clemow associates LLC

TRAFFIC IMPACT STUDY

To
City of Florence

For
Elm Park Planned Unit Development

Prepared
September 26, 2024

C&A Project Number
20240801.00

2237 NW Torrey Pines Drive, Bend, Oregon 97703 | 541-579-8315 | cclemow@clemow-associates.com

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I. INTRODUCTION

Property Description and Proposed Land Use Actions

The subject property is north of 9th Street and west of Greenwood Street in Florence, Oregon. The property is more specifically described as tax lots 1100 and 1200 on Lane County Assessor's Map 18122731, totaling approximately 1.47 acres. The site area is illustrated in the attached Figure 1 in Appendix A.

Tax lots 1100 and 1200 are undeveloped and have access to Greenwood Street to the east. While not yet constructed, it is noted that a platted system of *Local* roadways and alleys exists in the site area as illustrated on the attached Lane County Assessor's Map in Appendix A.

The proposed Elm Park planned unit development (PUD) includes two separate projects. The Elm Park Apartments project is a 32-unit affordable rental housing project with related common elements on 1.10 acres. The Early Learning Facility project is an early learning and childcare facility for up to 80 children during the school day and after-school care on 0.37 acres. The property is currently zoned Professional Office/Institutional (POI), and the proposed development is an allowed use. A copy of the draft site plan is attached in Appendix A.

Transportation Analysis Description

To support these land use actions, a traffic impact study (TIS) is necessary to address the following Florence City Code criteria:

- Section 10-1-1-4-E – *Traffic Impact Studies*
- Section 10-35-2-5 – *Traffic Study Requirements*

Study Area

City staff reviewed and approved an August 15, 2024 Elm Park Planned Unit Development (PUD) Traffic Impact Study (TIS) Scoping Letter with comments. Copies of the scoping letter and review comments are attached in Appendix B.

The following project area intersections are evaluated based on development trip generation and distribution and are illustrated in the attached Figures 2 and 3 in Appendix A.

- 9th Street/Rhododendron Drive
- 9th Street / Greenwood Street
- 9th Street / Kingwood Street

II. AGENCY TRANSPORTATION PLAN REVIEW

Florence Transportation System Plan (TSP)

The 2023 Florence Transportation System Plan (TSP) identifies the plans, policies, programs, and projects needed to address gaps, deficiencies, and needs within the city's transportation system over the next 20 years. The preferred plan consists of all projects identified throughout the TSP planning process while the cost-constrained plan consists of projects the City anticipates being able to fund over the next 20 years.

The following is a list of all TSP projects in the project area noting that only the "High" priority projects are considered cost-constrained. Copies of the prospectus sheets for the cost-constrained projects are included in Appendix C for reference.

TABLE 1 – FLORENCE TSP PROJECTS

Map ID	Location	Description	Priority	Cost ($1,000)
R25	9th Street / Kingwood Street	Reconfigure the intersection to all-way stop-control when warranted.	High	$50
R26	9th Street / Kingwood Street	Reconfigure the intersection as a mini roundabout when warranted.	Low	$1,250
S10	Kingwood Street / 9th Street	Install advance intersection warning signs on 9th Street; install additional intersection lighting; and evaluate the need for traffic control modification. (Coordinate with Projects R25 and R26.)	High	$100
P9	9th Street – US 101 to Rhododendron Drive	Maintain existing facilities.	N/A	N/A
P11	Rhododendron Drive – 9th Street to Wild Winds Street	Construct a multi-use path on one side of the street. (Include landscape strip as feasible.)	High	$1,040
P28	Kingwood Street – 9th Street to Airport Way	Fill in sidewalk gaps on both sides of the street.	Medium	$560
C6	9th Street	Install enhanced crossing treatments at Maple Street, Kingwood Street, and the PeaceHealth access roadway.	Medium	$160
MU5	Ivy Street Multi-use Path	Install a multi-use path from 12th Street to 8th Street.	Medium	$265
MU6	Elm Street Multi-use Path	Install a multi-use path in the existing Elm Street right-of-way between 9th Street and Rhododendron Drive.	Medium	$365
MU7	Driftwood Street Multi-use Path	Install a multi-use path in the existing Driftwood Street right-of-way between 12th Street and 9th Street.	Medium	$265
B14	9th Street – US 101 to Rhododendron Drive	Maintain existing facilities.	N/A	N/A
B16	Rhododendron Drive – 9th Street to Wild Winds Street	Construct shoulder bikeways on both sides of the street. (Coordinate with Project P11.)	High	$345
B33	Kingwood Street – 9th Street to Airport Way	Construct bike lanes on both sides of the street from 9th Street to 10th Street. (Will require removing on-street parking *OR* implementing traffic calming measures.)	Medium	$135
T1	Local Service	Add service to Rhododendron Drive and the Heceta Beach neighborhood.	High	$0
T5	Bus Stops	Add shelters and/or benches to existing bus stops and build bus stops that are accessible.	High	$250

The TSP additionally notes that several local roadway connections were identified as part of the 2012 TSP, including an extension of the roadway grid with anticipated development along 9th Street near the Peace Health Medical Center. TSP Figure 4 excerpted below illustrates the location and general orientation of the local roadway connections – noting that the future roadway locations are consistent with the platted roadways illustrated on the Lane County Assessor's maps.

Roadway alignments and cost estimates are not provided as they are anticipated to be determined as part of future development. Any local roadway connections that are desired to be city-initiated projects should be identified as a high priority and included in the TSP cost-constrained plan. Otherwise, the City should refer to the local roadway connections illustrated in TSP Figure 4 during the development review process to ensure that future development and redevelopment improve local roadway access and circulation within the city.

TSP Figure 4. Local Street Connections – Florence, Oregon (excerpt)

Consistent with the above TSP narrative, it is anticipated that the City will construct all the 10th, 11th, and Fir Streets infrastructure necessary to serve the proposed development.

III. EXISTING CONDITIONS

Existing Site Conditions

The subject property is north of 9th Street and west of Greenwood Street in Florence, Oregon. The property is more specifically described as tax lots 1100 and 1200 on Lane County Assessor's Map 18122731, totaling approximately 1.47 acres.

Tax lots 1100 and 1200 are undeveloped and have access to Greenwood Street to the east. While not yet constructed, it is noted that a platted system of *Local* roadways and alleys exists in the site area as illustrated on the attached Lane County Assessor's Map in Appendix A.

Roadway Facilities

The following table summarizes existing roadway classifications and characteristics within the study area.

TABLE 2 – EXISTING ROADWAY CHARACTERISTICS

Roadway	Functional Classification	Lanes	Speed Limit (MPH)	Sidewalks	Bicycle Lanes	On-Street Parking
Greenwood Street	Local	2	25	Partial [1]	No	No [2]
9th Street	Minor Arterial	2	25	Yes	Yes	No
Rhododendron Drive	Minor Arterial (North of 9th Street) Collector (South of 9th Street)	2	30	No	Yes	No
Kingwood Street	Collector	2	25	Partial	Yes	One Side

[1] Existing sidewalk only on the east side of the roadway south of the Florence Justice Center.

[2] Currently no on-street parking but it is proposed south of the alley between 10th and 11th Streets.

Transit Facilities

Lane Transit District (LTD) / Rhody Express provides public transportation in the study area. Specifically, the Rhody Express operates a 60-minute-long route with 30-minute headways by first traveling the South Loop and then the North Loop. The South Loop serves the proposed development and operates on Rhododendron Drive, 9th Street, and Kingwood Street.

Specific transit stops are not provided, and riders may request to board or get off the bus at any location along the route. The bus operator will stop the bus at the nearest safe location.

Safety Analysis

When evaluating roadway and intersection safety, consideration is given to the number and types of crashes occurring, and the number of vehicles traveling on a roadway segment or entering the intersection. This leads to the concept known as the "crash rate." Specific to intersections, it is typically expressed in terms of the number of crashes occurring per one million vehicles entering the intersection (CMEV). A critical crash rate analysis is then performed by comparing the subject intersection to the published statewide 90th percentile intersection crash rates at comparable/reference intersections. Crash rates close to or exceeding 1.0 CMEV or the 90th percentile rates require further analysis.

Study area crash data were obtained from the Oregon Department of Transportation (ODOT) for five years from January 1, 2018, through December 31, 2022. The following table presents the study intersection crash rates and critical crash analysis. Crash data and crash rate calculations are attached in Appendix D.

TABLE 3 – INTERSECTION CRASH RATES

Intersection	2018	2019	2020	2021	2022	Total	Crash Rate (CMEV)	Reference Population [1]	90th%ile Crash Rate	Over or under Crash Rate?
9th Street / Rhododendron Drive	0	0	0	1	0	1	0.150	Urban 3ST	0.293	Under
9th Street / Greenwood Street	0	0	0	0	0	0	0.000	Urban 3ST	0.293	Under
9th Street / Kingwood Street	0	2	1	0	2	5	0.438	Urban 4ST	0.408	Over

[1] 3ST is a three-leg minor stop-control intersection and 4ST is a four-leg minor stop-control intersection.

The observed crash rates at the 9th Street / Rhododendron Drive and 9th Street / Greenwood Street intersections are less than the 1.0 CMEV threshold and the 90th percentile crash rate of the reference population, indicating the intersections are considered relatively safe, and further safety analysis is not warranted.

The observed crash rate at the 9th Street / Kingwood Street intersection is less than the 1.0 CMEV threshold but is greater than the 90th percentile crash rate of the reference population, indicating further analysis is warranted to determine if there are correctable safety deficiencies. Based on a review of the detailed crash data, four of the five (total) crashes were angle crashes where the minor roadway (Kingwood Street) motorist did not yield the right-of-way to the major roadway (9th Street) motorist. Consistent with TSP Project R25, consideration should be given to the installation of STOP signs on the 9th Street approaches to provide all-way stop control operation which is anticipated to reduce the number of crashes.

Existing Traffic Counts

Existing intersection traffic counts were obtained in May 2023 as part of the Florence TSP work effort and are illustrated in Figure 2 in Appendix A. Traffic count data is included in Appendix E.

Based on existing Florence traffic patterns the weekday peak hour occurs mid-day, approximately between 11:00 AM and 3:00 PM. The peak hour traffic volumes from this period are conservatively used (versus volumes from the typical 4:00-6:00 PM peak hour) as part of the PM peak hour intersection operations analysis contained in this TIS.

Additionally, at the City staff's request, AM peak hour intersection operations analysis is also performed when school is in session and school buses are operating.

Background Growth

Based on the prospectus sheet for TSP Project R25 – 9th Street / Kingwood Street (attached in Appendix C), a 1% average annual background traffic growth rate (the actual project rate is 0.953%) is used to determine future year traffic volumes.

Pre-Development Volumes

2025 Pre-Development volumes for the AM and PM peak hours are illustrated in Figures 2 and 3 in Appendix A.

IV. PROPOSED DEVELOPMENT

Development Assumptions

The Elm Park PUD includes two separate projects. The Elm Park Apartments project is a 32-unit affordable rental housing project with related common elements on 1.10 acres. The Early Learning Facility project is an early learning and childcare facility for up to 80 children during the school day and after-school care on 0.37 acres.

Development Trip Generation

Development trip generation is estimated using the Institute of Transportation Engineers (ITE) *Trip Generation Manual*, 11th Edition, and practices from the ITE *Trip Generation Handbook*, 3rd Edition. Trip generation is as follows:

TABLE 4 – DEVELOPMENT TRIP GENERATION [1]

Development	ITE Code	Size	Daily Trips	AM Peak Hour			PM Peak Hour		
				Enter	Exit	Total	Enter	Exit	Total
Multifamily Housing (Low-Rise)	220	32 DUs	216	3	10	13	10	6	16
Day Care Center	565	80 Students	327	33	29	62	30	33	63
Change in Trip Generation with Zone Change			543	36	39	75	40	39	79

[1] Trip generation estimated using the *Average Rate* per recommended practice in the ITE *Trip Generation Handbook*, 3rd Edition.

As the table above identifies, the proposed Elm Park PUD generates 543 daily trips, and 75 AM and 79 PM peak hour trips.

Trip Distribution and Traffic Assignment

Specific development trip distribution is based on existing traffic patterns, surrounding land uses, and engineering judgment. Trip distribution and traffic assignment for the AM and PM peak hours are illustrated in Figures 2 and 3 in Appendix A.

Post-Development Volumes

The 2025 Post-Development traffic volumes for the AM and PM peak hours are the sum of the 2025 Pre-Development and development volumes and are illustrated in Figures 2 and 3 in Appendix A.

V. TRANSPORTATION ANALYSIS

Study Area

The following project area intersections are evaluated based on development trip generation and distribution and are illustrated in the attached Figures 2 and 3 in Appendix A.

- 9th Street / Rhododendron Drive
- 9th Street / Greenwood Street
- 9th Street / Kingwood Street

Intersection Operations Analysis Description

Current and future year intersection peak hour factors (PHFs) are based on the existing individual intersection PHFs.

Intersection operation characteristics are typically defined by two mobility standards: volume-to-capacity (v/c) ratio and level-of-service (LOS). At unsignalized intersections, the v/c ratio and LOS are calculated for intersection approach movements yielding the right-of-way.

All study intersections are under the City's jurisdiction. The Florence TSP identifies LOS 'E' as the minimum acceptable mobility performance standard.

Intersection Operations Analysis

Unsignalized intersection operations analyses were performed using the Transportation Research Board's *Highway Capacity Manual 7*th Edition methodologies using Trafficware's *Synchro* software (Version 11).

The proposed land use actions contemplate a specific development anticipated to be operating by 2025. As such, weekday AM and PM peak hour conditions are evaluated in 2024 – the existing condition, and in 2025 – the development build year. Analysis scenarios include:

- 2024 Existing Conditions
- 2025 Pre-Development
- 2025 Post-Development

It is additionally noted that because of the very low average annual background traffic growth rate (1%), any future year analysis within the next five years will yield similar analysis results.

The following table summarizes weekday AM and PM peak hour operations analysis results and data output sheets from all operations calculations are contained in Appendix F.

TABLE 5 – INTERSECTION OPERATIONS ANALYSIS								
Intersection	Critical Movement Lane Group	Mobility Target	LOS					
			AM Peak Hour			PM Peak Hour		
			2024 Existing	2025 Pre-Development	2025 Post-Development	2024 Existing	2025 Pre-Development	2025 Post-Development
9th Street / Rhododendron Drive	SB L/T/R	LOS E	A	A	A	A	A	A
	WB L/R		A	A	A	A	A	A
9th Street / Greenwood Street	SB L/R		B	B	B	B	B	B
	EB L/T		A	A	A	A	A	A
9th Street / Kingwood Street	NB L/T/R		B	B	B	B	B	B
	SB L/T/R		B	B	B	B	B	B
	WB L/T/R		A	A	A	A	A	A
	EB L/T/R		A	A	A	A	A	A

Operations Analysis Discussion

As the table above identifies, all study intersections operate well within agency mobility targets in all analysis scenarios. No operations mitigation is necessary to accommodate development traffic.

