume Input [veh/h]	77	59	17	69	23	298	252	539	16	9	804	71
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	2.00	6.00	6.00	4.00	5.00	9.00	14.00	12.00	11.00	8.00	13.00
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	149	0	0	0	0	0	36
Total Hourly Volume [veh/h]	77	59	17	69	23	149	252	539	16	9	804	35
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	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]	21	16	5	19	6	41	70	150	4	3	223	10
Total Analysis Volume [veh/h]	86	66	19	77	26	166	280	599	18	10	893	39
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	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			2			3			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			3			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]	132
Active Pattern	Free Running (No Pattern)
Coordination Type	<i>Free Running</i>
Actuation Type	<i>Fully actuated</i>
Offset [s]	8.5
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Overlap	Permiss	Permiss	Permiss	ProtPer	Permiss	Permiss
Signal Group	8	8	8	4	4	4	5	2	2	1	6	6
Auxiliary Signal Groups						4,5						
Maximum Green [s]	35	35	35	34	34	34	22	77	77	4	60	60
Amber [s]	3.5	3.5	3.5	4.7	4.7	4.7	3.5	5.0	5.0	3.5	5.0	5.0
All red [s]	1.5	1.5	1.5	1.5	1.5	1.5	1.0	1.5	1.5	1.0	1.5	1.5
Walk [s]	9	9	9	9	9	9	0	7	7	0	8	8
Pedestrian Clearance [s]	22	22	22	21	21	21	0	11	11	0	20	20
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]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	3.0	3.0	3.0	4.2	4.2	4.2	2.5	4.5	4.5	2.5	4.5	4.5
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]	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	6.0	6.0
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]	30	30	30	30	30	30	30	30	30	30	30	30
Lead / Lag	Lag	-	-	Lag	-	-	Lag	-	-	Lead	-	-
Minimum Green [s]	6	6	6	6	6	6	4	10	10	4	10	10
Vehicle Extension [s]	2.5	2.5	2.5	2.5	2.5	2.5	2.3	5.4	5.4	2.3	5.4	5.4
Minimum Recall		No			No	No		No		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	C	L	C	R	L	C	C	L	C	R
C, Cycle Length [s]	99	99	99	99	99	99	99	99	99	99	99
L, Total Lost Time per Cycle [s]	5.00	5.00	6.20	6.20	4.50	6.50	6.50	6.50	6.50	6.50	6.50
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.00	3.00	4.20	4.20	0.00	0.00	4.50	4.50	0.00	4.50	4.50
g_i, Effective Green Time [s]	16	16	15	15	31	65	65	65	71	56	56
g / C, Green / Cycle	0.17	0.17	0.15	0.15	0.32	0.66	0.66	0.66	0.72	0.57	0.57
(v / s)_i Volume / Saturation Flow Rate	0.06	0.05	0.06	0.01	0.11	0.40	0.18	0.18	0.02	0.50	0.03
s, saturation flow rate [veh/h]	1374	1799	1270	1840	1547	707	1690	1673	623	1780	1449
c, Capacity [veh/h]	261	302	195	287	496	312	1113	1101	563	1008	821
d1, Uniform Delay [s]	38.88	35.48	42.57	35.30	25.21	23.10	6.97	6.97	4.66	18.43	9.44
k, delay calibration	0.08	0.08	0.08	0.08	0.08	0.28	0.28	0.28	0.07	0.40	0.28
l, 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
d2, Incremental Delay [s]	0.54	0.37	0.97	0.10	0.29	19.91	0.35	0.36	0.01	9.29	0.06
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	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	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	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.33	0.28	0.40	0.09	0.33	0.90	0.28	0.28	0.02	0.89	0.05
d, Delay for Lane Group [s/veh]	39.43	35.85	43.53	35.40	25.50	43.01	7.33	7.33	4.66	27.72	9.50
Lane Group LOS	D	D	D	D	C	D	A	A	A	C	A
Critical Lane Group	No	No	No	No	Yes	No	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	1.95	1.81	1.85	0.54	2.98	3.87	2.54	2.51	0.05	18.58	0.37
50th-Percentile Queue Length [ft/ln]	48.78	45.32	46.28	13.59	74.40	96.83	63.41	62.79	1.26	464.49	9.29
95th-Percentile Queue Length [veh/ln]	3.51	3.26	3.33	0.98	5.36	6.97	4.57	4.52	0.09	25.65	0.67
95th-Percentile Queue Length [ft/ln]	87.80	81.58	83.31	24.45	133.92	174.30	114.13	113.02	2.26	641.21	16.71

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	39.43	35.85	35.85	43.53	35.40	25.50	43.01	7.33	7.33	4.66	27.72	9.50
Movement LOS	D	D	D	D	D	C	D	A	A	A	C	A
d_A, Approach Delay [s/veh]	37.65			31.62			18.47			26.72		
Approach LOS	D			C			B			C		
d_I, Intersection Delay [s/veh]	24.87											
Intersection LOS	C											
Intersection V/C	0.586											

Emissions

Vehicle Miles Traveled [mph]	10.12	10.00	10.02	3.38	21.59	32.98	36.53	36.15	4.68	418.17	18.26
Stops [stops/h]	71.15	66.11	67.51	19.82	108.53	141.25	92.49	91.59	1.83	677.57	13.55
Fuel consumption [US gal/h]	1.50	1.40	1.47	0.44	2.35	4.59	2.48	2.45	0.21	26.00	0.90
CO [g/h]	104.82	97.64	102.57	30.48	164.25	320.75	173.14	171.41	14.85	1817.13	63.05
NOx [g/h]	20.39	19.00	19.96	5.93	31.96	62.41	33.69	33.35	2.89	353.55	12.27
VOC [g/h]	24.29	22.63	23.77	7.06	38.07	74.34	40.13	39.73	3.44	421.14	14.61

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0		12.0		13.0		0.0	
M_corner, Corner Circulation Area [ft ² /ped]	0.00		0.00		0.00		0.00	
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00		0.00		0.00		0.00	
d_p, Pedestrian Delay [s]	38.97		38.09		37.21		0.00	
I_p,int, Pedestrian LOS Score for Intersectio	2.027		2.914		2.852		0.000	
Crosswalk LOS	B		C		C		F	
s_b, Saturation Flow Rate of the bicycle lane	2000		2000		2000		2000	
c_b, Capacity of the bicycle lane [bicycles/h]	709		689		1560		1216	
d_b, Bicycle Delay [s]	20.56		21.21		2.39		7.59	
I_b,int, Bicycle LOS Score for Intersection	1.842		2.249		2.300		3.173	
Bicycle LOS	A		B		B		C	

Sequence

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



**Intersection Level Of Service Report
Intersection 10: 122nd Avenue/Jennifer Street**

Control Type:	Two-way stop	Delay (sec / veh):	18.4
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.173

Intersection Setup

Name	122nd Avenue			122nd Avenue			Jennifer Street			Jennifer Street		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	+			+r			+l			+		
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	1	1	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	150.00	75.00	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]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	122nd Avenue			122nd Avenue			Jennifer Street			Jennifer Street		
Base Volume Input [veh/h]	0	1	0	52	4	114	66	239	3	1	226	33
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	0.00	12.00	0.00	32.00	61.00	12.00	0.00	0.00	14.00	12.00
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	1	0	52	4	114	66	239	3	1	226	33
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	0	0	14	1	31	18	65	1	0	61	9
Total Analysis Volume [veh/h]	0	1	0	57	4	124	72	260	3	1	246	36
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
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

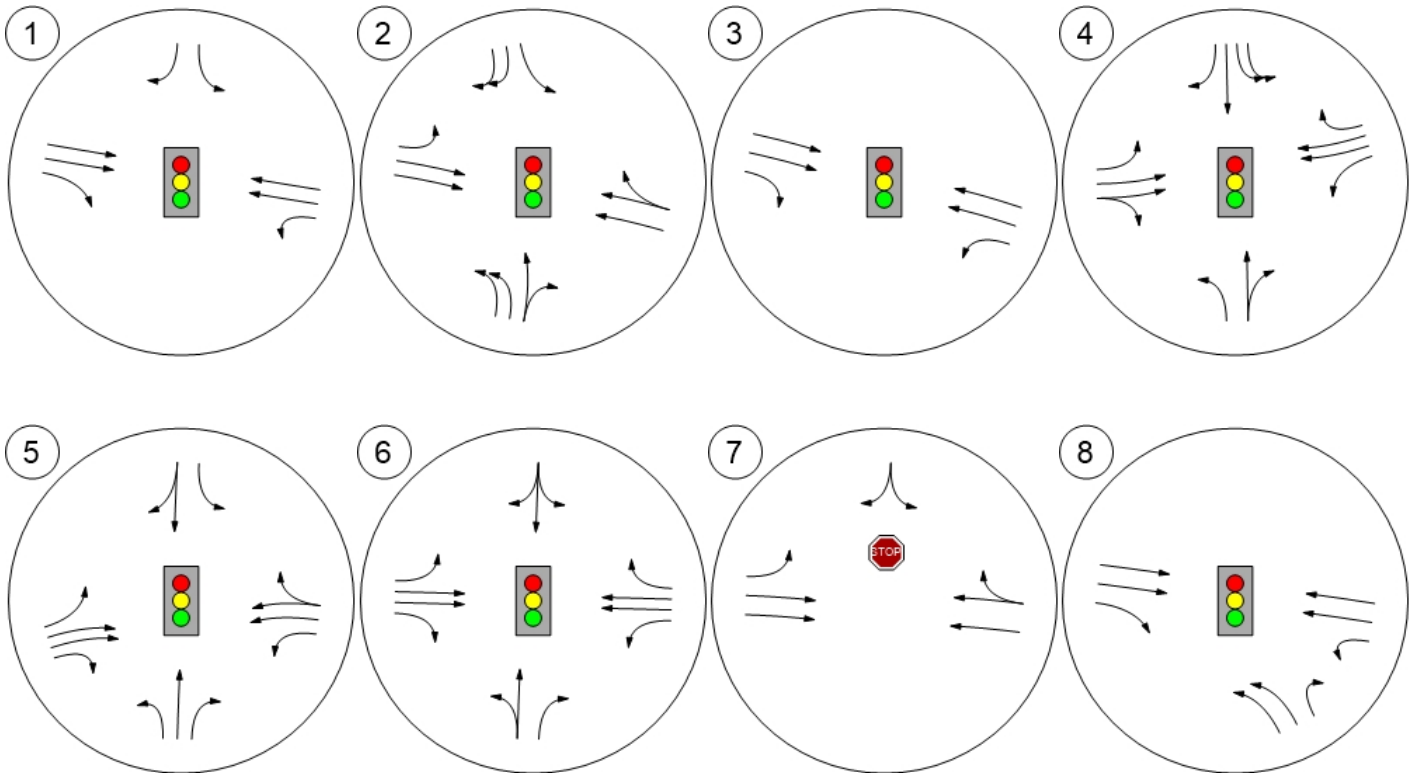
Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.17	0.01	0.18	0.07	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	19.12	15.49	9.63	18.36	17.68	11.17	8.85	0.00	0.00	7.74	0.00	0.00
Movement LOS	C	C	A	C	C	B	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.01	0.01	0.01	0.66	0.66	0.63	0.23	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.22	0.22	0.22	16.62	16.62	15.80	5.77	0.00	0.00	0.04	0.04	0.04
d_A, Approach Delay [s/veh]	15.49			13.53			1.90			0.03		
Approach LOS	C			B			A			A		
d_I, Intersection Delay [s/veh]	3.93											
Intersection LOS	C											