Intersection Queuing Analysis

Queuing analysis was performed to evaluate queue storage adequacy. 95th percentile queues were estimated using Trafficware's *SimTraffic* software (Version 11) and ODOT *Analysis Procedure Manual* methodologies. Available storage is rounded to the nearest five feet, and queue demand is rounded to the nearest 25 feet, the average length of a queued vehicle.

The following table summarizes weekday queuing analysis results and data output sheets from all queuing calculations are contained in Appendix E.

TABLE 6 – INTERSECTION QUEUING ANALYSIS

Intersection	Critical Movement Lane Group	Queue Storage Available (Feet) [1]	95th Percentile Queue Length (Feet)					
			AM Peak Hour			PM Peak Hour		
			2024 Existing	2025 Pre-Development	2025 Post-Development	2024 Existing	2025 Pre-Development	2025 Post-Development
9th Street / Rhododendron Drive	SB L/T/R	300	25	25	25	50	50	50
	WB L/R	300+	50	50	50	75	75	75
9th Street / Greenwood Street	SB L/R	300+	50	50	50	50	50	50
	EB L/T	200	25	25	50	25	50	50
9th Street / Kingwood Street	NB L/T/R	280	75	75	75	75	75	75
	SB L/T/R	280	50	75	75	75	75	75
	EB L/T/R	270	25	50	50	25	25	50
	WB L/T/R	300+	25	25	25	25	25	25

[1] Available queue storage is measured to the nearest upstream intersection for continuous lanes between intersections and to the end of full-width storage for turn lanes.

Queuing Analysis Discussion

As the table above identifies, all study intersection approach movements have adequate queue storage in all analysis scenarios. No queuing mitigation is necessary to accommodate development queues.

Site Access Operations

The proposed development accesses Greenwood Street via two public roadways, 10th Street and the east-west alley between 10th and 11th Streets. No operational deficiencies are anticipated at the site accesses or adjacent public roadways, except to note that the Greenwood Street raised/landscaped median extends across the alley intersection, preventing left-turn movements. As such, traffic entering the development from Greenwood Street must travel north to 11th Street, perform a U-turn, and travel south back to the alley.

Given that Greenwood Street is functionally classified as a *Local* roadway and is not anticipated to extend to the north past 12th Street, the median preventing left-turn movements is not functionally necessary for safety. The proposed development traffic can perform a U-turn at 11th Street; however, it is recommended that consideration be given to modifying/eliminating the median at the alley to allow left-turn movements.

The development additionally proposes on-street parking on Greenwood Street south of the alley where it is not currently provided. The TSP *Local Street* cross-sections that allow parking do not contemplate one-way roadways or those with medians; however, based on the cross-sections provided, the minimum one-way paved roadway width is 18 feet. Based on field survey data, the north and southbound roadway lanes (on each side of the median) are 20.3 feet wide (measured curb face to curb face). Therefore, the roadway is wide enough to accommodate on-street parking in both directions.

VI. CONCLUSION

The following summary and recommendations are based on materials contained in this analysis.

1. The subject property is north of 9th Street and west of Greenwood Street in Florence, Oregon. The property is more specifically described as tax lots 1100 and 1200 on Lane County Assessor's Map 18122731, totaling approximately 1.47 acres.

2. Tax lots 1100 and 1200 are undeveloped and have access to Greenwood Street to the east. While not yet constructed, it is noted that a platted system of *Local* roadways and alleys exists in the site area.

3. The proposed Elm Park planned unit development (PUD) includes two separate projects. The Elm Park Apartments project is a 32-unit affordable rental housing project with related common elements on 1.10 acres. The Early Learning Facility project is an early learning and childcare facility for up to 80 children during the school day and after-school care on 0.37 acres. The property is currently zoned Professional Office/Institutional (POI), and the proposed development is an allowed use.

4. City staff reviewed and approved An August 15, 2024 Elm Park Planned Unit Development (PUD) Traffic Impact Study (TIS) Scoping Letter with comments.

5. The 2023 Florence Transportation System Plan (TSP) identifies five cost-constrained ("High" priority) projects in the project area that are anticipated to be funded and constructed over the next 20 years, including:

    - R25 – 9th Street / Kingwood Street – Reconfigure the intersection to all-way stop-control when warranted.
    - S10 – Kingwood Street / 9th Street – Install advance intersection warning signs on 9th Street; install additional intersection lighting; and evaluate the need for traffic control modification.
    - P11 – Rhododendron Drive, 9th Street to Wild Winds Street – Construct a multi-use path on one side of the street and include a landscape strip where feasible.
    - T1 – Local Service – Add transit service to Rhododendron Drive and the Heceta Beach neighborhood.
    - T5 – Bus Stops – Add shelters and/or benches to existing bus stops and build bus stops that are accessible.

6. The TSP identifies the extension of the roadway grid in the project area with anticipated development along 9th Street. The TSP recommends that the City refer to the local roadway connections illustrated in TSP Figure 4 during the development review process to ensure that future development and redevelopment improve local roadway access and circulation within the city. Consistent with this TSP narrative, it is anticipated that the City will construct all the 10th, 11th, and Fir Streets infrastructure necessary to serve the proposed development.

7. The observed crash rates at the 9th Street / Rhododendron Drive and 9th Street / Greenwood Street intersections are less than the 1.0 CMEV threshold and the 90th percentile crash rate of the reference population, indicating the intersections are considered relatively safe, and further safety analysis is not warranted.

8. The observed crash rate at the 9th Street / Kingwood Street intersection is less than the 1.0 CMEV threshold but is greater than the 90th percentile crash rate of the reference population, indicating further analysis is warranted to determine if there are correctable safety deficiencies. Based on a review of the detailed crash data, four of the five (total) crashes were angle crashes where the minor roadway (Kingwood Street) motorist did not yield the right-of-way to the major roadway (9th Street) motorist. Consistent with TSP Project R25, consideration should be given to the installation of STOP signs on the 9th Street approaches to provide all-way stop control operation which is anticipated to reduce the number of crashes.

9. The proposed Elm Park PUD generates 543 daily trips and 75 AM and 79 PM peak hour trips.

10. All study intersections operate well within agency mobility targets in all analysis scenarios. No operations mitigation is necessary to accommodate development traffic.

11. All study intersection approach movements have adequate queue storage in all analysis scenarios. No queuing mitigation is necessary to accommodate development queues.

12. Given that Greenwood Street is functionally classified as a *Local* roadway and is not anticipated to extend to the north past 12th Street, the existing median at the alley between 10th and 11th Streets preventing left-turn movements is not functionally necessary for safety. Proposed development traffic can perform a U-turn at 11th Street; however, it is recommended that consideration be given to modifying/eliminating the median at the alley to allow left-turn movements.

13. The development proposes on-street parking on Greenwood Street south of the alley where it is not currently provided. The minimum one-way paved *Local Street* width that allows parking is 18 feet and the existing width of the north and southbound lanes (on each side of the median) is 20.3 feet wide (measured curb face to curb face). Therefore, the roadway is wide enough to accommodate on-street parking in both directions.

VII. APPENDICES

A. Figures

B. Scoping Materials

C. TSP Projects

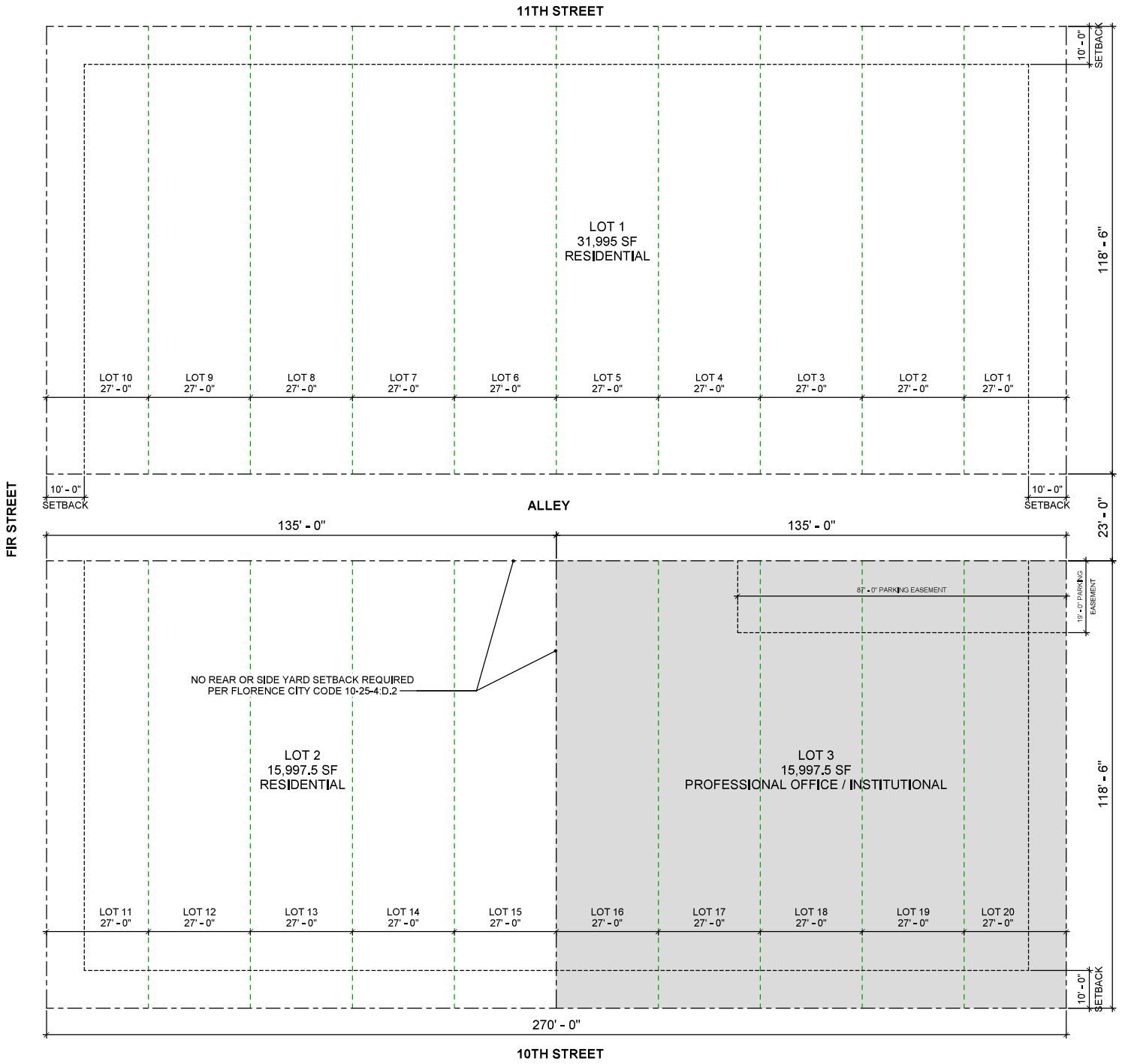
D. Crash Data

E. Traffic Count Data

F. Operation And Queuing Analyses

Appendix A

EXHIBIT A-1



ELM PARK P.U.D.

10TH STREET & GREENWOOD AVENUE
FLORENCE, OREGON 97439

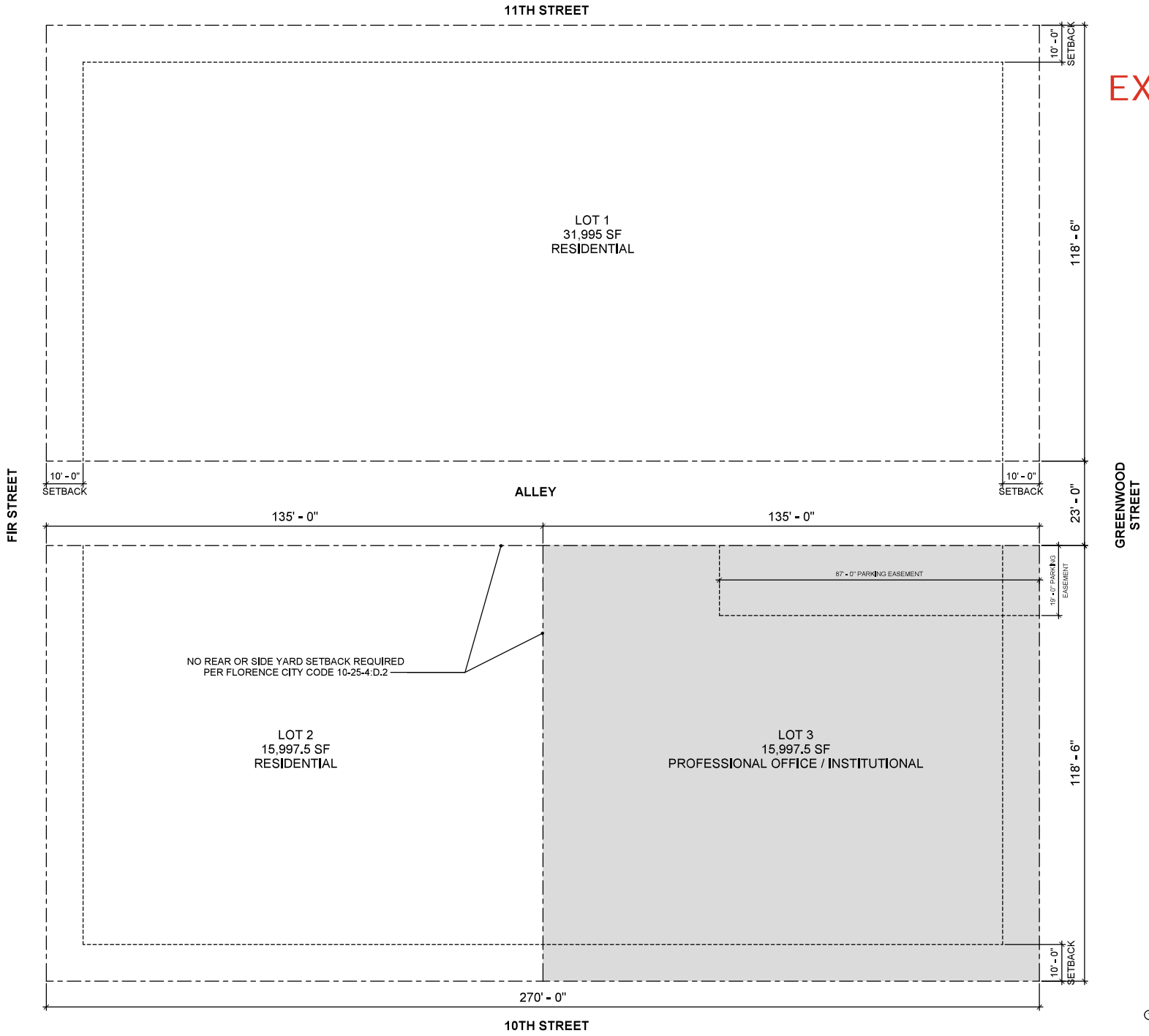
OUR COASTAL VILLAGE

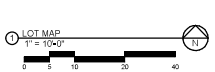
LOT MAP

date 07-29-2024
file 2420
d.b. LWL

A000

EXHIBIT A-2





OUR Coastal Village

BDA Architecture & Planning, PC.

ELM PARK P.U.D.

10TH STREE & GREENWOOD AVENUE
FLORENCE, OREGON 97439

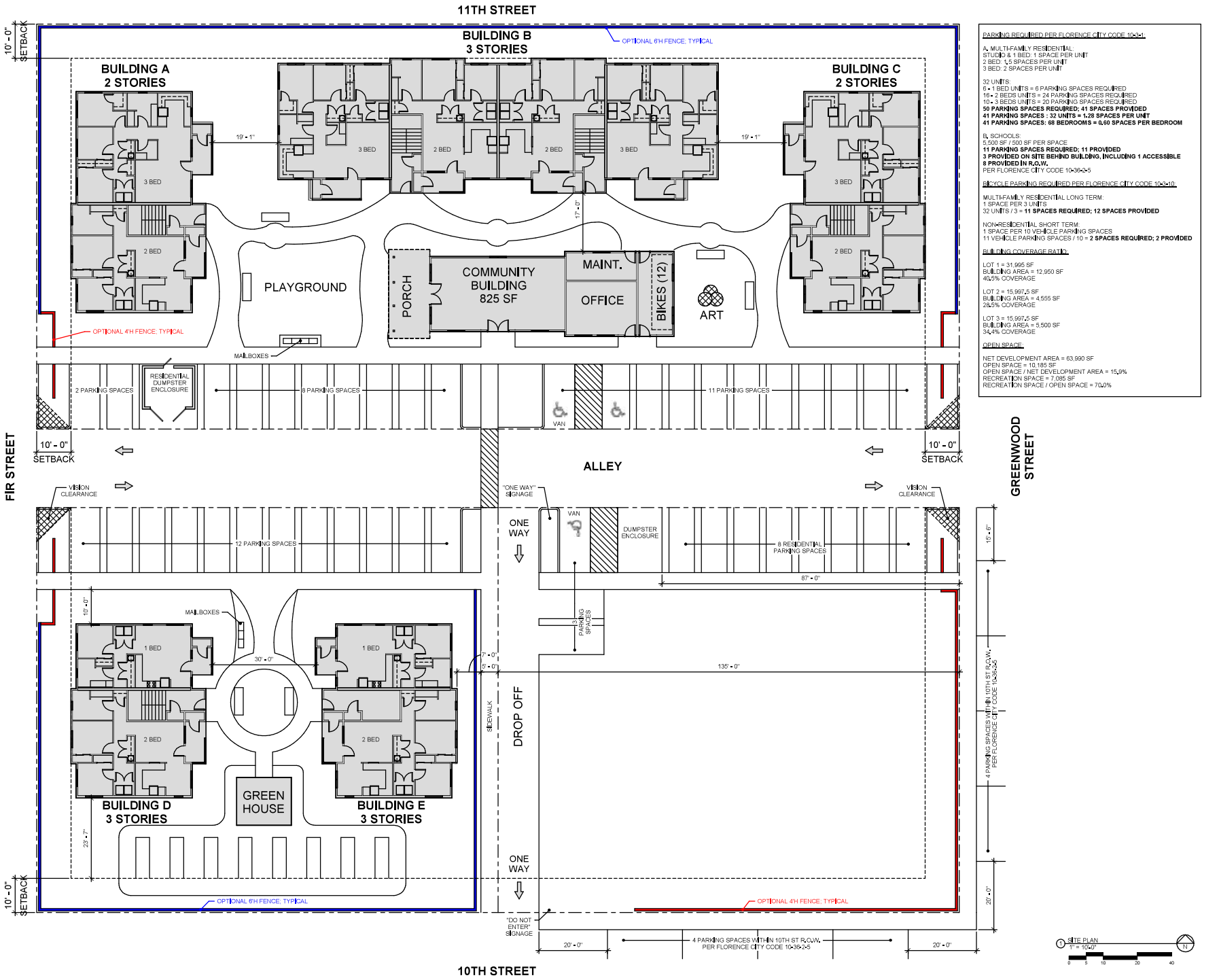
OUR COASTAL VILLAGE

LOT MAP

date 07-29-2024
file 2420
drawn LWL

A000.1

EXHIBIT E-1



PARKING REQUIRED PER FLORENCE CITY CODE 10-3-1:

A. MULTI-FAMILY RESIDENTIAL:
STUDIO & 1 BED: 1 SPACE PER UNIT
2 BED: 1.5 SPACES PER UNIT
3 BED: 2 SPACES PER UNIT

32 UNITS:
6 - 1 BED UNITS = 6 PARKING SPACES REQUIRED
16 - 2 BEDS UNITS = 24 PARKING SPACES REQUIRED
10 - 3 BEDS UNITS = 20 PARKING SPACES REQUIRED
50 PARKING SPACES REQUIRED; 41 SPACES PROVIDED
41 PARKING SPACES : 32 UNITS = 1.28 SPACES PER UNIT
41 PARKING SPACES: 68 BEDROOMS = 0.60 SPACES PER BEDROOM

B. SCHOOLS:
5,500 SF / 500 SF PER SPACE
11 PARKING SPACES REQUIRED; 11 PROVIDED
3 PROVIDED ON SITE BEHIND BUILDING, INCLUDING 1 ACCESSIBLE
8 PROVIDED IN R.O.W.
PER FLORENCE CITY CODE 10-36-2-5

BICYCLE PARKING REQUIRED PER FLORENCE CITY CODE 10-3-10:

MULTI-FAMILY RESIDENTIAL LONG TERM:
1 SPACE PER 3 UNITS:
32 UNITS / 3 = **11 SPACES REQUIRED; 12 SPACES PROVIDED**

NON-RESIDENTIAL SHORT TERM:
1 SPACE PER 10 VEHICLE PARKING SPACES
11 VEHICLE PARKING SPACES / 10 = **2 SPACES REQUIRED; 2 PROVIDED**

BUILDING COVERAGE RATIO:

LOT 1 = 31,995 SF
BUILDING AREA = 12,950 SF
40.5% COVERAGE

LOT 2 = 15,997.5 SF
BUILDING AREA = 4,555 SF
28.5% COVERAGE

LOT 3 = 15,997.5 SF
BUILDING AREA = 5,500 SF
34.4% COVERAGE

OPEN SPACE:

NET DEVELOPMENT AREA = 63,990 SF
OPEN SPACE = 10,185 SF
OPEN SPACE / NET DEVELOPMENT AREA = 15.9%
RECREATION SPACE = 7,085 SF
RECREATION SPACE / OPEN SPACE = 70.0%

1 SITE PLAN
1" = 10'-0"
0 5 10 20 40

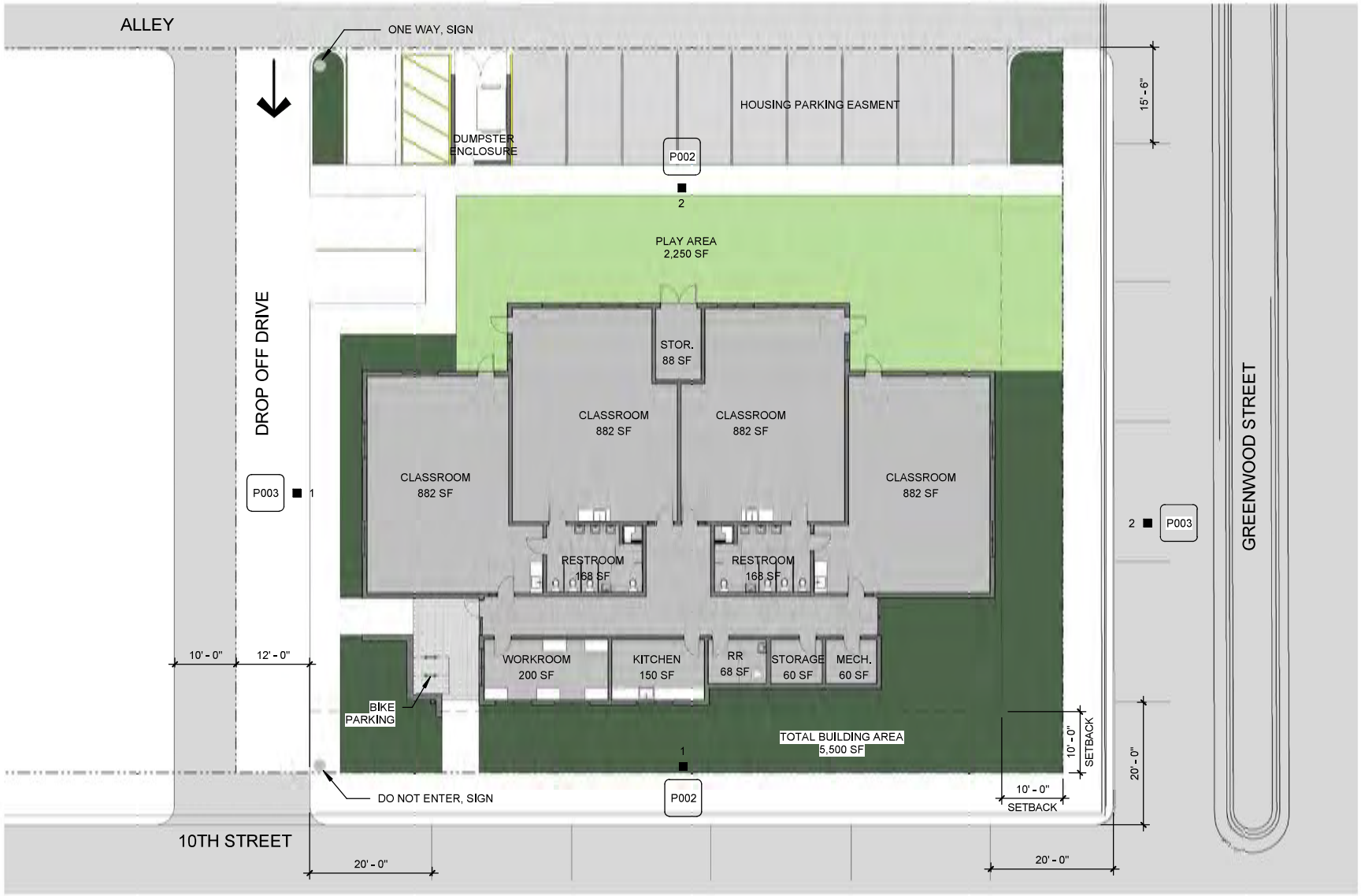
ELM PARK P.U.D.
10TH STREET & GREENWOOD AVENUE
FLORENCE, OREGON 97439
OUR COASTAL VILLAGE

SITE PLAN

date 07-29-2024
file 2420
d.b. LWL

A001

EXHIBIT E-2



SITE PLAN

ELM PARK EARLY LEARNING FACILITY

SHT #: P001

07/29/24

PIVOT

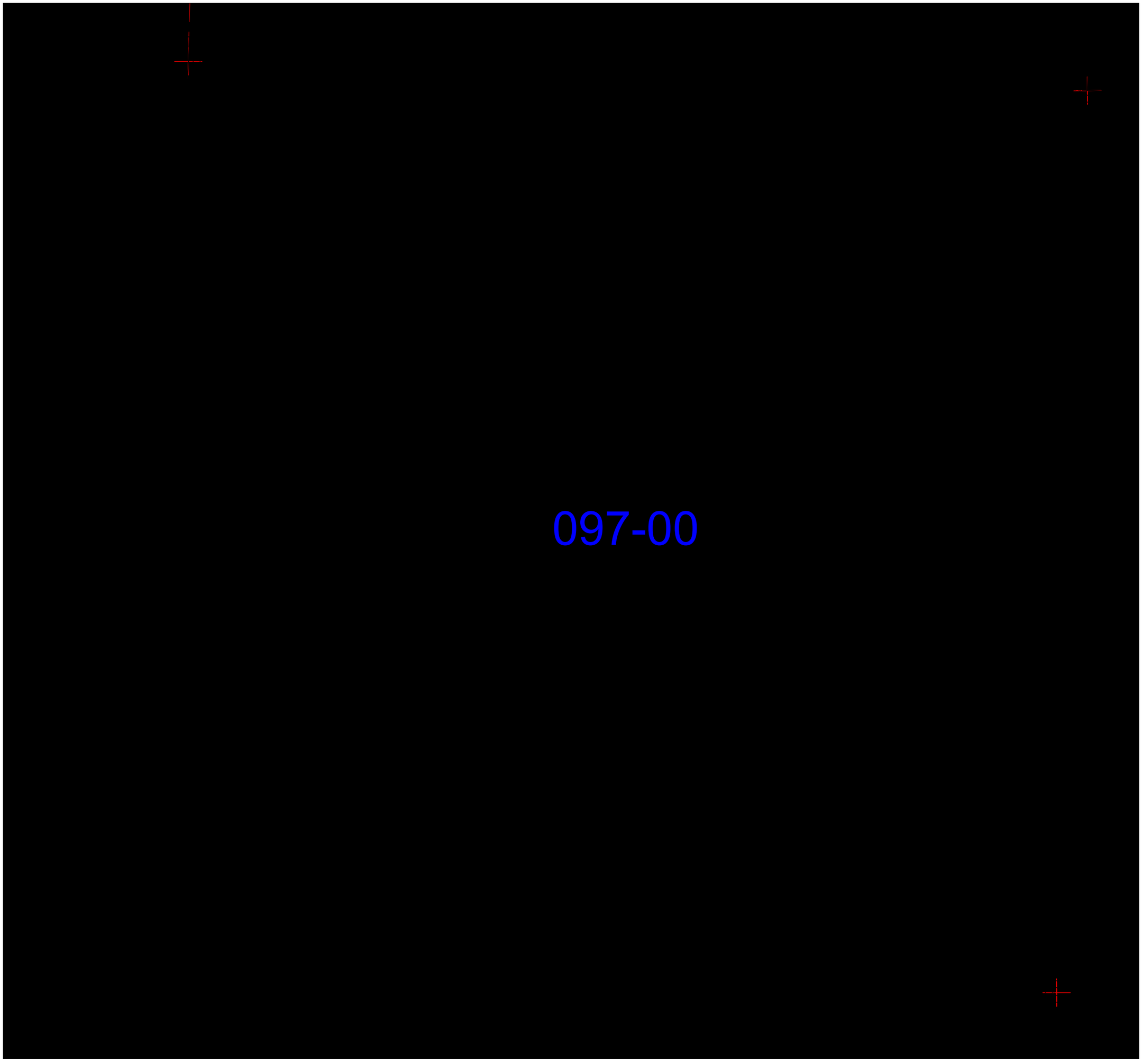
FOR ASSESSMENT AND TAXATION ONLY

N.E.1/4 S.W.1/4 SEC. 27 T.18S. R.12W. W.M.
Lane County
1" = 100'

18122731
FLORENCE

LCATBHH - 2016-10-13 14:32

CANCELLED
2104
2500
802
803
2102
2103



REVISIONS
05/16/2007 - LCAT140 - CONVERT MAP TO GIS
05/06/2008 - LCAT130 - CORRECT TL 802 TO 801
04/06/2015 - LCAT115 - REVISED BLOCK #'S CENTRAL PARK ADD.