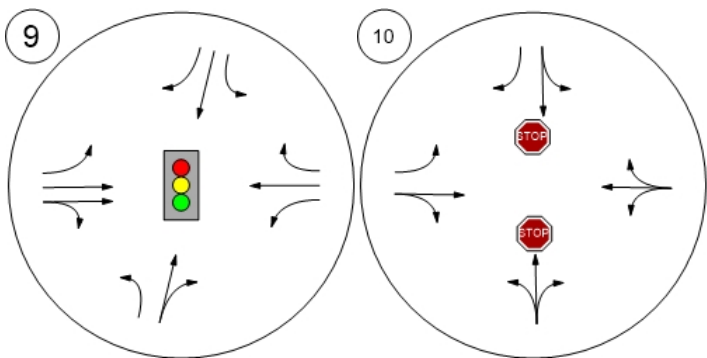
Study Intersections



Lane Configuration and Traffic Control



Lane Configuration and Traffic Control



Sunrise Refinement Plan

Vistro File: H:\...\Sunrise_PM_2023.vistro

Scenario 1 VistroScenario

Report File: H:\...\2023_ExistingPM.pdf

3/17/2025

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	OR 213 SB Ramps/OR 224	Signalized	HCM 7th Edition	WB Left	0.783	22.0	C
2	OR 213 NB Ramps/I-205 SB Ramps/OR 224	Signalized	HCM 7th Edition	EB Thru	1.091	94.3	F
3	I-205 NB Ramps/OR 224	Signalized	HCM 7th Edition	WB Left	0.619	16.4	B
4	122nd Avenue/OR 224/OR 212	Signalized	HCM 7th Edition	EB Left	0.643	32.9	C
5	135th Avenue/OR 212	Signalized	HCM 7th Edition	EB Left	0.978	68.0	E
6	142nd Avenue/OR 212	Signalized	HCM 7th Edition	SB Left	0.885	23.0	C
7	152nd Avenue/OR 212	Two-way stop	HCM 7th Edition	SB Left	3.649	1,766.0	F
8	OR 212/OR 224 (Rock Creek Junction)	Signalized	HCM 7th Edition	WB Left	0.655	23.8	C
9	172nd Avenue/OR 212	Signalized	HCM 7th Edition	WB Left	0.760	26.9	C
10	122nd Avenue/Jennifer Street	Two-way stop	HCM 7th Edition	SB Left	0.360	37.9	E

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: OR 213 SB Ramps/OR 224

Control Type:	Signalized	Delay (sec / veh):	22.0
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.783

Intersection Setup

Name	I-205 SB On-Ramp			I-205 SB On-Ramp			Sunrise Pkwy			Sunrise Pkwy		
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	0	0	1	1	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	1000.00	75.00	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]	0.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present				No			No			No		
Crosswalk	No			No			No			No		

Volumes

Name	I-205 SB On-Ramp			I-205 SB On-Ramp			Sunrise Pkwy			Sunrise Pkwy		
Base Volume Input [veh/h]	0	0	0	96	1	324	0	1621	597	31	1322	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 [%]	0.00	0.00	0.00	4.00	2.00	2.00	0.00	5.00	5.00	13.00	4.00	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]	0	0	0	96	1	324	0	1621	597	31	1322	0
Peak Hour Factor	1.0000	1.0000	1.0000	0.9700	1.0000	0.9700	1.0000	0.9700	0.9700	0.9700	0.9700	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	0	0	25	0	84	0	418	154	8	341	0
Total Analysis Volume [veh/h]	0	0	0	99	1	334	0	1671	615	32	1363	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			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			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]	130
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	128.0
Offset Reference	End of Lagging Red
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Permiss	Permiss	Permiss	Split	Split	Split	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	0	0	0	4	0	4	0	2	2	1	6	0
Auxiliary Signal Groups												
Maximum Green [s]	0	0	0	32	0	32	0	74	74	9	87	0
Amber [s]	0.0	0.0	0.0	4.0	0.0	4.0	0.0	5.0	5.0	3.5	5.0	0.0
All red [s]	0.0	0.0	0.0	1.5	0.0	1.5	0.0	1.0	1.0	0.5	1.0	0.0
Walk [s]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	0	0	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	0.0	0.0	2.0	0.0	2.0	0.0	2.0	2.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	0.0	0.0	3.5	0.0	3.5	0.0	4.0	4.0	2.0	4.0	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	20.0	0.0	20.0	0.0	6.0	6.0	20.0	6.0	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]	0	0	0	37	0	37	0	80	80	13	93	0
Lead / Lag	-	-	-	Lag	-	-	-	-	-	Lead	-	-
Minimum Green [s]	0	0	0	6	0	6	0	10	10	4	10	0
Vehicle Extension [s]	0.0	0.0	0.0	2.3	0.0	2.3	0.0	0.5	0.5	2.3	0.5	0.0
Minimum Recall				No				Yes		No	Yes	
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	R	C	R	L	C
C, Cycle Length [s]		130	130	130	130	130	130
L, Total Lost Time per Cycle [s]		5.50	5.50	6.00	6.00	4.00	6.00
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]		3.50	3.50	4.00	4.00	2.00	4.00
g_i, Effective Green Time [s]		29	29	82	82	3	89
g / C, Green / Cycle		0.22	0.22	0.63	0.63	0.02	0.69
(v / s)_i Volume / Saturation Flow Rate		0.06	0.21	0.48	0.40	0.02	0.39
s, saturation flow rate [veh/h]		1752	1589	3475	1551	1624	3503
c, Capacity [veh/h]		393	357	2193	979	41	2407
d1, Uniform Delay [s]		41.44	49.50	17.05	14.67	62.99	10.42
k, delay calibration		0.07	0.30	0.50	0.50	0.07	0.50
l, Upstream Filtering Factor		1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]		0.20	24.14	2.57	3.05	17.19	0.97
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		0.25	0.94	0.76	0.63	0.78	0.57
d, Delay for Lane Group [s/veh]		41.65	73.65	19.62	17.72	80.19	11.39
Lane Group LOS		D	E	B	B	F	B
Critical Lane Group		No	Yes	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]		2.66	13.02	17.54	11.44	1.25	9.71
50th-Percentile Queue Length [ft/ln]		66.47	325.46	438.56	286.02	31.31	242.67
95th-Percentile Queue Length [veh/ln]		4.79	18.94	24.41	16.99	2.25	14.82
95th-Percentile Queue Length [ft/ln]		119.65	473.39	610.28	424.70	56.35	370.40

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	41.65	0.00	73.65	0.00	19.62	17.72	80.19	11.39	0.00
Movement LOS				D		E		B	B	F	B	
d_A, Approach Delay [s/veh]	0.00			66.33			19.11			12.97		
Approach LOS	A			E			B			B		
d_I, Intersection Delay [s/veh]	22.00											
Intersection LOS	C											
Intersection V/C	0.783											

Emissions

Vehicle Miles Traveled [mph]		19.16	64.63	529.34	194.82	5.05	214.91
Stops [stops/h]		73.63	360.49	971.51	316.81	34.67	537.57
Fuel consumption [US gal/h]		2.03	9.66	33.83	11.99	0.92	14.98
CO [g/h]		142.20	675.06	2364.76	837.96	64.40	1046.83
NOx [g/h]		27.67	131.34	460.10	163.04	12.53	203.67
VOC [g/h]		32.96	156.45	548.06	194.21	14.93	242.61

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
I_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000	0.000
Crosswalk LOS	F	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	485	1138	1338
d_b, Bicycle Delay [s]	65.00	37.32	12.06	7.11
I_b,int, Bicycle LOS Score for Intersection	4.132	1.560	3.446	2.710
Bicycle LOS	D	A	C	B

Sequence

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 2: OR 213 NB Ramps/I-205 SB Ramps/OR 224

Control Type:	Signalized	Delay (sec / veh):	94.3
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.091

Intersection Setup

Name	I-205 SB Off-Ramp			OR 213 NB			Sunrise Pkwy			Sunrise Pkwy		
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	1	0	1	1	0	0	0	0	0
Entry Pocket Length [ft]	415.00	100.00	100.00	160.00	100.00	405.00	365.00	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]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			No			Yes		