FLORENCE
18122731

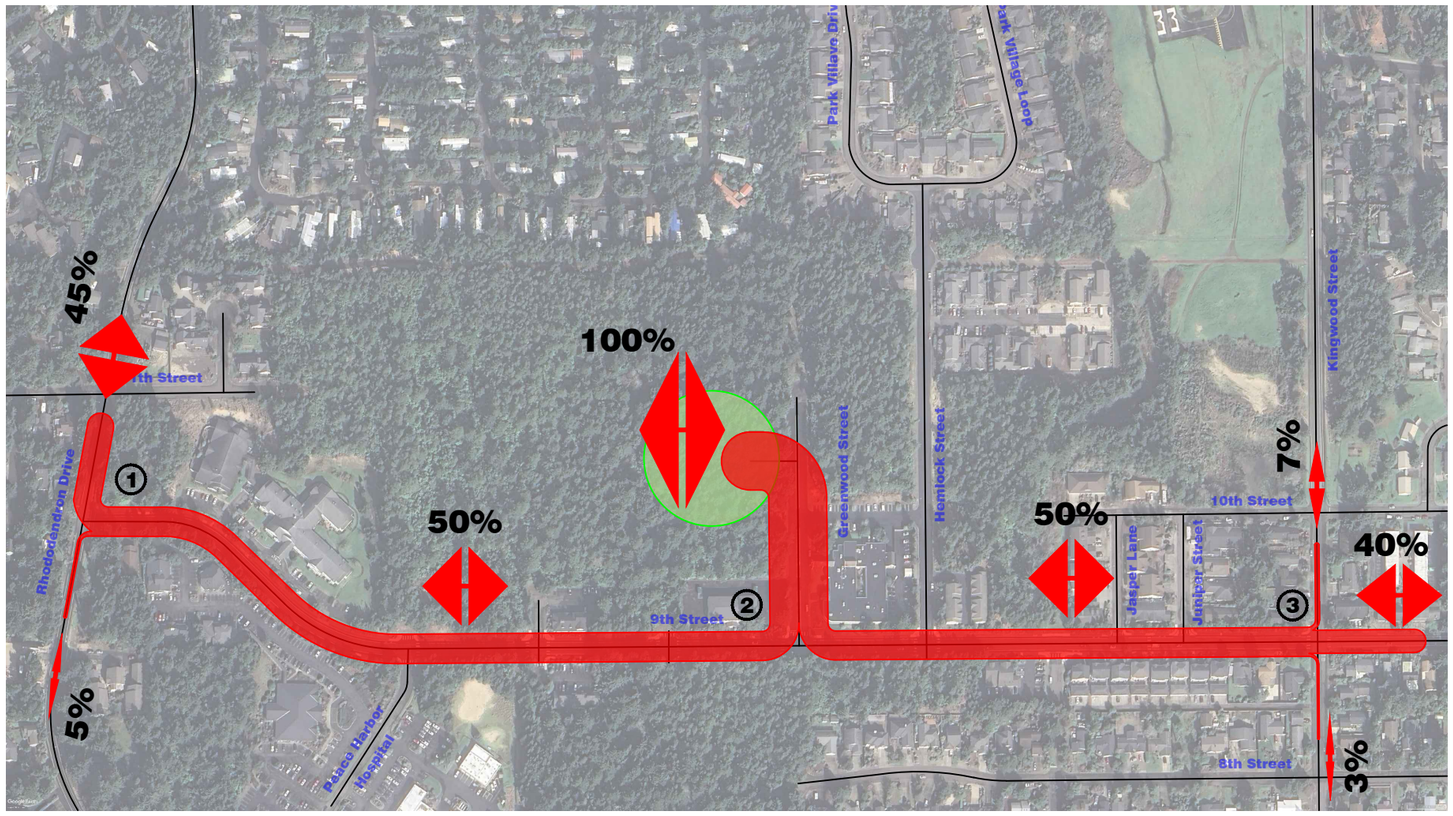
clemow associates LLC
2237 NW Torrey Pines Drive
Bend, Oregon 97703
541-579-8315
cclemow@clemow-associates.com

SITE AREA

Elm Park PUD - Florence, Oregon

C&A Project No. 20240801.00

FIGURE 1



	9th Street / Rhododendron Drive	9th Street / Greenwood Street	9th Street / Kingwood Street
2024 Existing	① R 0 T 40 L 75 / 0 L 19 T 0 R 5 / R 28 T 0 L 2 / PHF=0.91	② R 20 T 0 L 20 / 20 L 165 T 0 R / R 20 T 161 L 0 / PHF=0.91	③ R 41 T 39 L 15 / 5 L 63 T 0 R 15 / R 25 T 114 L 11 / PHF=0.87
2025 Pre-Development	① R 0 T 41 L 75 / 0 L 19 T 0 R 5 / R 29 T 0 L 2 / PHF=0.91	② R 20 T 0 L 20 / 20 L 166 T 0 R / R 20 T 162 L 0 / PHF=0.91	③ R 42 T 40 L 15 / 5 L 63 T 0 R 15 / R 26 T 115 L 11 / PHF=0.87
Development	① R 0 T 0 L 18 / 0% L 0% T 0% R 45% / R 45% T 0% L 17 / 5% L 0% T 0% R 0 / 0 L 0 T 0 R 2	② R 20 T 0 L 20 / 50% L 0% T 0% R 50% / R 50% T 0% L 20 / 0% L 0% T 0% R 0	③ R 3 T 0 L 0 / 7% L 0% T 0% R 0% / R 0% T 40% L 0 / 3% L 0% T 0% R 0 / 1 L 0 T 0 R 0
2025 Post-Development	① R 0 T 41 L 93 / 0 L 19 T 0 R 7 / R 46 T 0 L 4 / PHF=0.91	② R 40 T 0 L 40 / 40 L 166 T 0 R / R 40 T 162 L 0 / PHF=0.91	③ R 45 T 40 L 15 / 6 L 63 T 0 R 15 / R 26 T 131 L 11 / PHF=0.87

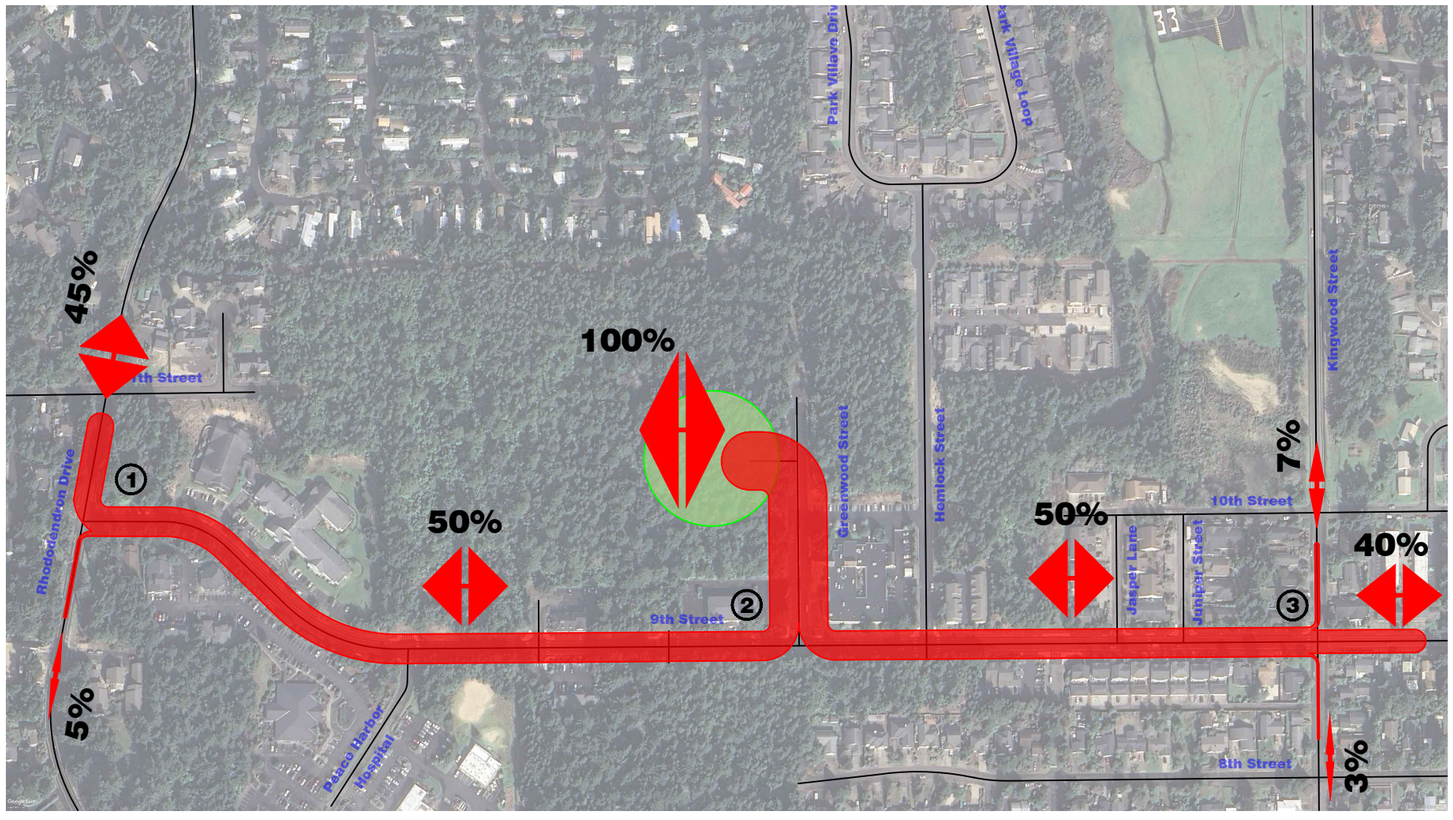
clemow associates LLC
2237 NW Torrey Pines Drive
Bend, Oregon 97703
541-579-8315
cclemow@clemow-associates.com

INTERSECTION VOLUMES - AM Peak Hour

Elm Park PUD - Florence, Oregon

C&A Project No. 20240801.00

FIGURE 2



	9th Street / Rhododendron Drive	9th Street / Greenwood Street	9th Street / Kingwood Street
2024 Existing	① R T L: 0 68 119; L T R: 0 68 4; R T L: 98 0 12	② R T L: 20 0 20; L T R: 20 193 0; R T L: 20 222 0	③ R T L: 42 47 25; L T R: 32 145 15; R T L: 34 162 11; L T R: 18 46 25
	PHF=0.91	PHF=0.91	PHF=0.95
2025 Pre-Development	① R T L: 0 68 120; L T R: 0 68 4; R T L: 99 0 12	② R T L: 20 0 20; L T R: 20 195 0; R T L: 20 224 0	③ R T L: 43 48 26; L T R: 33 147 15; R T L: 35 163 11; L T R: 18 47 26
	PHF=0.91	PHF=0.91	PHF=0.95
Development	① R T L: 0 0 18; 0% 0% 45%; L T R: 0% 0% 5%; 0 0 2; 45% 0% 5%; 17 0 2	② R T L: 20 0 20; 50% 0% 50%; L T R: 20 0 0; 50% 0% 0%; 50% 0% 0%; 20 0 0	③ R T L: 3 0 0; 7% 0% 0%; L T R: 3% 0% 0%; 1 0 0; 3 16 1; 7% 40% 3%; 0% 40% 0%; 0 16 0
2025 Post-Development	① R T L: 0 68 138; L T R: 0 68 6; R T L: 116 0 14	② R T L: 40 0 40; L T R: 40 195 0; R T L: 40 224 0	③ R T L: 46 48 26; L T R: 36 163 16; R T L: 35 179 11; L T R: 19 47 26
	PHF=0.91	PHF=0.91	PHF=0.95

clemow associates LLC
2237 NW Torrey Pines Drive
Bend, Oregon 97703
541-579-8315
cclemow@clemow-associates.com

INTERSECTION VOLUMES - PM Peak Hour

Elm Park PUD - Florence, Oregon

C&A Project No. 20240801.00

FIGURE 3

Appendix B

clemow
associates LLC

August 15, 2024

Florence City Hall
Community Development Department
Attention: Wendy Farley-Campbell
250 Highway 101
Florence, Oregon 97439

Sent via email to: wendy.farleycampbell@ci.florence.or.us

Re: **Elm Park Planned Unit Development (PUD) – Florence, Oregon**
Traffic Impact Study (TIS) Scoping Letter

C&A Project Number 20240801.00

Dear Ms. Farley-Campbell,

This Traffic Impact Study (TIS) scoping letter supports the proposed Elm Park Planned Unit Development (PUD) and presents project information for the city of Florence review. The following items are addressed:

1. Property Description and Proposed Development
2. Study Parameters
3. Agency Transportation Plan Review
4. Existing Conditions
5. Site Development
6. Transportation Analysis
7. Trip Distribution and Traffic Assignment
8. Study Area
9. Traffic Impact Study Scope of Work
10. Scoping Summary

1. PROPERTY DESCRIPTION AND PROPOSED DEVELOPMENT

The proposed development is on property north of 9th Street and west of Greenwood Street in Florence, Oregon. The property is more specifically described as tax lots 1100 and 1200 on Lane County Assessor's Map 18122731, totaling approximately 1.47 acres. The site area is illustrated in the attached Figure 1.

The Elm Park PUD includes two separate projects. The Elm Park Apartments (EPA) project is a 32-unit affordable rental housing project with related common elements on 1.10 acres. The Early Learning Facility (ELF) project is an early learning and childcare facility for up to 80 children during the school day and after-school care on 0.37 acres. A copy of the draft site plan is attached for reference.

2. STUDY PARAMETERS

In support of these land use actions, a traffic impact study (TIS) is necessary to address the following Florence City Code criteria:

- Section 10-1-1-4-E – *Traffic Impact Studies*
- Section 10-35-2-5 – *Traffic Study Requirements*

3. AGENCY TRANSPORTATION PLAN REVIEW

Florence Transportation System Plan (TSP)

The 2023 Florence Transportation System Plan (TSP) identifies the plans, policies, programs, and projects needed to address gaps, deficiencies, and needs within the city's transportation system over the next 20 years. The preferred plan consists of all projects identified throughout the TSP planning process while the cost-constrained plan consists of projects the City anticipates being able to fund over the next 20 years. The following is a list of TSP cost-constrained projects in the project area:

Map ID	Location	Description	Priority	Cost ($1,000)
R25	9th Street/ Kingwood Street	Reconfigure the intersection to all-way stop-control when warranted	High	$50
S10	Kingwood Street/ 9th Street	Install advance intersection warning signs on 9th Street; install additional intersection lighting; and evaluate need for traffic control modification (Coordinate with Projects R25 and R26)	High	$100
P11	**Rhododendron Dr** 9th St to Wild Winds St	Construct multi-use path on one side of the street (include landscape strip as feasible)	High	$1,040
B16	**Rhododendron Dr** 9th St to Wild Winds St	Construct shoulder bikeways on both sides of the street (coordinate with Project P11)	High	$345

Copies of the prospectus sheets for the above-identified projects are attached for reference.

The TSP additionally notes that several local street connections were identified as part of the 2012 TSP, including an extension of the street grid with anticipated development along 9th Street near Peace Health Medical Center. TSP Figure 4 excerpted below illustrates the location and general orientation of the local street connections. Roadway alignments and cost estimates are not provided as they are anticipated to be determined as part of future development. Any local street connections that are desired to be city-initiated projects should be identified as a high priority and included in the cost-constrained plan. Otherwise, the City should refer to the local street connections shown in Figure 4 during development review to ensure future development and redevelopment improve local street access and circulation within the city.

TSP Figure 4. Local Street Connections – Florence, Oregon (excerpt)

Consistent with the above TSP narrative, the city of Florence will construct all of the 10th, 11th, and Fir Streets infrastructure necessary to serve the proposed development.

4. EXISTING CONDITIONS

Tax lots 1100 and 1200 are undeveloped and have access to Greenwood Street to the east. While not yet constructed, it is noted that a platted system of *Local* roadways and alleys exists in the site area as illustrated on the attached Lane County Assessor's Map.

Roadway Facilities

The following table summarizes existing roadway classifications and characteristics within the study area.

TABLE 1 – EXISTING ROADWAY CHARACTERISTICS

Roadway	Functional Classification	Lanes	Speed Limit (MPH)	Sidewalks	Bicycle Lanes	On-Street Parking
Greenwood Street	Local	2	25	Yes	No	No
9th Street	Minor Arterial	2	25	Yes	Yes	No
Rhododendron Drive	Minor Arterial (North of 9th Street) Collector (South of 9th Street)	2	30	No	Yes	No
Kingwood Street	Collector	2	25	Partial	Yes	One Side

Safety Analysis

When evaluating roadway and intersection safety, consideration is given to the number and types of crashes occurring, and the number of vehicles traveling on a roadway segment or entering the intersection. This leads to the concept known as the "crash rate." Specific to intersections, it is typically expressed in terms of the number of crashes occurring per one million vehicles entering the intersection (CMEV). A critical crash rate analysis is then performed by comparing the subject intersection to the published statewide 90th percentile intersection crash rates at comparable/reference intersections. Crash rates close to or exceeding 1.0 CMEV or the 90th percentile rates require further analysis.

Study area crash data were obtained from the Oregon Department of Transportation (ODOT) for five years from January 1, 2018, through December 31, 2022. The following table presents the study intersection crash rates and critical crash analysis. Crash data and crash rate calculations are attached for reference.

TABLE 2 – INTERSECTION CRASH RATES

Intersection	2018	2019	2020	2021	2022	Total	Crash Rate (CMEV)	Reference Population [1]	90th%ile Crash Rate	Over or under Crash Rate?
9th Street / Rhododendron Drive	0	0	0	1	0	1	0.150	Urban 3ST	0.293	Under
9th Street / Greenwood Street	0	0	0	0	0	0	0.000	Urban 3ST	0.293	Under
9th Street / Kingwood Street	0	2	1	0	2	5	0.438	Urban 4ST	0.408	Over

[1] 3ST is a three-leg minor stop-control intersection and 4ST is a four-leg minor stop-control intersection.

The observed crash rates at the 9th Street/Rhododendron Drive and 9th Street/Greenwood Street intersections are less than the 1.0 CMEV threshold and the 90th percentile crash rate of the reference population, indicating the intersections are considered relatively safe, and further safety analysis is not warranted.

The observed crash rate at the 9th Street/Kingwood Street intersection is less than the 1.0 CMEV threshold but is greater than the 90th percentile crash rate of the reference population, indicating further analysis is warranted to determine if there is a correctable safety deficiency. Based on a review of the detailed crash data, four of the five (total) crashes were angle crashes where the minor roadway (Kingwood Street) motorist did not yield the right-of-way to the major roadway (9th Street) motorist. Consistent with TSP Project R25, consideration should be given to the installation of STOP signs on the 9th Street approaches to provide all-way stop control operation which is anticipated to reduce the number of crashes.

Traffic Counts

Existing intersection traffic counts will be obtained as necessary following the scope of work approval. Unless directed otherwise, the applicant proposes to use the May 2023 traffic counts obtained as part of the TSP work effort which are attached to this letter for reference. Further, based on the prospectus sheet for TSP Project R25, a 1% average annual background traffic growth rate (the actual rate is 0.953%) will be used to determine future year traffic volumes.

Based on existing Florence traffic patterns it is assumed the weekday peak hour occurs mid-day, approximately between 11:00 AM and 3:00 PM. The peak hour traffic volumes from this period will conservatively be used (versus volumes from the typical 4:00-6:00 PM peak hour) as part of any necessary intersection operations analysis.

5. SITE DEVELOPMENT

Development Assumptions

The Elm Park PUD includes two separate projects. The Elm Park Apartments project is a 32-unit affordable rental housing project with related common elements on 1.10 acres. The Early Learning Facility project is an early learning and childcare facility for up to 80 children during the school day and after-school care on 0.37 acres.

Development Trip Generation

Development trip generation is estimated using the Institute of Transportation Engineers (ITE) *Trip Generation Manual*, 11th Edition, and practices from the ITE *Trip Generation Handbook*, 3rd Edition. Trip generation is as follows:

TABLE 2 – DEVELOPMENT TRIP GENERATION [1]

Development	ITE Code	Size	Daily Trips	AM Peak Hour			PM Peak Hour		
				Enter	Exit	Total	Enter	Exit	Total
Multifamily Housing (Low-Rise)	220	32 DUs	216	3	10	13	10	6	16
Day Care Center	565	80 Students	327	33	29	62	30	33	63
Change in Trip Generation with Zone Change			543	36	39	75	40	39	79

[1] Trip generation estimated using the *Average Rate* per recommended practice in the ITE *Trip Generation Handbook*, 3rd Edition.

As the table above identifies, the proposed Elm Park PUD generates 543 daily trips, and 75 AM and 79 PM peak hour trips.

6. TRANSPORTATION ANALYSIS

A TIS is necessary to address the following:

Florence City Code Section 10-1-1-4-E – Traffic Impact Studies

1. *Purpose of Traffic Impact Study: The purpose of a Traffic Impact Study is to determine:*

    a. *The capacity and safety impacts a particular development will have on the City's transportation system;*

    b. *Whether the development will meet the City's minimum transportation standards for roadway capacity and safety;*

    c. *Mitigating measures necessary to alleviate the capacity and safety impacts so that minimum transportation standards are met; and*

    d. *To implement section 660-012-0045(2)(e) of the State Transportation Planning Rule.*

2. *Criteria for Warranting a Traffic Impact Study: All traffic impact studies shall be prepared by a professional engineer in accordance with the requirements of the road authority. The City shall require a Traffic Impact Study (TIS) as part of an application for development; a proposed amendment to the Comprehensive Plan, zoning map, or zoning regulations; a change in use, or a change in access, if any of the following conditions are met:*

    a. *A change in zoning or plan amendment designation where there is an increase in traffic or a change in peak-hour traffic impact.*

    b. *Any proposed development or land use action that may have operational or safety concerns along its facility(s), as determined by the Planning Director in written findings.*

    c. *The addition of twenty-five (25) or more single-unit dwellings, and an intensification or change in land use that is estimated to increase traffic volume by 250 Average Daily Trips (ADT) or more, per the ITE Trip Generation Manual.*

    d. *A change in land use that may cause an increase in the use of adjacent streets by vehicles exceeding the 20,000-pound gross vehicle weight by 10 vehicle trips or more per day.*

    e. *The location of the access driveway does not meet minimum sight distance requirements or is located where vehicles entering or leaving the property are restricted, or such vehicles queue or hesitate on the State highway, creating a safety hazard.*

    f. *A change in internal traffic patterns that may cause safety problems, such as backed up onto a street or greater potential for traffic accidents.*

    g. *The Planning Director, based on written findings, determines that a TIS is necessary where traffic safety, street capacity, future planned facility, or multimodal concerns may be associated with the proposed development. The City will consider the following criteria when determining the need for a TIS:*

        i. *If there exists any current traffic problems, such as high accident location, poor roadway alignment, or capacity deficiency that are likely to be compounded as a result of the proposed development.*

        ii. *If it is anticipated the current or projected level of service of the roadway system in the vicinity of the development will exceed minimum standards.*

        iii. *If it is anticipated that adjacent neighborhoods or other areas will be adversely impacted by the proposed development.*

    h. *A road authority with jurisdiction within the City may also require a TIS under their own regulations and requirements.*

3. *Traffic Study Requirements: In the event the City determines a TIS is necessary, the information contained shall be in conformance with FCC 10-35-2-5, Traffic Study Requirements.*

Florence City Code Section 10-35-2-5 – Traffic Study Requirements

The City may require a traffic study prepared by an Oregon registered professional engineer with transportation expertise to determine access, circulation, and other transportation requirements in conformance with FCC 10-1-1-4-E, Traffic Impact Studies.

A. The Traffic Impact Study shall:

1. Evaluate all streets where direct access is proposed, including proposed access points, nearby intersections, and impacted intersections with the state highway system.

2. Utilize the analysis procedures of the Highway Capacity Manual, latest edition.

3. Document compliance with the Florence City Code, the goals and policies of the Transportation System Plan, and any other applicable standards.

4. Be coordinated with other affected jurisdictions and agencies such as Lane County, the Port of Siuslaw, and the Oregon Department of Transportation.

5. Identify mitigation measures that resolve the identified traffic safety problems, address the anticipated impacts from the proposed land use, and meet the city's adopted Level-of-Service standards. The study shall also propose funding for the proposed mitigation measures.

B. The applicant shall consult with City staff to determine the content and level of analysis that must be included in the TIS. A pre-application conference is encouraged.

C. Conditions of Approval: The City may deny, approve, or approve a development proposal with appropriate conditions needed to meet operations and safety standards and provide the necessary right-of-way and improvements to develop the future planned transportation system. Conditions of approval should be evaluated as part of the land division and site development reviews, and may include but are not limited to:

1. Crossover or reciprocal easement agreements for all adjoining parcels to facilitate future access between parcels.

2. Access adjustments, where proposed access points do not meet the designated access spacing standards and/or have the ability to align with opposing access driveways.

3. Right-of-way dedications for future improvements.

4. Street improvements.

5. Turn restrictions such as "right in right out".

7. TRIP DISTRIBUTION AND TRAFFIC ASSIGNMENT

Specific development trip distribution will be based on existing intersection volumes, surrounding land uses, and engineering judgment.

Trip distribution and traffic assignment, based in part on the May 2023 traffic volumes, are illustrated in the attached Figure 2.

8. STUDY AREA

Based on the development trip generation and distribution described above, the following project area intersections are considered for analysis:

- 9th Street / Rhododendron Drive
- 9th Street / Greenwood Street
- 9th Street / Kingwood Street

9. TRAFFIC IMPACT STUDY SCOPE OF WORK

This letter does not specifically identify the city of Florence TIS methodologies; however, all necessary analyses will be performed consistent with agency requirements. It is anticipated the TIS will include, but is not necessarily limited to:

- Analysis scenarios including the:
  - 2025 Pre-Development Condition and the
  - 2025 Post-Development Condition,
- Crash history and safety analysis,
- Operations and queuing analyses at intersections identified in the *Study Area* section, and
- Identification of any necessary mitigation measures.

10. SCOPING SUMMARY

Following your review of this scope of work, please let us know of any necessary revisions, modifications, or specific transportation analysis that is necessary so that we can begin our work effort.

Sincerely,

Christopher M. Clemow, PE, PTOE
Transportation Engineer

REGISTERED PROFESSIONAL ENGINEER
18300 PE
OREGON
Jan. 16, 1996
CHRISTOPHER M CLEMOW
RENEWS 31 DECEMBER 2025

Attachments: Preliminary/Draft Site Plans
Figures 1 and 2
Lane County Assessor's Map
TSP Project Prospectus Sheets
Crash Data
Intersection Traffic Counts

Gmail Chris Clemow <cclemow@clemow-associates.com>

RE: Elm Park PUD - Traffic Impact Study

1 message

Wendy Farley-Campbell <wendy.farleycampbell@ci.florence.or.us> Thu, Aug 29, 2024 at 6:00 PM

To: Chris Clemow <cclemow@clemow-associates.com>
Cc: Layne Morrill <klaynemorrill@gmail.com>, Mike Miller <mike.miller@ci.florence.or.us>, Clare Kurth <clare.kurth@ci.florence.or.us>, Jacob Foutz <Jacob.Foutz@ci.florence.or.us>, Erin Reynolds <erin.reynolds@ci.florence.or.us>

Chris,

Thank you for providing a TIS scoping letter for the proposed Elm Park PUD.

As per request staff and the city's engineer of record have reviewed the document and Florence City Code (FCC) 10-1-1-4-E and FCC 10-35-2-5 and offer the following comments:

- Traffic Counts: Given the location and use please use the am peak when the school buses are running rather than the lunch hour
- Table 1 on pg. 3:
  - mentions that there are sidewalks on Greenwood, but Google Street View (2012) does not show sidewalks north of the Justice Center
  - mentions there is no on-street parking on Greenwood, please measure the improved street width to see if it meets the current local dimensions for parking on one or both sides of the street and incorporate into the analyses accordingly. See bottom of email. The proposal includes the use of on-street parking on Greenwood south of the alley.
  - the development proposal includes a parking reduction using transit stop proximity criteria and a parking analysis to support fewer car owners, as such any transit, pedestrian or bike infrastructure projects included in the TSP regardless of priority should be included in the analysis
- Section 3. on page 3 states the city will construct all of 11th and Fir Sts. Since Goal 5 Riparian Resources and their wetland buffers traverse these streets their construction is regulated by Title 10 Chapter 2 Section 12-E-4 and Title 10 Chapter 7 Section 4. The associated land use review and decision may affect analyses performed by this study.
- Use the *Highway Capacity Manual, Seventh Edition: A Guide for Multimodal Mobility Analysis*

- The island in Greenwood is blocking the entrance to the site. Please consider this in your review.
- Attached are items you appear to already be familiar with but are included anyway.

Thank you again Chris. Please let me know if you have any questions or comments.