Volumes

Name	I-205 SB Off-Ramp			OR 213 NB			Sunrise Pkwy			Sunrise Pkwy		
Base Volume Input [veh/h]	479	8	253	20	0	402	449	1268	0	0	472	193
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	12.00	17.00	10.00	0.00	5.00	2.00	6.00	0.00	0.00	4.00	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	1	0	0	0	0	0	0	0	0	19
Total Hourly Volume [veh/h]	479	8	252	20	0	402	449	1268	0	0	472	174
Peak Hour Factor	0.9300	0.9300	0.9300	0.9300	1.0000	0.9300	0.9300	0.9300	1.0000	1.0000	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]	129	2	68	5	0	108	121	341	0	0	127	47
Total Analysis Volume [veh/h]	515	9	271	22	0	432	483	1363	0	0	508	187
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	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			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]	130
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	20.0
Offset Reference	End of Lagging Red
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Protecte	Permiss	Permiss	Split	Permiss	Overlap	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	3	8	8	7	0	4	5	2	0	0	6	6
Auxiliary Signal Groups						4,5						
Maximum Green [s]	21	31	31	8	0	18	44	75	0	0	27	27
Amber [s]	4.0	4.0	4.0	4.0	0.0	4.0	3.5	5.0	0.0	0.0	5.0	5.0
All red [s]	1.5	1.5	1.5	1.5	0.0	1.5	0.5	1.0	0.0	0.0	1.0	1.0
Walk [s]	7	7	7	0	0	0	0	7	0	0	7	7
Pedestrian Clearance [s]	12	24	24	0	0	0	0	20	0	0	12	12
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]	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0	0.0	0.0	2.0	2.0
I2, Clearance Lost Time [s]	3.5	3.5	3.5	3.5	0.0	3.5	2.0	4.0	0.0	0.0	4.0	4.0
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]	20.0	6.0	6.0	20.0	0.0	0.0	20.0	6.0	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]	26	37	37	13	0	23	48	81	0	0	33	33
Lead / Lag	Lag	-	-	Lag	-	-	Lag	-	-	-	-	-
Minimum Green [s]	6	4	4	4	0	4	4	6	0	0	6	6
Vehicle Extension [s]	2.3	2.3	2.3	2.3	0.0	2.3	2.3	4.6	0.0	0.0	4.6	4.6
Minimum Recall	No	No		No		No	Yes	Yes			No	
Maximum Recall	No	No		No		No	No	No			No	
Pedestrian Recall	No	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	C	L	R	L	C	C	C
C, Cycle Length [s]	130	130	130	130	130	130	130	130
L, Total Lost Time per Cycle [s]	5.50	5.50	5.50	5.50	4.00	6.00	6.00	6.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.50	3.50	3.50	0.00	2.00	4.00	4.00	4.00
g_i, Effective Green Time [s]	22	27	10	64	46	77	27	27
g / C, Green / Cycle	0.17	0.21	0.08	0.49	0.35	0.59	0.21	0.21
(v / s)_i Volume / Saturation Flow Rate	0.15	0.19	0.01	0.16	0.27	0.75	0.19	0.21
s, saturation flow rate [veh/h]	3375	1469	1667	2746	1781	1810	1840	1680
c, Capacity [veh/h]	562	302	124	1360	625	1067	382	349
d1, Uniform Delay [s]	53.32	50.70	56.46	19.66	37.59	26.71	50.34	51.48
k, delay calibration	0.07	0.25	0.07	0.07	0.50	0.50	0.37	0.42
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.19	22.27	0.41	0.08	9.00	132.40	22.71	43.16
d3, Initial Queue Delay [s]	0.00	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	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.92	0.93	0.18	0.32	0.77	1.28	0.91	1.00
d, Delay for Lane Group [s/veh]	57.52	72.97	56.87	19.74	46.60	159.11	73.05	94.64
Lane Group LOS	E	E	E	B	D	F	E	F
Critical Lane Group	No	Yes	Yes	No	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	8.59	10.80	0.69	3.96	15.19	70.28	13.43	15.46
50th-Percentile Queue Length [ft/ln]	214.81	270.08	17.37	98.90	379.87	1756.95	335.87	386.43
95th-Percentile Queue Length [veh/ln]	13.40	16.19	1.25	7.12	21.59	101.03	19.45	21.90
95th-Percentile Queue Length [ft/ln]	334.99	404.83	31.26	178.02	539.69	2525.75	486.15	547.62

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	57.52	72.97	72.97	56.87	0.00	19.74	46.60	159.11	0.00	0.00	79.87	94.64
Movement LOS	E	E	E	E		B	D	F			E	F
d_A, Approach Delay [s/veh]	62.96			21.54			129.67			83.85		
Approach LOS	E			C			F			F		
d_I, Intersection Delay [s/veh]	94.32											
Intersection LOS	F											
Intersection V/C	1.091											

Emissions

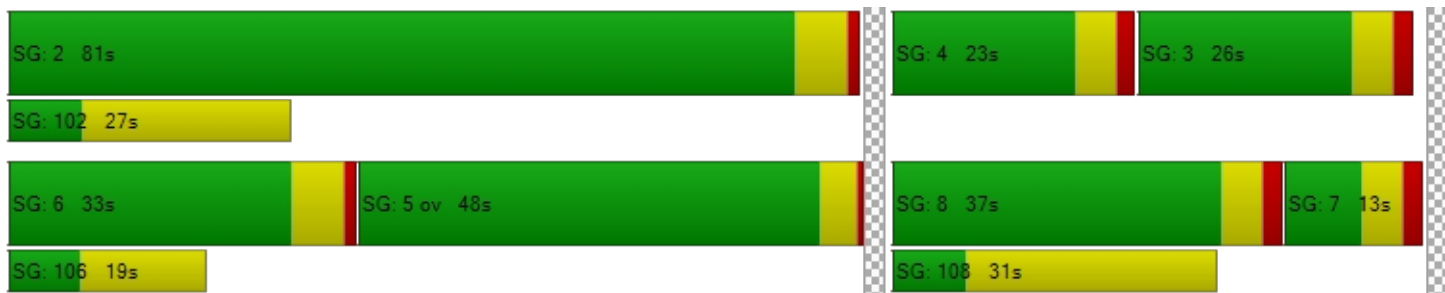
Vehicle Miles Traveled [mph]	107.88	58.65	4.07	79.88	76.16	214.91	87.06	87.06
Stops [stops/h]	475.77	299.09	19.23	219.05	420.68	1945.69	371.95	427.94
Fuel consumption [US gal/h]	13.10	8.22	0.53	6.23	10.04	63.72	10.80	12.64
CO [g/h]	915.49	574.87	36.93	435.75	701.71	4454.09	755.20	883.53
NOx [g/h]	178.12	111.85	7.19	84.78	136.53	866.60	146.93	171.90
VOC [g/h]	212.17	133.23	8.56	100.99	162.63	1032.28	175.03	204.77

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	0.0	11.0
M_corner, Corner Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	54.48	54.48	0.00	54.48
I_p,int, Pedestrian LOS Score for Intersectio	2.218	2.430	0.000	2.755
Crosswalk LOS	B	B	F	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	484	115	1154	415
d_b, Bicycle Delay [s]	37.33	57.73	11.65	40.82
I_b,int, Bicycle LOS Score for Intersection	2.873	1.560	4.606	2.149
Bicycle LOS	C	A	E	B

Sequence

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



**Intersection Level Of Service Report
Intersection 3: I-205 NB Ramps/OR 224**

Control Type:	Signalized	Delay (sec / veh):	16.4
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.619

Intersection Setup

Name	I-205 NB On-Ramp		Sunrise Pkwy		Sunrise Pkwy	
Approach	Eastbound		Westbound		Southeastbound	
Lane Configuration			↑↑↑		↑↑↑	
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	2	0	0	2
Entry Pocket Length [ft]	100.00	100.00	630.00	100.00	100.00	220.00
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]	0.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present			No		No	
Crosswalk	No		No		No	

Volumes

Name	I-205 NB On-Ramp		Sunrise Pkwy		Sunrise Pkwy	
Base Volume Input [veh/h]	0	0	258	665	930	611
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	6.00	1.00	7.00	4.00
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	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	258	665	930	611
Peak Hour Factor	1.0000	1.0000	0.9300	0.9300	0.9300	0.9300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	69	179	250	164
Total Analysis Volume [veh/h]	0	0	277	715	1000	657
Presence of On-Street Parking			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]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	130
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Semi-actuated
Offset [s]	50.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	8.00

Phasing & Timing (Basic)

Control Type	Permissive	Permissive	Protected	Permissive	Permissive	Permissive
Signal Group	0	0	1	6	2	2
Auxiliary Signal Groups						
Maximum Green [s]	0	0	22	89	63	63
Amber [s]	0.0	0.0	3.5	5.0	5.0	5.0
All red [s]	0.0	0.0	0.5	2.0	2.0	2.0
Walk [s]	0	0	0	0	7	7
Pedestrian Clearance [s]	0	0	0	0	17	17
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk				No	No	
I1, Start-Up Lost Time [s]	0.0	0.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	0.0	0.0	2.0	5.0	5.0	5.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	20.0	6.0	6.0	6.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	0	0	26	96	70	70
Lead / Lag	-	-	Lead	-	-	-
Minimum Green [s]	0	0	4	10	10	10
Vehicle Extension [s]	0.0	0.0	2.3	4.7	4.7	4.7
Minimum Recall			No	Yes	Yes	
Maximum Recall			No	No	No	
Pedestrian Recall			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	R
C, Cycle Length [s]	130	130	130	130
L, Total Lost Time per Cycle [s]	4.00	7.00	7.00	7.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	5.00	5.00	5.00
g_i, Effective Green Time [s]	22	116	90	90
g / C, Green / Cycle	0.17	0.89	0.69	0.69
(v / s)_i Volume / Saturation Flow Rate	0.16	0.20	0.29	0.42
s, saturation flow rate [veh/h]	1724	3589	3418	1564
c, Capacity [veh/h]	292	3200	2363	1081
d1, Uniform Delay [s]	53.45	0.96	8.75	10.67
k, delay calibration	0.39	0.50	0.50	0.50
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	35.26	0.16	0.56	2.54
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.95	0.22	0.42	0.61
d, Delay for Lane Group [s/veh]	88.71	1.12	9.30	13.21
Lane Group LOS	F	A	A	B
Critical Lane Group	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	11.81	0.53	6.01	10.10
50th-Percentile Queue Length [ft/ln]	295.16	13.17	150.21	252.50
95th-Percentile Queue Length [veh/ln]	17.44	0.95	10.03	15.31
95th-Percentile Queue Length [ft/ln]	436.04	23.71	250.71	382.80