Regards,

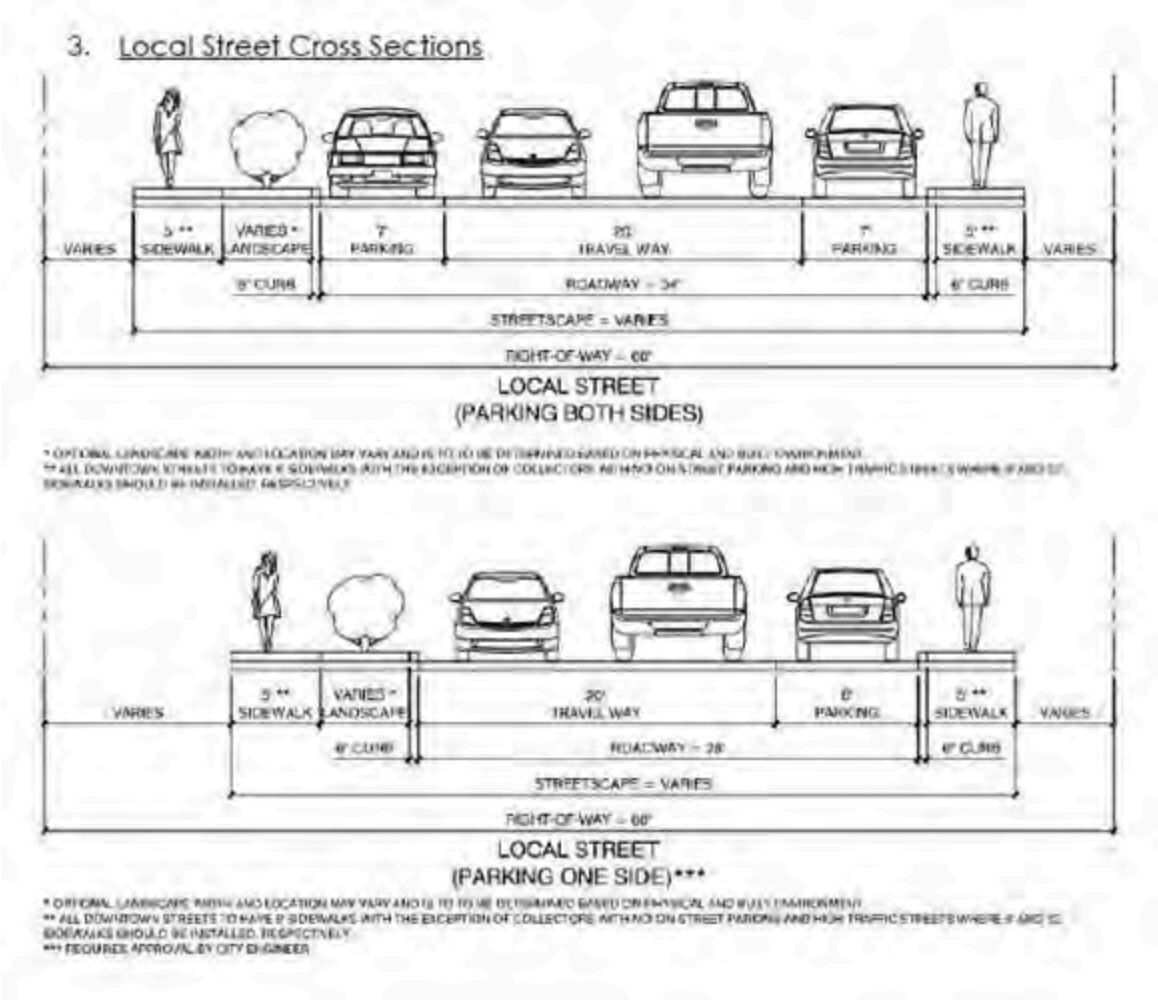
Wendy FarleyCampbell, AICP

Community Development Director | City of Florence

O: 541.997.8237

250 Highway 101, Florence OR 97439

Follow Us! City Website | Vimeo | Facebook | Twitter



From: Chris Clemow <cclemow@clemow-associates.com>
Sent: Thursday, August 15, 2024 1:27 PM
To: Wendy Farley-Campbell <wendy.farleycampbell@ci.florence.or.us>; Mike Miller <mike.miller@ci.florence.or.us>; Clare Kurth <clare.kurth@ci.florence.or.us>; Jacob Foutz <Jacob.Foutz@ci.florence.or.us>; Erin Reynolds <erin.reynolds@ci.florence.or.us>
Cc: Layne Morrill <klaynemorrill@gmail.com>
Subject: Re: Elm Park PUD - Traffic Impact Study

Wendy, et all,

We are working with Layne Morril on the Elm Park PUD project identified in this email chain. Specifically, we are providing transportation engineering services and have prepared the attached traffic impact study (TIS) scope of work letter.

Appendix C

9TH STREET/KINGWOOD STREET (R25, S10)

PROJECT PURPOSE: ADD STOP SIGNS AND SAFETY TREATMENTS

PROJECT INFORMATION

Description	The 9th Street/Kingwood Street intersection provides an important off-highway street connection to much of Florence. 9th Street connects Rhododendron Drive with US 101, and Kingwood Street connects 35th Street and the airport with Old Town. The intersection is currently a two-way stop control intersection, with stop signs on the northbound and southbound approaches. The crash history at this intersection consists entirely of angle crashes, suggesting that vehicles on 9th Street and on Kingwood Street are colliding at this intersection. Adding stop signs to the 9th Street approaches and making this intersection an all-way stop control intersection should help reduce angle crashes. Adding safety treatments such as advance intersection warning signs and intersection lighting should help reduce crashes, as well.	
Roadway Characteristics	• Functional Classification: 9th Street – Minor Arterial (City), Kingwood Street – Collector (City) • Posted Speed: 9th Street – 25 MPH; Kingwood Street – 25 MPH • Existing (2021) ADT: 5,440 at the intersection • Forecast (2045) ADT: 6,830 at the intersection • Travel Lanes: 9th Street – two 11-foot lanes east of the intersection and two 14-foot lanes west of the intersection; Kingwood Street – two 20-foot lanes • Pavement Width: 9th Street – 32 feet east of the intersection, 40 feet west of the intersection; Kingwood Street – 40 feet	• Shoulders/Bike Lanes: 6-8 foot shoulder bike lanes on 9th Street, shared lane pavement markings on Kingwood Street • On-Street Parking: None on 9th Street, allowed on both sides of Kingwood Street • Curb and Gutter: Yes on both streets • Sidewalks: 5-foot sidewalks on 9th Street, 5-foot sidewalks on Kingwood Street except for where there is missing sidewalk on the southwest corner • Reported Crashes (2016-2020): 5, including 1 minor injury crash. All five crashes were angle crashes.
Benefits	• All-way stop control will slow down traffic on 9th Street and should reduce angle crashes at the intersection. • All-way stop control will allow for easier crossing conditions for people walking and biking.	
Constraints	• Funding	
Planning-Level Cost Estimate	• $150,000 (estimated in 2023 dollars); $50,000 (R25), $100,000 (S10) • Assumes design and construction of the all-way stop control as well as installation of advance intersection warning signs and intersection lighting.	
Potential Funding Sources	• Surface Transportation Block Grant (STBG) program • Statewide Transportation Improvement Program (STIP) • All Roads Transportation Safety (ARTS) • Private Development	
Additional Considerations	As funding and community support allows, a longer-term project at this intersection would be to install a mini-roundabout (Project R26). This treatment can efficiently move vehicles through the intersection while slowing speeds and reducing crash rates.	

RHODODENDRON DRIVE WALKING AND BIKING (P11, P12, P13, B16, B17, B18)

PROJECT PURPOSE: ESTABLISH A SEPARATE PATH FOR PEOPLE WALKING AND BIKING ON BUSY ROAD

PROJECT INFORMATION

Description	Rhododendron Drive, a Minor Arterial roadway maintained by the City of Florence, is a parallel route to US 101 that extends from Heceta Beach Road to US 101. The street serves housing developments on the west side, as well as North Jetty Beach and the Driftwood Shores Resort. There are 6-foot bike lanes between 9th Street and Wild Winds Street, but there is no walking or biking infrastructure north of Wild Winds Street on Rhododendron Drive. This project will construct a multi-use path on Rhododendron Drive to create safe places for people to walk and bike. The Oregon Coast Bike Route identified Rhododendron Drive and Heceta Beach Road as an alternate route to US 101 through Florence, and constructing a multi-use path on Rhododendron Drive will allow all types of people to walk and bike.	
Roadway Characteristics	• Functional Classification: Minor Arterial (City) • Posted Speed: 30 MPH (9th St to north of Wild Winds St), 40 MPH (north of Wild Winds St to Heceta Beach Rd) • Existing (2021) ADT: 2,140 at 9th St, 2,800 at 35th St, 1,110 at Heceta Beach Rd • Forecast (2045) ADT: 2,710 at 9th St, 4,650 at 35th St, and 3,280 at Heceta Beach Rd • Travel Lanes: Two 11-12 foot lanes • Pavement Width: 34 feet from 9th St to Wild Winds St, 24-28 feet from Wild Winds St to Heceta Beach Rd	• Shoulders/Bike Lanes: 9th St to Wild Winds St: 6-foot shoulder bike lanes; Wild Winds St to Heceta Beach Rd: 1-2 foot shoulders • On-Street Parking: None • Curb and Gutter: None • Sidewalks: None • Reported Crashes (2016-2020): 26 between 9th St and Heceta Beach Rd (1 fatal crash, 3 severe injury crashes, 7 moderate injury crashes, 6 minor crashes, and 9 property damage only crashes). The fatal crash was a single car "non-collision crash" (i.e., rollover) that occurred on 9/27/2020 just north of New Hope Lane.
Benefits	• Creates a comfortable walking and biking facility on a 40 MPH roadway and reduces the level of traffic stress to allow for people of all ages and abilities to use the facility. • Completes an alternate route for the Oregon Coast Bike Route away from US 101 in Florence. • Adds capacity to move people in non-motorized modes in the event of an emergency	
Constraints	• Funding, Right-of-Way	
Planning-Level Cost Estimate	• $8,085,000 (estimated in 2023 dollars); $1,040,000 (P11), $1,295,000 (P12), $3,730,000 (P13), $345,000 (B11), $430,000 (B12), $1,245,000 (B13) • Assumes architecture/engineering work and construction (including clearing and grubbing, excavation, new pavement drainage and landscaping, mobilization, erosion control, traffic control, construction management, and a 25% contingency)	
Potential Funding Sources	• Surface Transportation Block Grant (STBG) program • Statewide Transportation Improvement Program (STIP) • State Highway Trust Fund/Bicycle Bill • All Roads Transportation Safety (ARTS)	
Additional Considerations	This project is consistent with City plans showing that a separated facility is needed on this roadway.	

Appendix D

January 1, 2018 through December 31, 2022

INTERSECTION CRASH RATES

Intersection	Crashes						PM Entering Volume	ADT (10xPM)	AADT (365xADT)	Annual Crashes	Crash Rate (crashes/MEV)	Reference Population	90th%ile Crash Rate	Over or Under Crash
	2018	2019	2020	2021	2022	Total								
9th Street / Rhododendron Drive	0	0	0	1	0	1	366	3,660	1,335,900	0.20	0.150	Urban 3ST	0.293	Under
9th Street / Greenwood Street	0	0	0	0	0	0	-	-	-	0.00	0.000	Urban 3ST	0.293	Under
9th Street / Kingwood Street	0	2	1	0	2	5	625	6,250	2,281,250	1.00	0.438	Urban 4ST	0.408	Over

CITY OF FLORENCE, LANE COUNTY

9TH ST at RHODODENDRON DR, City of Florence, Lane County, 01/01/2018 to 12/31/2022

1 - 1 of 1 Crash records shown.

SER# / INVEST / RD DPT / UNLOC?	S P E D	A L C	D R G S	M J N V	S I H L	C O R K	W DAY / TIME / LAT	DATE / CLASS / DIST / FROM / LONG	CITY STREET / FIRST STREET / SECOND STREET / LRS	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR / OWNER / TYPE	QTY / MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT EVENT	CAUSE
03155	N	N	N	N			11/04/2021	17	RHODODENDRON DR	INTER	3-LEG	N	N	RAIN	O-1 L-TURN	01	NONE	0 TURN-L										02
CITY							TH	0	9TH ST	CN		STOP SIGN	N	WET	TURN		PRVTE	N -E									000	00
N							8A			04	0		N	DAWN	INJ		PSNGR CAR		01	DRVR	INJB	81	F	OR-Y		028	000	02
N							43 58 31.68	-124 7 14.13																OR<25				
																01	NONE	0 TURN-L										
																	PRVTE	N -E									000	00
																	PSNGR CAR		02	PSNG	INJB	88	M			000	000	00
																02	NONE	0 STRGHT										
																	PRVTE	S -N									000	00
																	PSNGR CAR		01	DRVR	INJB	77	F	OR-Y		000	000	00
																								OR<25				

OREGON.. DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
TRANSPORTATION DATA SECTION - CRASH ANAYLYSIS AND REPORTING UNIT
URBAN NON-SYSTEM CRASH LISTING

CITY OF FLORENCE, LANE COUNTY

9TH ST at GREENWOOD ST, City of Florence, Lane County, 01/01/2018 to 12/31/2022

SER# / INVEST / RD DPT / UNLOC?	S P E D	A L C	D R U G S	J N V	S H L	W R K	DATE / DAY / TIME / LAT	CLASS / DIST / FROM / LONG	CITY STREET / FIRST STREET / SECOND STREET / LRS	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER / TYPE	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT	EVENT	CAUSE

OREGON.. DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
TRANSPORTATION DATA SECTION - CRASH ANAYLYSIS AND REPORTING UNIT
URBAN NON-SYSTEM CRASH LISTING

CITY OF FLORENCE, LANE COUNTY

9TH ST at KINGWOOD ST, City of Florence, Lane County, 01/01/2018 to 12/31/2022

1 - 5 of 5 Crash records shown.

SER# / INVEST / RD DPT / UNLOC?	S P E D	A L C	D M R U G S	J N V	S H L	W O R K	DATE / DAY / TIME / LAT	CLASS / DIST / FROM / LONG	CITY STREET / FIRST STREET / SECOND STREET / LRS	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER / TYPE	MOVE / FROM / TO	P#	PRTC / TYPE	INJ / SVRTY	A G E	S E X	LICNS / RES	PED LOC	ERROR	ACT	EVENT	CAUSE
02102	N	N	N N	N	N	N	07/16/2022	17	KINGWOOD ST	INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 9	STRGHT											29
CITY			SA					0	9TH ST	S		STOP SIGN	N	DRY	REAR		N/A	S -N									000		00
N			2P							06	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000		00
N			43 58 28.68					-124 6 31.29																UNK					
																02	NONE 9	STOP											
																	N/A	S -N									011		00
																	PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000		00
																								UNK					
02929	N	N	N N				09/22/2019	17	KINGWOOD ST	INTER	CROSS	N	N	RAIN	ANGL-OTH	01	NONE 9	STRGHT											02
NONE			SU					0	9TH ST	CN		STOP SIGN	N	WET	ANGL		N/A	E -W									000		00
N			12P							02	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000		00
N			43 58 28.69					-124 6 31.28																UNK					
																02	NONE 9	STRGHT											
																	N/A	S -N									000		00
																	PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000		00
																								UNK					
03302	N	N	N N				10/23/2019	17	KINGWOOD ST	INTER	CROSS	N	N	CLR	ANGL-OTH	01	NONE 9	STRGHT											02
NONE			WE					0	9TH ST	CN		UNKNOWN	N	DRY	ANGL		N/A	W -E									000		00
N			1P							03	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000		00
N			43 58 28.68					-124 6 31.29																UNK					
																02	NONE 9	STRGHT											
																	N/A	N -S									000		00
																	PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000		00
																								UNK					
00450	N	N	N N				02/10/2020	17	KINGWOOD ST	INTER	CROSS	N	N	CLR	ANGL-OTH	01	NONE 9	STRGHT											02
CITY			MO					0	9TH ST	CN		STOP SIGN	N	DRY	ANGL		N/A	S -N									015		00
N			11A							02	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000		00
N			43 58 28.68					-124 6 31.29																UNK					
																02	NONE 9	STRGHT											
																	N/A	E -W									000		00
																	PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000		00
																								UNK					
02302	N	N	N N	N	N	N	08/03/2022	17	KINGWOOD ST	INTER	CROSS	N	N	CLR	ANGL-OTH	01	NONE 0	STRGHT											04
CITY			WE					0	9TH ST	CN		STOP SIGN	N	DRY	ANGL		PRVTE	N -S									000		00
N			5P							03	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	84	M	OR-Y		021	000		04
N			43 58 28.68					-124 6 31.29																OR>25					
																02	NONE 0	STRGHT											
																	PRVTE	W -E									000		00
																	PSNGR CAR		01	DRVR	INJC	76	F	OR-Y		000	000		00
																								OR<25					

CITY OF FLORENCE, LANE COUNTY

9TH ST at KINGWOOD ST, City of Florence, Lane County, 01/01/2018 to 12/31/2022

ACTION CODE TRANSLATION LIST

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

ACTION CODE TRANSLATION LIST

ACTION 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	JACKNIFE	JACKKNIFE; TRAILER OR TOWED VEHICLE STRUCK TOWING VEHICLE
021	TRL OTRN	TRAILER OR TOWED VEHICLE OVERTURNED
022	CN BROKE	TRAILER CONNECTION BROKE
023	DETACH TRL	DETACHED TRAILING OBJECT STRUCK OTHER VEHICLE, NON-MOTORIST, OR OBJECT
024	V DOOR OPN	VEHICLE DOOR OPENED INTO ADJACENT TRAFFIC LANE
025	WHEELOFF	WHEEL CAME OFF
026	HOOD UP	HOOD FLEW UP
028	LOAD SHIFT	LOST LOAD, LOAD MOVED OR SHIFTED
029	TIREFAIL	TIRE FAILURE
030	PET	PET: CAT, DOG AND SIMILAR
031	LVSTOCK	STOCK: COW, CALF, BULL, STEER, SHEEP, ETC.
032	HORSE	HORSE, MULE, OR DONKEY
033	HRSE&RID	HORSE AND RIDER
034	GAME	WILD ANIMAL, GAME (INCLUDES BIRDS; NOT DEER OR ELK)
035	DEER ELK	DEER OR ELK, WAPITI
036	ANML VEH	ANIMAL-DRAWN VEHICLE
037	CULVERT	CULVERT, OPEN LOW OR HIGH MANHOLE
038	ATENUATN	IMPACT ATTENUATOR
039	PK METER	PARKING METER
040	CURB	CURB (ALSO NARROW SIDEWALKS ON BRIDGES)
041	JIGGLE	JIGGLE BAR OR TRAFFIC SNAKE FOR CHANNELIZATION
042	GDRL END	LEADING EDGE OF GUARDRAIL
043	GARDRAIL	GUARD RAIL (NOT METAL MEDIAN BARRIER)
044	BARRIER	MEDIAN BARRIER (RAISED OR METAL)
045	WALL	RETAINING WALL OR TUNNEL WALL
046	BR RAIL	BRIDGE RAILING OR PARAPET (ON BRIDGE OR APPROACH)
047	BR ABUTMNT	BRIDGE ABUTMENT (INCLUDED "APPROACH END" THRU 2013)
048	BR COLMN	BRIDGE PILLAR OR COLUMN
049	BR GIRDR	BRIDGE GIRDER (HORIZONTAL BRIDGE STRUCTURE OVERHEAD)
050	ISLAND	TRAFFIC RAISED ISLAND
051	GORE	GORE
052	POLE UNK	POLE - TYPE UNKNOWN
053	POLE UTL	POLE - POWER OR TELEPHONE
054	ST LIGHT	POLE - STREET LIGHT ONLY
055	TRF SGNL	POLE - TRAFFIC SIGNAL AND PED SIGNAL ONLY
056	SGN BRDG	POLE - SIGN BRIDGE
057	STOPSIGN	STOP OR YIELD SIGN
058	OTH SIGN	OTHER SIGN, INCLUDING STREET SIGNS
059	HYDRANT	HYDRANT

EVENT CODE TRANSLATION LIST

EVENT CODE	SHORT DESCRIPTION	LONG DESCRIPTION
060	MARKER	DELINEATOR OR MARKER (REFLECTOR POSTS)
061	MAILBOX	MAILBOX
062	TREE	TREE, STUMP OR SHRUBS
063	VEG OHED	TREE BRANCH OR OTHER VEGETATION OVERHEAD, ETC.
064	WIRE/CBL	WIRE OR CABLE ACROSS OR OVER THE ROAD
065	TEMP SGN	TEMPORARY SIGN OR BARRICADE IN ROAD, ETC.
066	PERM SGN	PERMANENT SIGN OR BARRICADE IN/OFF ROAD
067	SLIDE	SLIDES, FALLEN OR FALLING ROCKS
068	FRGN OBJ	FOREIGN OBSTRUCTION/DEBRIS IN ROAD (NOT GRAVEL)
069	EQP WORK	EQUIPMENT WORKING IN/OFF ROAD
070	OTH EQP	OTHER EQUIPMENT IN OR OFF ROAD (INCLUDES PARKED TRAILER, BOAT)
071	MAIN EQP	WRECKER, STREET SWEEPER, SNOW PLOW OR SANDING EQUIPMENT
072	OTHER WALL	ROCK, BRICK OR OTHER SOLID WALL
073	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 CONVEYA
5	PTOW	PEDESTRIAN TOWING OR TRAILERING AN OB
6	BIKE	PEDALCYCLIST
7	BTOW	PEDALCYCLIST TOWING OR TRAILERING AN
8	PRKD	OCCUPANT OF A PARKED MOTOR VEHICLE
9	UNK	UNKNOWN TYPE OF NON-MOTORIST

TRAFFIC CONTROL DEVICE CODE TRANSLATION LIST

CODE	SHORT DESC	LONG DESCRIPTION
000	NONE	NO CONTROL
001	TRF SIGNAL	TRAFFIC SIGNALS
002	FLASHBCN-R	FLASHING BEACON - RED (STOP)
003	FLASHBCN-A	FLASHING BEACON - AMBER (SLOW)
004	STOP SIGN	STOP SIGN
005	SLOW SIGN	SLOW SIGN
006	REG-SIGN	REGULATORY SIGN
007	YIELD	YIELD SIGN
008	WARNING	WARNING SIGN
009	CURVE	CURVE SIGN
010	SCHL X-ING	SCHOOL CROSSING SIGN OR SPECIAL SIGNAL
011	OFCR/FLAG	POLICE OFFICER, FLAGMAN - SCHOOL PATROL
012	BRDG-GATE	BRIDGE GATE - BARRIER
013	TEMP-BARR	TEMPORARY BARRIER
014	NO-PASS-ZN	NO PASSING ZONE
015	ONE-WAY	ONE-WAY STREET
016	CHANNEL	CHANNELIZATION
017	MEDIAN BAR	MEDIAN BARRIER
018	PILOT CAR	PILOT CAR
019	SP PED SIG	SPECIAL PEDESTRIAN SIGNAL
020	X-BUCK	CROSSBUCK
021	THR-GN-SIG	THROUGH GREEN ARROW OR SIGNAL
022	L-GRN-SIG	LEFT TURN GREEN ARROW, LANE MARKINGS, OR SIGNAL
023	R-GRN-SIG	RIGHT TURN GREEN ARROW, LANE MARKINGS, OR SIGNAL
024	WIGWAG	WIGWAG OR FLASHING LIGHTS W/O DROP-ARM GATE
025	X-BUCK WRN	CROSSBUCK AND ADVANCE WARNING
026	WW W/ GATE	FLASHING LIGHTS WITH DROP-ARM GATES
027	OVRHD SGNL	SUPPLEMENTAL OVERHEAD SIGNAL (RR XING ONLY)
028	SP RR STOP	SPECIAL RR STOP SIGN
029	ILUM GRD X	ILLUMINATED GRADE CROSSING
037	RAMP METER	METERED 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

Appendix E

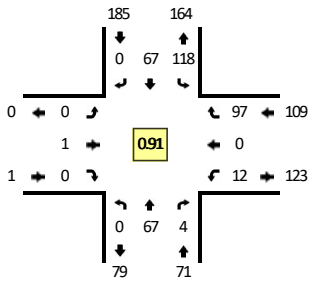
Type of peak hour being reported: Intersection Peak

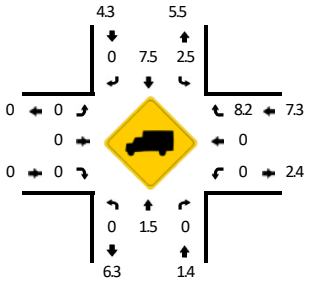
Method for determining peak hour: Total Entering Volume

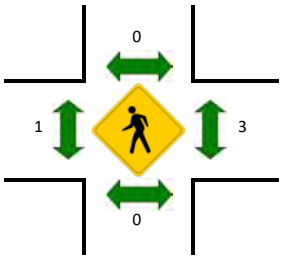
LOCATION: Rhododendron Dr -- 9th St [20042009]
CITY/STATE: Florence, OR

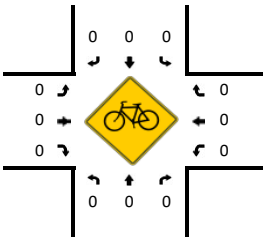
QC JOB #: 16715401
DATE: Tue, May 16 2023

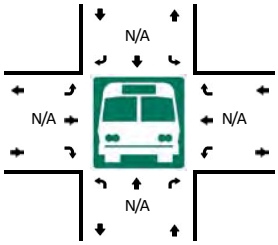
Peak-Hour: 1:30 PM -- 2:30 PM
Peak 15-Min: 1:45 PM -- 2:00 PM

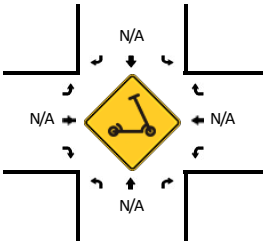












15-Min Count Period Beginning At	Rhododendron Dr (Northbound)				Rhododendron Dr (Southbound)				9th St [20042009] (Eastbound)				9th St [20042009] (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
6:00 AM	0	0	1	0	3	6	0	0	0	0	0	0	0	0	1	0	11	
6:15 AM	0	0	0	0	7	3	0	0	0	0	0	0	0	0	5	0	15	
6:30 AM	0	5	0	0	6	4	0	0	0	0	0	0	0	0	1	0	16	
6:45 AM	0	1	1	0	14	12	0	0	0	0	0	0	0	0	5	0	33	75
7:00 AM	0	5	0	0	8	4	0	0	0	0	0	0	0	0	7	0	24	88
7:15 AM	0	4	1	0	7	1	0	0	0	0	0	0	0	0	11	0	24	97
7:30 AM	0	2	1	0	14	8	0	0	0	0	0	0	1	0	5	0	31	112
7:45 AM	0	3	1	0	18	11	0	0	0	0	0	0	0	0	7	0	40	119
8:00 AM	0	6	2	0	17	5	0	0	0	0	0	0	1	0	8	0	39	134
8:15 AM	0	4	2	0	21	9	0	0	0	0	0	0	1	0	6	0	43	153
8:30 AM	0	6	0	0	18	15	0	0	0	0	0	0	0	0	7	0	46	168
8:45 AM	0	8	0	0	16	11	0	0	0	0	0	0	1	0	12	0	48	176
9:00 AM	0	7	0	0	29	9	0	0	0	0	0	0	0	0	17	0	62	199
9:15 AM	0	10	0	0	19	12	0	0	0	0	0	0	0	0	19	0	60	216
9:30 AM	0	9	3	0	19	15	0	0	0	0	0	0	2	0	23	0	71	241
9:45 AM	0	9	1	0	23	18	0	0	0	0	0	0	1	0	11	0	63	256
10:00 AM	0	10	0	0	25	8	0	0	0	0	0	0	1	0	16	0	60	254
10:15 AM	0	11	0	0	29	17	0	0	0	0	0	0	0	0	15	1	73	267
10:30 AM	0	11	2	0	26	11	0	0	0	0	0	0	2	0	25	0	77	273
10:45 AM	0	12	2	0	23	18	0	0	0	0	0	0	2	0	25	0	82	292
11:00 AM	0	16	0	0	29	21	0	0	0	0	0	0	3	0	30	0	99	331
11:15 AM	0	10	3	0	23	15	0	0	0	0	0	0	0	0	26	0	77	335
11:30 AM	0	11	2	0	22	14	0	0	0	0	0	0	4	0	21	0	74	332
11:45 AM	0	19	1	0	21	14	0	0	0	0	0	0	1	0	28	0	84	334
12:00 PM	0	18	1	0	23	16	0	0	0	0	0	0	1	0	30	0	89	324
12:15 PM	0	16	1	0	33	21	0	0	0	0	0	0	0	0	23	0	94	341
12:30 PM	0	18	1	0	21	13	0	0	0	0	0	0	0	0	20	0	73	340
12:45 PM	0	10	2	0	27	18	0	0	0	0	0	0	4	0	22	0	83	339
1:00 PM	0	14	1	0	19	20	0	0	0	0	0	0	1	0	25	0	80	330
1:15 PM	0	13	1	0	16	21	0	0	0	0	0	0	1	0	26	1	79	315
1:30 PM	0	17	0	0	32	19	0	0	0	0	0	0	1	0	23	0	92	334
1:45 PM	0	14	1	0	35	19	0	0	0	0	0	0	4	0	28	0	101	352
2:00 PM	0	19	1	0	21	15	0	0	0	1	0	0	5	0	22	0	84	356
2:15 PM	0	17	2	0	30	14	0	0	0	0	0	0	2	0	24	0	89	366
2:30 PM	0	15	2	0	31	18	0	0	0	0	0	0	0	0	18	0	84	358
2:45 PM	0	12	2	0	26	14	0	0	0	0	0	0	2	0	34	0	90	347
3:00 PM	0	11	0	0	25	12	0	0	0	0	0	0	0	1	23	0	72	335
3:15 PM	0	11	2	0	23	19	0	0	0	0	0	0	2	0	29	0	86	332