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	0.00	88.71	1.12	9.30	13.21
Movement LOS			F	A	A	B
d_A, Approach Delay [s/veh]	0.00		25.58		10.85	
Approach LOS	A		C		B	
d_I, Intersection Delay [s/veh]	16.37					
Intersection LOS	B					
Intersection V/C	0.619					

Emissions

Vehicle Miles Traveled [mph]		383.88	990.89	250.53	164.60
Stops [stops/h]		326.95	29.19	332.77	279.69
Fuel consumption [US gal/h]		22.61	41.12	14.05	10.09
CO [g/h]		1580.39	2873.95	981.76	705.09
NOx [g/h]		307.49	559.17	191.01	137.18
VOC [g/h]		366.27	666.07	227.53	163.41

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	0.0
M_corner, Corner Circulation Area [ft ² /ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00
I_p,int, Pedestrian LOS Score for Intersectio	0.000	0.000	0.000
Crosswalk LOS	F	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	1369	969
d_b, Bicycle Delay [s]	65.00	6.47	17.27
I_b,int, Bicycle LOS Score for Intersection	4.132	2.378	2.927
Bicycle LOS	D	B	C

Sequence

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



Intersection Level Of Service Report
Intersection 4: 122nd Avenue/OR 224/OR 212

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):	0.643

Intersection Setup

Name	122nd Avenue			122nd Avenue			Highway 212			Highway 212		
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	1	0	1	1	0	0	1	0	1
Entry Pocket Length [ft]	135.00	100.00	100.00	525.00	100.00	350.00	220.00	100.00	100.00	255.00	100.00	410.00
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]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	122nd Avenue			122nd Avenue			Highway 212			Highway 212		
Base Volume Input [veh/h]	29	145	19	682	200	48	51	772	61	19	757	727
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 [%]	7.00	5.00	5.00	4.00	13.00	2.00	6.00	5.00	16.00	5.00	8.00	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	0	0	0	0	0	0	0	0	0	364
Total Hourly Volume [veh/h]	29	145	19	682	200	48	51	772	61	19	757	363
Peak Hour Factor	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700
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]	7	37	5	176	52	12	13	199	16	5	195	94
Total Analysis Volume [veh/h]	30	149	20	703	206	49	53	796	63	20	780	374
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	0			1			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			1		
v_co, Outbound Pedestrian Volume crossing	1			4			4			1		
v_ci, Inbound Pedestrian Volume crossing mi	1			4			4			1		
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]	130
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	34.0
Offset Reference	End of Lagging Red
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Protecte	Permiss	Permiss	ProtPer	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	3	8	8	7	4	4	5	2	2	1	6	6
Auxiliary Signal Groups												
Maximum Green [s]	6	35	35	26	55	55	5	46	46	5	46	46
Amber [s]	3.5	4.3	4.3	3.5	4.3	4.3	3.5	4.7	4.7	3.5	4.7	4.7
All red [s]	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.7	0.7	0.5	0.7	0.7
Walk [s]	0	9	9	0	7	7	0	8	8	0	7	7
Pedestrian Clearance [s]	0	26	26	0	21	21	0	23	23	0	18	18
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]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.0	2.8	2.8	2.0	2.8	2.8	2.0	3.4	3.4	2.0	3.4	3.4
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]	20.0	6.0	6.0	20.0	6.0	6.0	20.0	6.0	6.0	20.0	6.0	6.0
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]	10	40	40	30	60	60	9	51	51	9	51	51
Lead / Lag	Lag	-	-	Lead	-	-	Lag	-	-	Lead	-	-
Minimum Green [s]	4	6	6	4	6	6	4	10	10	4	10	10
Vehicle Extension [s]	2.3	2.3	2.3	2.3	2.3	2.3	2.0	4.6	4.6	2.0	4.6	4.6
Minimum Recall	No	No		No	No		No	Yes		No	Yes	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		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	C	L	C	R	L	C	C	L	C	R
C, Cycle Length [s]	130	130	130	130	130	130	130	130	130	130	130
L, Total Lost Time per Cycle [s]	4.00	4.80	4.80	4.80	4.80	4.00	5.40	5.40	4.00	5.40	5.40
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.80	0.00	2.80	2.80	2.00	3.40	3.40	2.00	3.40	3.40
g_i, Effective Green Time [s]	11	15	30	30	30	5	69	69	2	66	66
g / C, Green / Cycle	0.08	0.12	0.23	0.23	0.23	0.04	0.53	0.53	0.02	0.51	0.51
(v / s)_i Volume / Saturation Flow Rate	0.02	0.09	0.21	0.12	0.03	0.03	0.24	0.24	0.01	0.23	0.24
s, saturation flow rate [veh/h]	1709	1786	3320	1705	1589	1724	1825	1778	1738	3389	1589
c, Capacity [veh/h]	142	208	845	397	370	66	964	939	28	1714	804
d1, Uniform Delay [s]	55.62	56.06	48.26	43.53	39.49	62.00	19.01	19.01	63.65	20.63	20.77
k, delay calibration	0.07	0.07	0.07	0.07	0.07	0.11	0.50	0.50	0.04	0.50	0.50
l, 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
d2, Incremental Delay [s]	0.45	4.72	1.37	0.64	0.10	18.88	1.53	1.57	11.61	0.87	1.93
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	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	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	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.21	0.81	0.83	0.52	0.13	0.80	0.45	0.45	0.71	0.46	0.47
d, Delay for Lane Group [s/veh]	56.07	60.78	49.62	44.18	39.59	80.88	20.54	20.58	75.26	21.50	22.70
Lane Group LOS	E	E	D	D	D	F	C	C	E	C	C
Critical Lane Group	No	Yes	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.94	5.70	11.16	5.89	1.27	2.09	8.48	8.28	0.75	7.78	7.74
50th-Percentile Queue Length [ft/ln]	23.52	142.38	279.09	147.27	31.65	52.21	212.10	206.97	18.78	194.52	193.56
95th-Percentile Queue Length [veh/ln]	1.69	9.61	16.64	9.87	2.28	3.76	13.26	13.00	1.35	12.36	12.31
95th-Percentile Queue Length [ft/ln]	42.33	240.22	416.08	246.78	56.96	93.99	331.52	324.94	33.81	308.88	307.64

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	56.07	60.78	60.78	49.62	44.18	39.59	80.88	20.56	20.58	75.26	21.50	22.70
Movement LOS	E	E	E	D	D	D	F	C	C	E	C	C
d_A, Approach Delay [s/veh]	60.07			47.94			24.07			22.80		
Approach LOS	E			D			C			C		
d_I, Intersection Delay [s/veh]	32.87											
Intersection LOS	C											
Intersection V/C	0.643											

Emissions

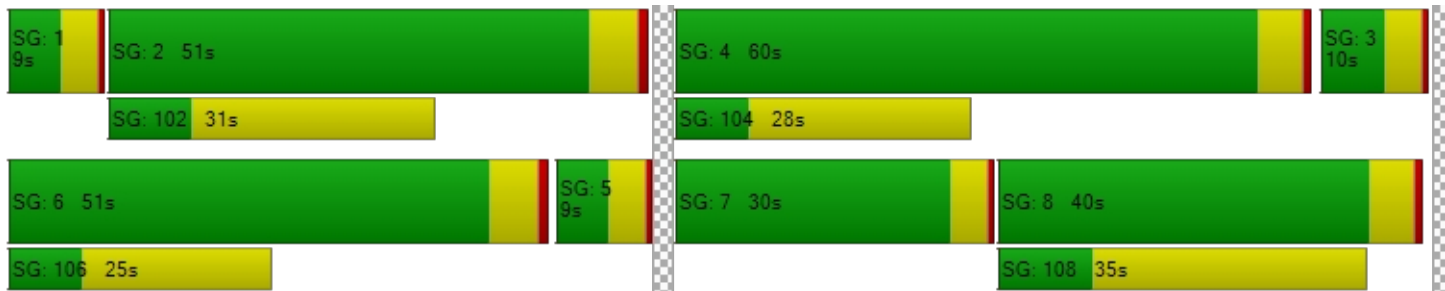
Vehicle Miles Traveled [mph]	6.76	38.08	162.32	47.56	11.31	47.64	391.02	381.07	13.19	514.26	246.58
Stops [stops/h]	26.05	157.71	618.29	163.13	35.05	57.84	234.94	229.26	20.80	430.93	214.40
Fuel consumption [US gal/h]	0.76	4.53	17.20	4.71	1.05	3.15	19.21	18.73	0.96	26.96	13.06
CO [g/h]	53.44	316.59	1202.04	329.30	73.68	220.38	1343.01	1309.19	67.39	1884.78	913.10
NOx [g/h]	10.40	61.60	233.87	64.07	14.34	42.88	261.30	254.72	13.11	366.71	177.66
VOC [g/h]	12.38	73.37	278.58	76.32	17.08	51.08	311.26	303.42	15.62	436.82	211.62

Other Modes

g_Walk,mi, Effective Walk Time [s]	12.0	11.0	11.0	13.0
M_corner, Corner Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	53.55	54.47	54.47	52.65
l_p,int, Pedestrian LOS Score for Intersectio	2.116	2.779	2.663	3.501
Crosswalk LOS	B	C	B	D
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	542	849	702	702
d_b, Bicycle Delay [s]	34.57	21.52	27.40	27.40
l_b,int, Bicycle LOS Score for Intersection	1.888	3.140	2.312	2.828
Bicycle LOS	A	C	B	C

Sequence

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



**Intersection Level Of Service Report
Intersection 5: 135th Avenue/OR 212**

Control Type:	Signalized	Delay (sec / veh):	68.0
Analysis Method:	HCM 7th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.978

Intersection Setup

Name	135th Ave			135th Ave			Highway 212			Highway 212		
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	1	1	0	0	1	0	1	1	0	0
Entry Pocket Length [ft]	300.00	100.00	60.00	320.00	100.00	100.00	415.00	100.00	60.00	200.00	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]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	135th Ave			135th Ave			Highway 212			Highway 212		
Base Volume Input [veh/h]	64	124	626	241	101	142	110	1367	23	172	1155	125
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 [%]	8.00	1.00	5.00	3.00	3.00	4.00	1.00	6.00	4.00	3.00	7.00	3.00
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	313	0	0	7	0	0	12	0	0	88
Total Hourly Volume [veh/h]	64	124	313	241	101	135	110	1367	11	172	1155	37
Peak Hour Factor	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700
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]	16	32	81	62	26	35	28	352	3	44	298	10
Total Analysis Volume [veh/h]	66	128	323	248	104	139	113	1409	11	177	1191	38
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	2			2			2			2		
v_di, Inbound Pedestrian Volume crossing m	2			2			2			2		
v_co, Outbound Pedestrian Volume crossing	1			1			2			2		
v_ci, Inbound Pedestrian Volume crossing mi	2			2			1			1		
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]	130
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	98.0
Offset Reference	End of Lagging Red
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing (Basic)

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	3	8	8	7	4	4	5	2	2	1	6	6
Auxiliary Signal Groups												
Maximum Green [s]	8	45	45	14	51	51	6	45	45	9	48	48
Amber [s]	3.5	4.0	4.0	3.5	4.0	4.0	3.5	4.7	4.7	3.5	4.7	4.7
All red [s]	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.7	0.7	0.5	0.7	0.7
Walk [s]	0	8	8	0	10	10	0	8	8	0	7	7
Pedestrian Clearance [s]	0	22	22	0	25	25	0	18	18	0	14	14
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]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.0	2.5	2.5	2.0	2.5	2.5	2.0	3.4	3.4	2.0	3.4	3.4
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]	20.0	6.0	6.0	20.0	6.0	6.0	20.0	6.0	6.0	20.0	6.0	6.0
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]	10	35	35	24	49	49	11	54	54	17	60	60
Lead / Lag	Lead	-	-	Lag	-	-	Lag	-	-	Lead	-	-
Minimum Green [s]	4	6	6	4	6	6	4	10	10	4	10	10
Vehicle Extension [s]	2.3	3.0	3.0	2.3	3.0	3.0	2.3	4.5	4.5	2.3	4.5	4.5
Minimum Recall	No	No		No	No		No	Yes		No	Yes	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		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	C	R	L	C	L	C	R	L	C	C
C, Cycle Length [s]	130	130	130	130	130	130	130	130	130	130	130
L, Total Lost Time per Cycle [s]	4.00	4.50	4.50	4.00	4.50	4.00	5.40	5.40	4.00	5.40	5.40
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.50	2.50	2.00	2.50	2.00	3.40	3.40	2.00	3.40	3.40
g_i, Effective Green Time [s]	6	29	29	20	43	7	50	50	13	56	56
g / C, Green / Cycle	0.05	0.22	0.22	0.15	0.33	0.05	0.39	0.39	0.10	0.43	0.43
(v / s)_i Volume / Saturation Flow Rate	0.04	0.07	0.21	0.14	0.14	0.06	0.41	0.01	0.10	0.34	0.34
s, saturation flow rate [veh/h]	1695	1885	1551	1767	1682	1795	3446	1556	1767	1795	1775
c, Capacity [veh/h]	78	420	345	271	555	97	1331	601	177	776	767
d1, Uniform Delay [s]	61.53	42.14	49.61	54.18	34.11	61.50	39.90	24.67	58.50	31.92	31.97
k, delay calibration	0.07	0.11	0.16	0.30	0.11	0.42	0.50	0.50	0.39	0.50	0.50
l, 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
d2, Incremental Delay [s]	14.64	0.41	15.87	25.85	0.54	136.51	41.85	0.06	59.98	8.27	8.45
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	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	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	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.84	0.30	0.94	0.91	0.44	1.17	1.06	0.02	1.00	0.80	0.80
d, Delay for Lane Group [s/veh]	76.17	42.55	65.47	80.04	34.65	198.01	81.75	24.72	118.48	40.20	40.41
Lane Group LOS	E	D	E	F	C	F	F	C	F	D	D
Critical Lane Group	No	No	Yes	Yes	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	2.49	3.51	11.80	9.93	6.13	6.86	28.65	0.22	8.76	18.37	18.26
50th-Percentile Queue Length [ft/ln]	62.14	87.65	294.93	248.26	153.33	171.53	716.28	5.58	218.90	459.13	456.49
95th-Percentile Queue Length [veh/ln]	4.47	6.31	17.43	15.10	10.19	11.66	39.00	0.40	13.62	25.39	25.27
95th-Percentile Queue Length [ft/ln]	111.85	157.78	435.75	377.47	254.86	291.60	974.94	10.04	340.50	634.84	631.69

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	76.17	42.55	65.47	80.04	34.65	34.65	198.01	81.75	24.72	118.48	40.30	40.41
Movement LOS	E	D	E	F	C	C	F	F	C	F	D	D
d_A, Approach Delay [s/veh]	61.16			57.57			89.91			50.15		
Approach LOS	E			E			F			D		
d_I, Intersection Delay [s/veh]	67.96											
Intersection LOS	E											
Intersection V/C	0.978											

Emissions

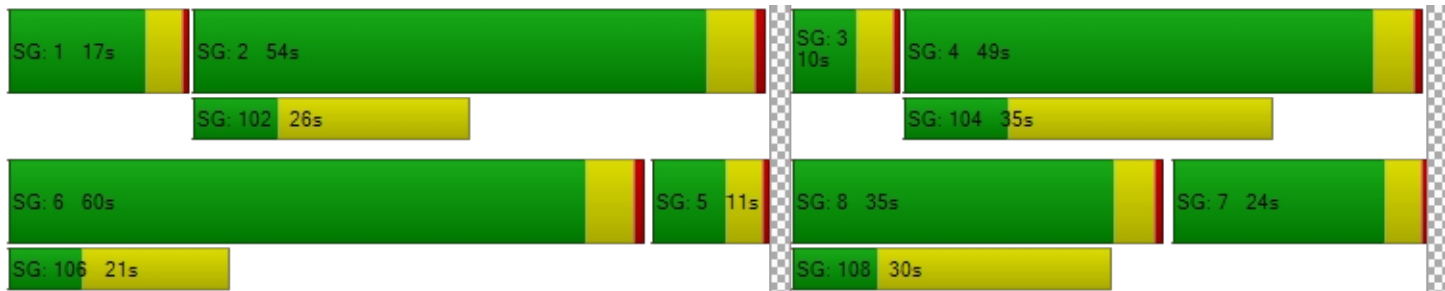
Vehicle Miles Traveled [mph]	12.91	25.05	63.20	30.72	30.10	74.50	928.97	7.25	62.49	217.91	216.01
Stops [stops/h]	68.83	97.09	326.69	275.00	169.84	190.00	1586.83	6.18	242.48	508.58	505.65
Fuel consumption [US gal/h]	1.93	2.68	8.71	6.82	3.89	8.67	70.45	0.39	8.18	16.83	16.72
CO [g/h]	135.25	187.03	608.82	476.91	271.97	605.97	4924.21	27.12	571.72	1176.34	1168.56
NOx [g/h]	26.31	36.39	118.45	92.79	52.92	117.90	958.07	5.28	111.24	228.87	227.36
VOC [g/h]	31.35	43.34	141.10	110.53	63.03	140.44	1141.23	6.29	132.50	272.63	270.82

Other Modes

g_Walk,mi, Effective Walk Time [s]	12.0			11.0			14.0			12.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	53.55			54.47			51.75			53.55		
I_p,int, Pedestrian LOS Score for Intersectio	2.870			2.249			2.965			3.180		
Crosswalk LOS	C			B			C			C		
s_b, Saturation Flow Rate of the bicycle lane	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	469			685			748			840		
d_b, Bicycle Delay [s]	38.08			28.12			25.48			21.87		
I_b,int, Bicycle LOS Score for Intersection	2.929			2.381			2.834			2.792		
Bicycle LOS	C			B			C			C		

Sequence

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



Intersection Level Of Service Report
Intersection 6: 142nd Avenue/OR 212

Control Type:	Signalized	Delay (sec / veh):	23.0
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.885

Intersection Setup

Name	142nd Ave			142nd Ave			Highway 212			Highway 212		
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	0	1	0	1	1	0	1
Entry Pocket Length [ft]	100.00	100.00	20.00	100.00	100.00	100.00	225.00	100.00	165.00	220.00	100.00	70.00
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]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			No			Yes		

Volumes

Name	142nd Ave			142nd Ave			Highway 212			Highway 212		
Base Volume Input [veh/h]	31	3	15	134	11	122	137	2054	51	10	1302	49
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 [%]	3.00	2.00	20.00	3.00	9.00	2.00	1.00	6.00	2.00	2.00	7.00	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	8	0	0	0	0	0	26	0	0	25
Total Hourly Volume [veh/h]	31	3	7	134	11	122	137	2054	25	10	1302	24
Peak Hour Factor	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700
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]	8	1	2	35	3	31	35	529	6	3	336	6
Total Analysis Volume [veh/h]	32	3	7	138	11	126	141	2118	26	10	1342	25
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	1			0			0			1		
v_di, Inbound Pedestrian Volume crossing m	1			0			0			1		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			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]	130
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	121.0
Offset Reference	End of Lagging Red
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss
Signal Group	8	8	8	4	4	4	5	2	2	1	6	6
Auxiliary Signal Groups												
Maximum Green [s]	33	33	33	32	32	32	11	78	78	6	72	72
Amber [s]	3.5	3.5	3.5	4.3	4.3	4.3	3.5	4.7	4.7	3.5	4.7	4.7
All red [s]	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.7	0.7	0.5	0.7	0.7
Walk [s]	7	7	7	0	0	0	0	8	8	0	7	7
Pedestrian Clearance [s]	26	26	26	0	0	0	0	26	26	0	18	18
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]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	2.8	2.8	2.8	2.0	3.4	3.4	2.0	3.4	3.4
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]	6.0	6.0	6.0	6.0	6.0	6.0	20.0	6.0	6.0	20.0	6.0	6.0
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]	37	37	37	37	37	37	15	84	84	10	78	78
Lead / Lag	Lag	-	-	Lag	-	-	Lag	-	-	Lag	-	-
Minimum Green [s]	6	6	6	6	6	6	4	10	10	4	10	10
Vehicle Extension [s]	2.5	2.5	2.5	2.5	2.5	2.5	2.3	4.5	4.5	2.3	4.5	4.5
Minimum Recall		No			No		No	Yes		No	No	
Maximum Recall		No			No		No	No		No	Yes	
Pedestrian Recall		No			No		No	No		No	Yes	

Exclusive Pedestrian Phase

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

Lane Group Calculations

Lane Group	C	R	C	L	C	R	L	C	R
C, Cycle Length [s]	130	130	130	130	130	130	130	130	130
L, Total Lost Time per Cycle [s]	4.00	4.00	4.80	4.70	5.40	5.40	4.70	5.40	5.40
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	2.00	0.00	0.00	2.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.00	2.80	0.00	3.40	3.40	0.00	3.40	3.40
g_i, Effective Green Time [s]	27	27	26	95	88	88	95	85	85
g / C, Green / Cycle	0.21	0.21	0.20	0.73	0.68	0.68	0.73	0.66	0.66
(v / s)_i Volume / Saturation Flow Rate	0.03	0.01	0.19	0.25	0.61	0.02	0.03	0.39	0.02
s, saturation flow rate [veh/h]	1079	1356	1461	569	3446	1589	332	3418	1589
c, Capacity [veh/h]	251	284	338	345	2337	1078	170	2244	1044
d1, Uniform Delay [s]	41.45	40.86	50.51	26.53	17.48	6.85	44.75	12.62	7.79
k, delay calibration	0.08	0.08	0.14	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	1.00	1.00	1.00
d2, Incremental Delay [s]	0.19	0.03	6.02	3.56	6.46	0.04	0.66	1.19	0.04
d3, Initial Queue Delay [s]	0.00	0.00	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	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.14	0.02	0.81	0.41	0.91	0.02	0.06	0.60	0.02
d, Delay for Lane Group [s/veh]	41.64	40.88	56.52	30.08	23.94	6.89	45.41	13.80	7.83
Lane Group LOS	D	D	E	C	C	A	D	B	A
Critical Lane Group	No	No	Yes	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh/ln]	0.93	0.18	9.33	1.39	26.08	0.24	0.10	10.86	0.25
50th-Percentile Queue Length [ft/ln]	23.24	4.57	233.17	34.86	651.89	6.08	2.51	271.56	6.34
95th-Percentile Queue Length [veh/ln]	1.67	0.33	14.34	2.51	34.45	0.44	0.18	16.27	0.46
95th-Percentile Queue Length [ft/ln]	41.84	8.22	358.39	62.74	861.26	10.94	4.52	406.69	11.41

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	41.64	41.64	40.88	56.52	56.52	56.52	30.08	23.94	6.89	45.41	13.80	7.83
Movement LOS	D	D	D	E	E	E	C	C	A	D	B	A
d_A, Approach Delay [s/veh]	41.51			56.52			24.13			13.92		
Approach LOS	D			E			C			B		
d_I, Intersection Delay [s/veh]	23.02											
Intersection LOS	C											
Intersection V/C	0.885											

Emissions

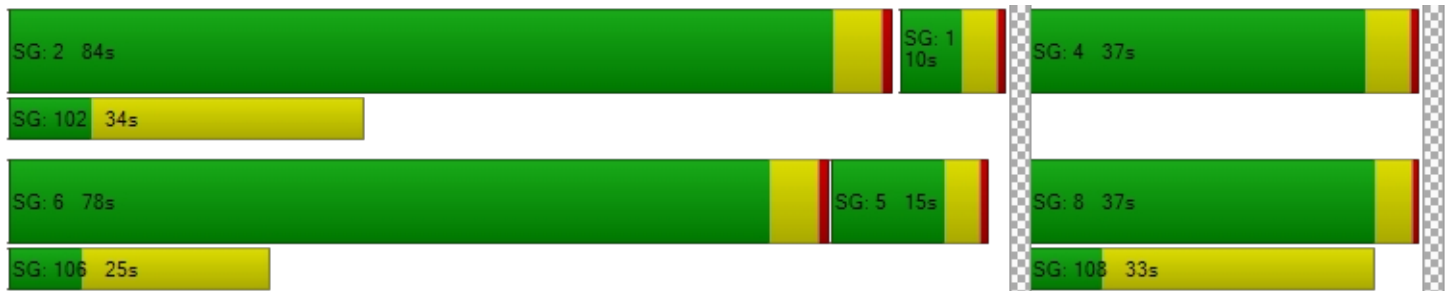
Vehicle Miles Traveled [mph]	4.30	0.86	37.32	47.14	708.15	8.69	4.80	644.21	12.00
Stops [stops/h]	25.75	5.06	258.28	38.61	1444.18	6.73	2.78	601.60	7.02
Fuel consumption [US gal/h]	0.62	0.12	6.13	3.02	47.45	0.43	0.31	33.61	0.57
CO [g/h]	43.05	8.50	428.22	210.89	3316.78	30.16	21.35	2349.56	40.03
NOx [g/h]	8.38	1.65	83.32	41.03	645.32	5.87	4.15	457.14	7.79
VOC [g/h]	9.98	1.97	99.24	48.88	768.70	6.99	4.95	544.53	9.28

Other Modes

g_Walk,mi, Effective Walk Time [s]	12.0	11.0	0.0	11.0
M_corner, Corner Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	53.55	54.47	0.00	54.47
I_p,int, Pedestrian LOS Score for Intersectio	2.022	2.144	0.000	3.299
Crosswalk LOS	B	B	F	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	508	495	1209	1117
d_b, Bicycle Delay [s]	36.19	36.79	10.16	12.67
I_b,int, Bicycle LOS Score for Intersection	1.642	2.013	3.466	2.716
Bicycle LOS	A	B	C	B

Sequence

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



Intersection Level Of Service Report
Intersection 7: 152nd Avenue/OR 212

Control Type:	Two-way stop	Delay (sec / veh):	1,766.0
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	3.649

Intersection Setup

Name	152nd Ave		Highway 212		Highway 212	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	0
Entry Pocket Length [ft]	100.00	100.00	220.00	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]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	152nd Ave		Highway 212		Highway 212	
Base Volume Input [veh/h]	40	128	161	2013	1220	81
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	5.00	2.00	5.00	4.00	4.00
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]	40	128	161	2013	1220	81
Peak Hour Factor	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	10	33	42	524	318	21
Total Analysis Volume [veh/h]	42	133	168	2097	1271	84
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

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

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	3.65	0.34	0.33	0.02	0.01	0.00
d_M, Delay for Movement [s/veh]	1765.95	1462.45	15.69	0.00	0.00	0.00
Movement LOS	F	F	C	A	A	A
95th-Percentile Queue Length [veh/ln]	19.72	19.72	1.45	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	493.06	493.06	36.29	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	1535.29		1.16		0.00	
Approach LOS	F		A		A	
d_I, Intersection Delay [s/veh]	71.49					
Intersection LOS	F					

Intersection Level Of Service Report
Intersection 8: OR 212/OR 224 (Rock Creek Junction)

Control Type:	Signalized	Delay (sec / veh):	23.8
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.655

Intersection Setup

Name	Highway 224		Highway 212		Highway 212	
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	1	1	0	1	1	0
Entry Pocket Length [ft]	155.00	70.00	100.00	125.00	230.00	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]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		No		Yes	

Volumes

Name	Highway 224		Highway 212		Highway 212	
Base Volume Input [veh/h]	546	122	1003	1050	194	755
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	5.00	5.00	6.00	6.00	5.00	7.00
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	61	0	525	0	0
Total Hourly Volume [veh/h]	546	61	1003	525	194	755
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	144	16	264	138	51	199
Total Analysis Volume [veh/h]	575	64	1056	553	204	795
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]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	130
Active Pattern	Pattern 1
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	78.0
Offset Reference	End of Lagging Red
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Split	Split	Permissive	Overlap	Protected	Permissive
Signal Group	8	0	2	2	1	6
Auxiliary Signal Groups				2,8		
Maximum Green [s]	48	0	42	42	25	71
Amber [s]	4.7	0.0	5.0	5.0	3.5	5.0
All red [s]	0.7	0.0	1.0	1.0	0.5	1.0
Walk [s]	8	0	7	7	7	0
Pedestrian Clearance [s]	16	0	14	14	10	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	0.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	3.4	0.0	4.0	4.0	2.0	4.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	20.0	0.0	6.0	6.0	20.0	6.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Phasing & Timing: Pattern 1

Split [s]	34	0	56	56	40	96
Lead / Lag	Lag	-	-	-	Lag	-
Minimum Green [s]	8	0	10	10	4	10
Vehicle Extension [s]	2.5	0.0	4.8	4.8	3.5	4.8
Minimum Recall	No		Yes	Yes	No	Yes
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	R	C	R	L	C
C, Cycle Length [s]	130	130	130	130	130	130
L, Total Lost Time per Cycle [s]	5.40	5.40	6.00	6.00	4.00	6.00
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]	3.40	3.40	4.00	0.00	2.00	4.00
g_i, Effective Green Time [s]	26	26	71	102	18	92
g / C, Green / Cycle	0.20	0.20	0.55	0.79	0.14	0.71
(v / s)_i Volume / Saturation Flow Rate	0.17	0.04	0.31	0.36	0.12	0.23
s, saturation flow rate [veh/h]	3375	1551	3446	1538	1738	3418
c, Capacity [veh/h]	679	312	1877	1211	236	2430
d1, Uniform Delay [s]	49.99	43.26	19.44	4.59	55.01	7.07
k, delay calibration	0.08	0.08	0.50	0.50	0.13	0.50
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.27	0.24	1.23	1.24	10.82	0.36
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	0.85	0.21	0.56	0.46	0.86	0.33
d, Delay for Lane Group [s/veh]	52.26	43.50	20.66	5.83	65.83	7.43
Lane Group LOS	D	D	C	A	E	A
Critical Lane Group	Yes	No	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]	9.21	1.75	10.63	4.55	7.26	4.03
50th-Percentile Queue Length [ft/ln]	230.37	43.86	265.78	113.86	181.42	100.63
95th-Percentile Queue Length [veh/ln]	14.19	3.16	15.98	8.05	11.67	7.25
95th-Percentile Queue Length [ft/ln]	354.83	78.95	399.46	201.35	291.86	181.13

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	52.26	43.50	20.66	5.83	65.83	7.43
Movement LOS	D	D	C	A	E	A
d_A, Approach Delay [s/veh]	51.38		15.57		19.36	
Approach LOS	D		B		B	
d_I, Intersection Delay [s/veh]	23.78					
Intersection LOS	C					
Intersection V/C	0.655					

Emissions

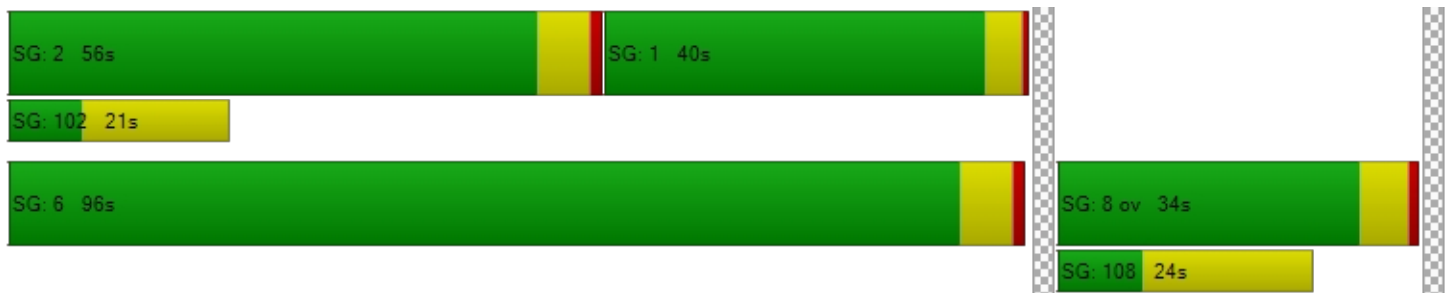
Vehicle Miles Traveled [mph]	188.07	20.93	153.32	80.29	12.99	50.61
Stops [stops/h]	510.35	48.59	588.80	126.12	200.95	222.93
Fuel consumption [US gal/h]	16.68	1.70	14.01	4.66	4.38	4.52
CO [g/h]	1165.64	118.59	978.95	325.60	305.98	315.76
NOx [g/h]	226.79	23.07	190.47	63.35	59.53	61.44
VOC [g/h]	270.15	27.48	226.88	75.46	70.91	73.18

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	0.0	12.0
M_corner, Corner Circulation Area [ft ² /ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	54.47	0.00	53.55
I_p,int, Pedestrian LOS Score for Intersectio	2.719	0.000	2.742
Crosswalk LOS	B	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	440	769	1385
d_b, Bicycle Delay [s]	39.55	24.62	6.15
I_b,int, Bicycle LOS Score for Intersection	1.560	3.320	2.384
Bicycle LOS	A	C	B

Sequence

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



**Intersection Level Of Service Report
Intersection 9: 172nd Avenue/OR 212**

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):	0.760

Intersection Setup

Name	172nd Ave			172nd Ave			Highway 212			Highway 212		
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	1	0	1	1	0	0	1	0	1
Entry Pocket Length [ft]	110.00	100.00	100.00	235.00	100.00	290.00	550.00	100.00	100.00	395.00	100.00	420.00
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]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			No		

Volumes

Name	172nd Ave			172nd Ave			Highway 212			Highway 212		
Base Volume Input [veh/h]	31	31	23	156	59	317	239	795	52	17	672	34
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 [%]	10.00	3.00	4.00	1.00	5.00	5.00	5.00	9.00	2.00	2.00	6.00	9.00
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	159	0	0	0	0	0	17
Total Hourly Volume [veh/h]	31	31	23	156	59	158	239	795	52	17	672	17
Peak Hour Factor	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	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	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	8	6	41	16	42	64	211	14	5	179	5
Total Analysis Volume [veh/h]	33	33	24	166	63	168	254	846	55	18	715	18
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	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			3			3			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			3			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]	133
Active Pattern	Free Running (No Pattern)
Coordination Type	<i>Free Running</i>
Actuation Type	<i>Fully actuated</i>
Offset [s]	10.7
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing (Basic)

Control Type	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	8	8	8	4	4	4	5	2	2	1	6	6
Auxiliary Signal Groups												
Maximum Green [s]	37	37	37	36	36	36	30	74	74	6	51	51
Amber [s]	3.5	3.5	3.5	4.7	4.7	4.7	3.5	5.0	5.0	3.5	5.0	5.0
All red [s]	1.5	1.5	1.5	1.5	1.5	1.5	1.0	1.5	1.5	1.0	1.5	1.5
Walk [s]	9	9	9	9	9	9	0	7	7	0	8	8
Pedestrian Clearance [s]	22	22	22	21	21	21	0	11	11	0	20	20
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]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	3.0	3.0	3.0	4.2	4.2	4.2	2.5	4.5	4.5	2.5	4.5	4.5
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]	20.0	20.0	20.0	20.0	20.0	20.0	20.0	6.0	6.0	20.0	6.0	6.0
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]	30	30	30	30	30	30	30	30	30	30	30	30
Lead / Lag	Lag	-	-	Lag	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	6	6	6	6	4	10	10	4	10	10
Vehicle Extension [s]	2.5	2.5	2.5	2.5	2.5	2.5	2.3	5.4	5.4	2.3	5.4	5.4
Minimum Recall		No			No		No	No		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	C	L	C	R	L	C	C	L	C	R
C, Cycle Length [s]	94	94	94	94	94	94	94	94	94	94	94
L, Total Lost Time per Cycle [s]	5.00	5.00	6.20	6.20	6.20	4.50	6.50	6.50	4.50	6.50	6.50
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	3.00	4.20	4.20	4.20	2.50	4.50	4.50	2.50	4.50	4.50
g_i, Effective Green Time [s]	21	21	19	19	19	16	56	56	2	42	42
g / C, Green / Cycle	0.22	0.22	0.21	0.21	0.21	0.17	0.60	0.60	0.02	0.44	0.44
(v / s)_i Volume / Saturation Flow Rate	0.03	0.03	0.12	0.03	0.11	0.15	0.26	0.26	0.01	0.40	0.01
s, saturation flow rate [veh/h]	1317	1727	1357	1825	1529	1738	1765	1727	1781	1810	1500
c, Capacity [veh/h]	265	378	289	376	315	293	1052	1029	29	803	665
d1, Uniform Delay [s]	33.61	29.82	38.27	30.84	33.39	38.25	10.39	10.40	46.18	24.17	14.80
k, delay calibration	0.08	0.08	0.08	0.08	0.08	0.07	0.28	0.28	0.07	0.36	0.28
l, 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
d2, Incremental Delay [s]	0.15	0.14	1.34	0.15	1.04	4.92	0.74	0.75	12.98	10.73	0.04
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	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	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	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.12	0.15	0.57	0.17	0.53	0.87	0.43	0.43	0.63	0.89	0.03
d, Delay for Lane Group [s/veh]	33.76	29.95	39.61	31.00	34.44	43.16	11.13	11.15	59.17	34.90	14.84
Lane Group LOS	C	C	D	C	C	D	B	B	E	C	B
Critical Lane Group	No	No	Yes	No	No	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.60	1.05	3.74	1.19	3.47	6.03	4.95	4.86	0.52	16.23	0.22
50th-Percentile Queue Length [ft/ln]	15.09	26.28	93.56	29.64	86.71	150.74	123.82	121.42	13.00	405.82	5.53
95th-Percentile Queue Length [veh/ln]	1.09	1.89	6.74	2.13	6.24	10.06	8.60	8.47	0.94	22.84	0.40
95th-Percentile Queue Length [ft/ln]	27.16	47.30	168.41	53.36	156.07	251.42	215.06	211.77	23.40	571.01	9.95

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	33.76	29.95	29.95	39.61	31.00	34.44	43.16	11.14	11.15	59.17	34.90	14.84
Movement LOS	C	C	C	D	C	C	D	B	B	E	C	B
d_A, Approach Delay [s/veh]	31.35			36.06			18.18			35.00		
Approach LOS	C			D			B			D		
d_I, Intersection Delay [s/veh]	26.92											
Intersection LOS	C											
Intersection V/C	0.760											

Emissions

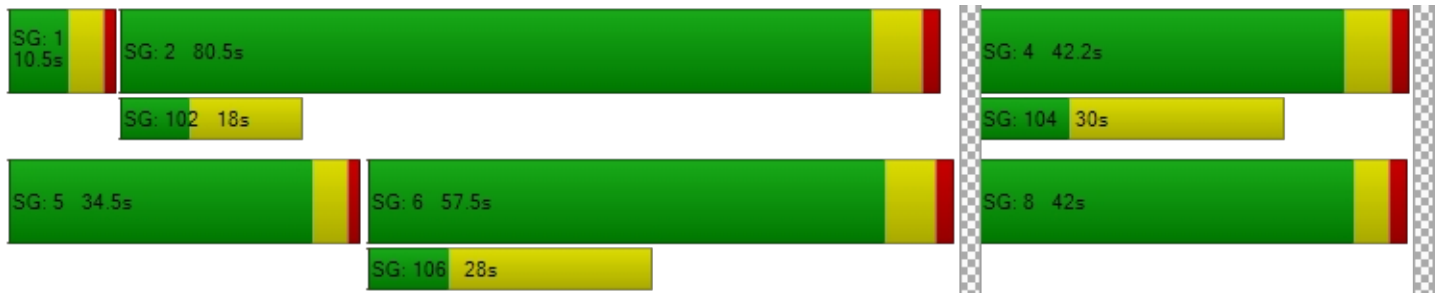
Vehicle Miles Traveled [mph]	3.88	6.71	21.59	8.19	21.85	29.92	53.62	52.52	8.43	334.82	8.43
Stops [stops/h]	23.02	40.09	142.74	45.23	132.29	229.99	188.91	185.24	19.83	619.15	8.44
Fuel consumption [US gal/h]	0.51	0.84	3.02	0.98	2.81	4.73	4.28	4.20	0.67	22.28	0.45
CO [g/h]	35.91	59.06	210.79	68.82	196.26	330.85	299.32	293.37	47.06	1557.50	31.31
NOx [g/h]	6.99	11.49	41.01	13.39	38.19	64.37	58.24	57.08	9.16	303.03	6.09
VOC [g/h]	8.32	13.69	48.85	15.95	45.49	76.68	69.37	67.99	10.91	360.96	7.26

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0		12.0		13.0		0.0	
M_corner, Corner Circulation Area [ft ² /ped]	0.00		0.00		0.00		0.00	
M_CW, Crosswalk Circulation Area [ft ² /ped]	0.00		0.00		0.00		0.00	
d_p, Pedestrian Delay [s]	36.83		35.95		35.09		0.00	
I_p,int, Pedestrian LOS Score for Intersectio	2.016		2.572		2.720		0.000	
Crosswalk LOS	B		B		B		F	
s_b, Saturation Flow Rate of the bicycle lane	2000		2000		2000		2000	
c_b, Capacity of the bicycle lane [bicycles/h]	784		763		1568		1081	
d_b, Bicycle Delay [s]	17.44		18.06		2.20		9.97	
I_b,int, Bicycle LOS Score for Intersection	1.708		2.477		2.512		2.827	
Bicycle LOS	A		B		B		C	

Sequence

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



Intersection Level Of Service Report
Intersection 10: 122nd Avenue/Jennifer Street

Control Type:	Two-way stop	Delay (sec / veh):	37.9
Analysis Method:	HCM 7th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.360

Intersection Setup

Name	122nd Avenue			122nd Avenue			Jennifer Street			Jennifer Street		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	⊕			⊕r			r⊕			⊕		
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	1	1	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	150.00	75.00	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]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	122nd Avenue			122nd Avenue			Jennifer Street			Jennifer Street		
Base Volume Input [veh/h]	2	2	1	57	1	52	91	489	0	0	310	40
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	0.00	12.00	0.00	13.00	12.00	5.00	0.00	0.00	4.00	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]	2	2	1	57	1	52	91	489	0	0	310	40
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]	1	1	0	15	0	14	24	131	0	0	83	11
Total Analysis Volume [veh/h]	2	2	1	61	1	56	98	526	0	0	333	43
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
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

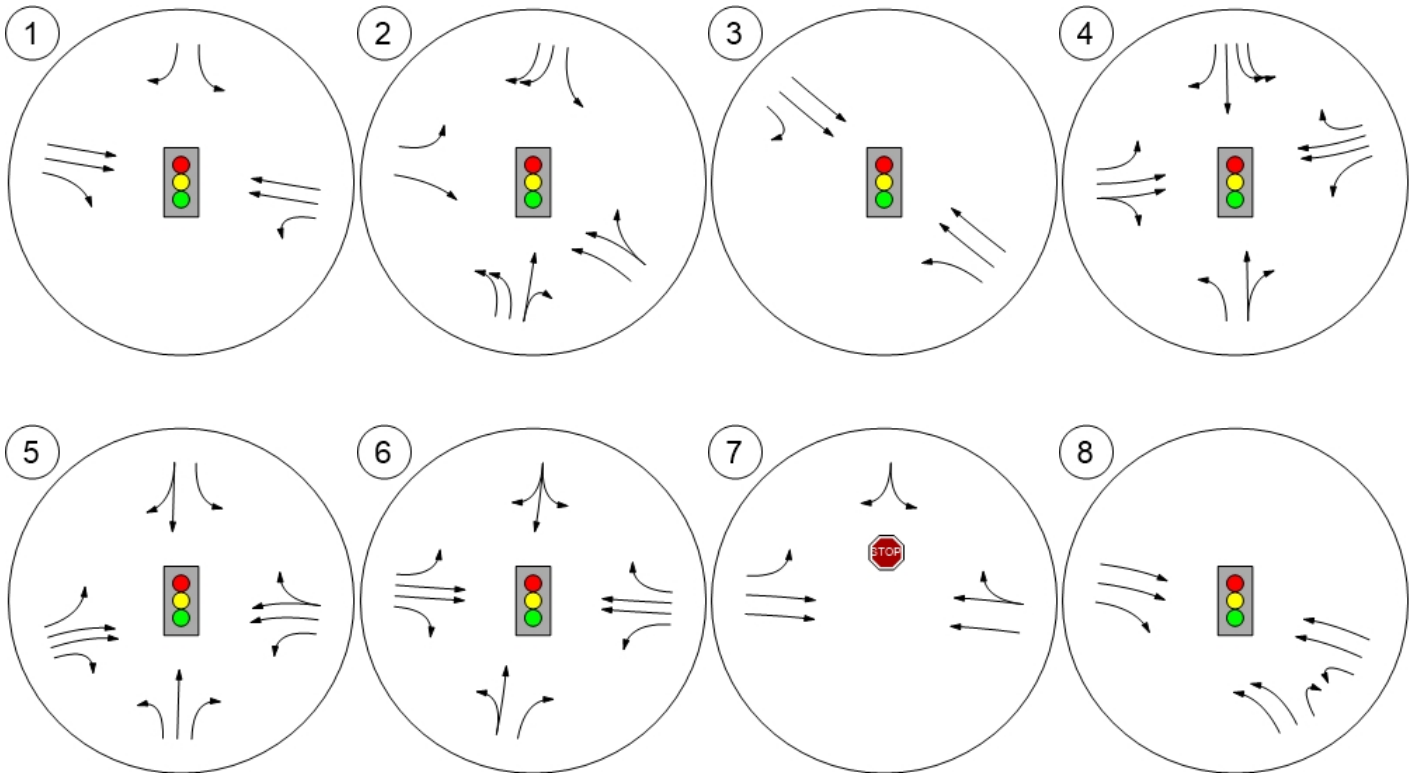
Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.01	0.00	0.36	0.00	0.08	0.09	0.01	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	28.23	23.82	11.93	37.90	34.52	10.91	8.49	0.00	0.00	8.42	0.00	0.00
Movement LOS	D	C	B	E	D	B	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.08	0.08	0.08	1.54	1.54	0.27	0.28	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	1.89	1.89	1.89	38.62	38.62	6.87	7.11	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	23.21			25.06			1.33			0.00		
Approach LOS	C			D			A			A		
d_I, Intersection Delay [s/veh]	3.48											
Intersection LOS	E											

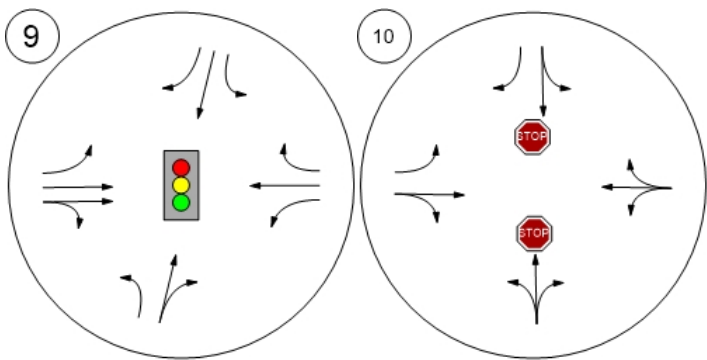
Study Intersections



Lane Configuration and Traffic Control



Lane Configuration and Traffic Control



Appendix D

Streetlight Travel Pattern Analysis

Table 8. Weekday Vehicle Origin-Destination Matrix by Zone (Data source: Streetlight Data, Inc.)

Origin	Destination														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	Grand Total
Zone 1	6,072	5,791	1,284	967	158	2,490	1,402	506	67	160	52	121	--	74	19,144
Zone 2	5,664	8,010	3,261	2,291	240	3,940	969	589	139	90	65	73	50	150	25,531
Zone 3	1,143	3,441	3,069	1,516	74	1,285	210	1,073	79	47	--	187	--	--	12,123
Zone 4	853	2,204	1,652	737	106	1,085	314	682	64	58	--	131	--	--	7,886
Zone 5	200	230	117	125	99	251	597	240	50	50	--	90	--	--	2,048
Zone 6	2,361	4,387	1,485	1,182	352	2,913	1,284	442	122	71	49	46	--	50	14,744
Zone 7	1,564	939	296	353	576	1,150	2,655	654	236	243	83	46	--	101	8,896
Zone 8	476	598	837	538	213	358	530	888	47	94	45	137	--	46	4,807
Zone 9	117	121	63	64	50	143	369	47	--	67	--	--	--	50	1,092
Zone 10	187	101		97	50	101	235	--	84	118	--	--	--	--	973
Zone 11	52	74	46	--	--	62	50	--	--	--	--	--	--	49	332
Zone 12	48	102	127	153	--	92	92	118	--	--	--	68	--	45	845
Zone 13	53	--	--	--	--	--	50	--	--	--	--	--	--	--	103
Zone 14	80	50	47	48	49	--	152	46	--	50	--	--	--	--	522
Grand Total*	18,871	26,048	12,283	8,072	1,966	13,869	8,910	5,285	888	1,048	294	898	50	565	99,047

*Origin-destination data was calculated with decimals, but the table above has rounded the vehicle origin-destination values to the nearest integer. As a result, the Grand Total volumes may vary slightly from the sum totals in each row and column.

Table 11. Origin-Destination by Analysis Zones – Sunrise Corridor Study Area (Data source: Streetlight Data, Inc.)

Origin	Destination					
	Clackamas Industrial Area	Mobile Home Parks ¹	Happy Valley	Damascus	Clackamas Town Center	Grand Total
Clackamas Industrial Area	4,140	876	3,610	747	1,920	11,293
Mobile Home Parks ¹	949	148	868	376	333	2,674
Happy Valley	3,561	1,022	42,458	3,223	10,021	60,285
Damascus	808	304	2,805	1,211	524	5,652
Clackamas Town Center	1,681	232	10,532	627	6,072	19,144
Grand Total	11,138	2,582	60,273	6,184	18,870	99,047