15-Min Count Period Beginning At	Rhododendron Dr (Northbound)				Rhododendron Dr (Southbound)				9th St [20042009] (Eastbound)				9th St [20042009] (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
3:30 PM	0	20	2	0	19	12	0	0	0	0	0	0	1	0	34	0	88	336
3:45 PM	0	11	1	0	25	14	0	0	0	0	0	0	4	0	20	0	75	321
4:00 PM	0	20	0	0	21	12	0	0	0	0	0	0	0	0	23	0	76	325
4:15 PM	0	13	0	0	25	14	0	0	0	0	0	0	3	0	24	0	79	318
4:30 PM	0	14	0	0	25	12	0	0	0	0	0	0	0	0	26	0	77	307
4:45 PM	0	9	0	0	27	18	0	0	0	0	0	0	0	0	25	0	79	311
5:00 PM	0	17	1	0	18	17	0	0	0	0	0	0	2	0	24	0	79	314
5:15 PM	0	8	2	0	15	11	0	0	0	0	0	0	3	0	25	0	64	299
5:30 PM	0	10	0	0	15	10	0	0	0	0	0	0	2	0	24	0	61	283
5:45 PM	0	20	0	0	11	4	0	0	0	0	0	0	3	0	20	0	58	262
6:00 PM	0	10	0	0	5	4	0	0	0	0	0	0	0	0	17	0	36	219
6:15 PM	0	10	1	0	10	12	0	0	0	0	0	0	0	0	8	0	41	196
6:30 PM	0	9	0	0	10	8	0	0	0	0	0	0	0	0	21	0	48	183
6:45 PM	0	6	0	0	12	5	0	0	0	0	0	0	0	0	16	0	39	164
7:00 PM	0	8	0	0	4	6	0	0	0	0	0	0	0	0	13	0	31	159
7:15 PM	0	6	0	0	7	5	0	0	0	0	0	0	0	0	12	0	30	148
7:30 PM	0	6	0	0	7	5	0	0	0	0	0	0	0	0	9	0	27	127
7:45 PM	0	11	0	0	6	4	0	0	0	0	0	0	0	0	8	0	29	117
8:00 PM	0	0	0	0	3	5	0	0	0	0	0	0	0	0	4	0	12	98
8:15 PM	0	3	0	0	3	2	0	0	0	0	0	0	0	0	5	0	13	81
8:30 PM	0	7	0	0	7	8	0	0	0	0	0	0	0	0	5	0	27	81
8:45 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	2	0	3	55
9:00 PM	0	1	0	0	2	3	0	0	0	0	0	0	0	0	2	0	8	51
9:15 PM	0	4	0	0	3	1	0	0	0	0	0	0	0	0	3	0	11	49
9:30 PM	0	0	0	0	3	2	0	0	0	0	0	0	0	0	7	0	12	34
9:45 PM	0	1	0	0	0	5	0	0	0	0	0	0	0	0	3	1	10	41

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	56	4	0	140	76	0	0	0	0	0	0	16	0	112	0	404
Heavy Trucks	0	0	0		4	0	0		0	0	0		0	0	4		8
Buses																	
Pedestrians		0				0				4				4			8
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

Comments:

Report generated on 8/13/2024 11:01 AM

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

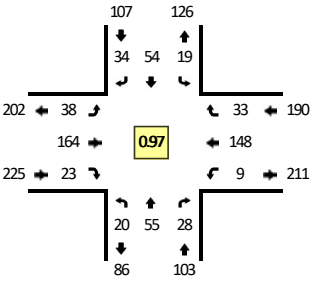
Type of peak hour being reported: Intersection Peak

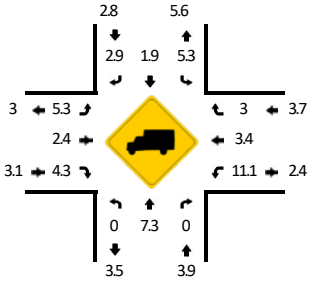
Method for determining peak hour: Total Entering Volume

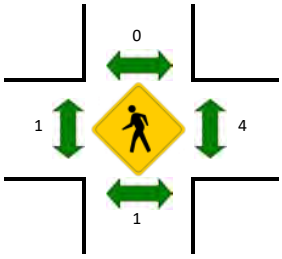
LOCATION: Kingwood St -- 9th St [999110080]
CITY/STATE: Florence, OR

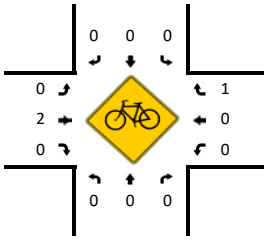
QC JOB #: 16715402
DATE: Tue, May 16 2023

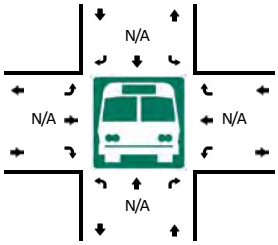
Peak-Hour: 11:15 AM -- 12:15 PM
Peak 15-Min: 11:45 AM -- 12:00 PM

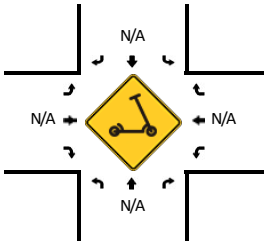












15-Min Count Period Beginning At	Kingwood St (Northbound)				Kingwood St (Southbound)				9th St [999110080] (Eastbound)				9th St [999110080] (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
6:00 AM	1	5	4	0	0	0	0	0	2	8	1	0	0	9	1	0	31	
6:15 AM	0	2	3	0	2	2	4	0	1	11	1	0	0	17	4	0	47	
6:30 AM	3	7	4	0	0	0	4	0	3	9	0	0	0	17	6	0	53	
6:45 AM	2	7	2	0	3	5	2	0	4	15	0	0	0	23	0	0	63	194
7:00 AM	3	9	2	0	2	12	3	0	4	10	0	0	0	17	6	0	68	231
7:15 AM	1	11	5	0	4	7	5	0	2	15	3	0	0	29	6	0	88	272
7:30 AM	2	7	1	0	2	3	6	0	4	24	2	0	4	26	3	0	84	303
7:45 AM	2	26	5	0	3	11	7	0	16	26	1	0	3	33	7	0	140	380
8:00 AM	1	21	3	0	1	11	9	0	9	28	1	0	5	29	12	0	130	442
8:15 AM	0	8	5	0	8	9	12	0	16	27	6	0	1	27	3	0	122	476
8:30 AM	2	7	2	0	3	8	13	0	6	26	1	0	2	24	3	0	97	489
8:45 AM	1	8	8	0	2	5	8	0	13	23	4	0	1	29	7	0	109	458
9:00 AM	1	7	1	0	8	7	6	0	6	27	3	0	4	34	5	0	109	437
9:15 AM	2	9	5	0	2	5	7	0	8	32	5	0	8	24	8	0	115	430
9:30 AM	1	12	6	0	4	11	13	0	6	37	5	0	5	47	4	0	151	484
9:45 AM	3	15	5	0	5	13	5	0	3	38	6	0	2	25	5	0	125	500
10:00 AM	5	17	8	0	4	8	7	0	11	42	7	0	2	32	5	0	148	539
10:15 AM	5	13	10	0	4	8	5	0	4	49	6	0	0	35	10	0	149	573
10:30 AM	6	9	2	0	7	9	16	0	9	46	6	0	3	39	7	0	159	581
10:45 AM	4	13	6	0	3	11	20	0	10	34	2	0	3	37	9	0	152	608
11:00 AM	4	14	3	0	7	10	5	0	10	37	6	0	0	40	11	0	147	607
11:15 AM	4	11	9	0	5	14	10	0	10	44	9	0	3	35	6	0	160	618
11:30 AM	9	17	7	0	3	9	6	0	9	45	4	0	2	35	8	0	154	613
11:45 AM	2	13	7	0	7	17	7	0	10	42	3	0	2	40	11	0	161	622
12:00 PM	5	14	5	0	4	14	11	0	9	33	7	0	2	38	8	0	150	625
12:15 PM	6	15	5	0	3	12	10	0	14	39	7	0	3	25	9	0	148	613
12:30 PM	2	17	2	0	4	12	8	0	8	40	3	0	3	27	4	0	130	589
12:45 PM	6	21	5	0	8	16	8	0	15	46	9	0	0	52	6	0	192	620
1:00 PM	7	11	6	0	2	12	10	0	5	37	8	0	3	32	4	0	137	607
1:15 PM	6	12	3	0	3	12	9	0	10	37	8	0	3	36	9	0	148	607
1:30 PM	2	13	6	0	11	8	8	0	10	24	4	0	5	39	6	0	136	613
1:45 PM	4	9	7	0	5	21	15	0	6	28	2	0	3	47	10	0	157	578
2:00 PM	7	13	5	0	6	10	9	0	10	42	4	0	1	37	10	0	154	595
2:15 PM	5	11	7	0	3	8	10	0	6	50	5	0	2	37	8	0	152	599
2:30 PM	2	6	7	0	9	11	8	0	7	43	4	0	3	22	8	0	130	593
2:45 PM	1	15	7	0	4	17	10	0	10	40	4	0	5	40	7	0	160	596
3:00 PM	4	17	5	0	6	12	12	0	11	31	5	0	2	35	14	0	154	596
3:15 PM	5	13	7	0	8	14	7	0	12	37	1	0	4	36	5	0	149	593

15-Min Count Period Beginning At	Kingwood St (Northbound)				Kingwood St (Southbound)				9th St [999110080] (Eastbound)				9th St [999110080] (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
3:30 PM	4	20	5	0	11	19	10	0	22	31	5	0	2	28	4	0	161	624
3:45 PM	3	15	8	0	3	15	7	0	4	36	3	0	4	30	4	0	132	596
4:00 PM	3	12	4	0	9	17	4	0	15	36	5	0	5	27	5	0	142	584
4:15 PM	3	9	9	0	4	21	5	0	6	27	7	0	2	27	3	0	123	558
4:30 PM	3	15	2	0	6	16	5	0	6	42	1	0	6	32	6	0	140	537
4:45 PM	5	9	2	0	5	8	9	0	6	44	1	0	3	30	7	0	129	534
5:00 PM	6	11	5	0	3	15	3	0	9	44	3	0	4	26	6	0	135	527
5:15 PM	1	15	5	0	4	15	4	0	12	26	8	0	6	28	7	0	131	535
5:30 PM	3	8	6	0	5	10	5	0	9	24	3	0	3	31	5	0	112	507
5:45 PM	1	12	5	0	2	11	3	0	2	22	2	0	1	32	5	0	98	476
6:00 PM	2	3	10	0	3	3	3	0	3	20	2	0	3	22	3	0	77	418
6:15 PM	3	7	6	0	3	7	4	0	8	13	2	0	7	22	4	0	86	373
6:30 PM	0	4	5	0	6	4	9	0	4	18	0	0	6	35	1	0	92	353
6:45 PM	0	7	0	0	4	3	10	0	8	22	3	0	2	20	7	0	86	341
7:00 PM	2	6	0	0	1	5	5	0	3	12	0	0	4	15	2	0	55	319
7:15 PM	1	4	1	0	0	9	2	0	8	14	2	0	2	15	2	0	60	293
7:30 PM	3	5	3	0	0	4	0	0	3	11	1	0	0	11	0	0	41	242
7:45 PM	2	4	2	0	0	5	1	0	1	10	0	0	3	9	3	0	40	196
8:00 PM	1	2	6	0	0	2	1	0	3	10	0	0	3	8	0	0	36	177
8:15 PM	1	6	2	0	1	4	2	0	0	9	0	0	0	15	5	0	45	162
8:30 PM	2	7	1	0	1	1	0	0	1	7	1	0	3	6	1	0	31	152
8:45 PM	0	1	3	0	0	0	2	0	2	4	1	0	1	5	3	0	22	134
9:00 PM	1	2	0	0	4	5	2	0	4	1	0	0	2	4	0	0	25	123
9:15 PM	0	6	0	0	1	2	1	0	1	2	0	0	1	3	1	0	18	96
9:30 PM	1	3	0	0	1	0	4	0	3	5	1	0	3	6	1	0	28	93
9:45 PM	0	0	1	0	2	4	1	0	4	4	1	0	0	5	1	0	23	94

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	8	52	28	0	28	68	28	0	40	168	12	0	8	160	44	0	644
Heavy Trucks	0	4	0		4	0	0		0	0	0		4	4	0		16
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

Comments:

Report generated on 8/13/2024 11:02 AM

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

Appendix F

Intersection	
Int Delay, s/veh	4.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	2	28	19	5	75	40
Future Vol, veh/h	2	28	19	5	75	40
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	2	31	21	5	82	44

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	232	24	0	0	26	0
Stage 1	24	-	-	-	-	-
Stage 2	208	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	756	1052	-	-	1588	-
Stage 1	999	-	-	-	-	-
Stage 2	827	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	716	1052	-	-	1588	-
Mov Cap-2 Maneuver	716	-	-	-	-	-
Stage 1	999	-	-	-	-	-
Stage 2	783	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.6	0	4.8
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	1020	1588	-
HCM Lane V/C Ratio	-	-	0.032	0.052	-
HCM Control Delay (s)	-	-	8.6	7.4	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0.2	-

Intersection	
Int Delay, s/veh	1.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	20	165	161	20	20	20
Future Vol, veh/h	20	165	161	20	20	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	22	181	177	22	22	22

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	199	0	-	0	413	188
Stage 1	-	-	-	-	188	-
Stage 2	-	-	-	-	225	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1373	-	-	-	595	854
Stage 1	-	-	-	-	844	-
Stage 2	-	-	-	-	812	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1373	-	-	-	584	854
Mov Cap-2 Maneuver	-	-	-	-	584	-
Stage 1	-	-	-	-	829	-
Stage 2	-	-	-	-	812	-

Approach	EB	WB	SB
HCM Control Delay, s	0.8	0	10.5
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1373	-	-	-	694
HCM Lane V/C Ratio	0.016	-	-	-	0.063
HCM Control Delay (s)	7.7	0	-	-	10.5
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.2

Intersection	
Int Delay, s/veh	5.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	47	108	9	11	114	25	5	63	15	15	39	41
Future Vol, veh/h	47	108	9	11	114	25	5	63	15	15	39	41
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	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	87	87	87	87	87	87	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	54	124	10	13	131	29	6	72	17	17	45	47

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	160	0	0	134	0	0	455	423	129	454	414	146
Stage 1	-	-	-	-	-	-	237	237	-	172	172	-
Stage 2	-	-	-	-	-	-	218	186	-	282	242	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1419	-	-	1451	-	-	515	522	921	516	529	901
Stage 1	-	-	-	-	-	-	766	709	-	830	756	-
Stage 2	-	-	-	-	-	-	784	746	-	725	705	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1419	-	-	1451	-	-	437	495	921	432	502	901
Mov Cap-2 Maneuver	-	-	-	-	-	-	437	495	-	432	502	-
Stage 1	-	-	-	-	-	-	735	680	-	796	748	-
Stage 2	-	-	-	-	-	-	691	739	-	610	676	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	2.2	0.6	13.2	12.3
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	535	1419	-	-	1451	-	-	602
HCM Lane V/C Ratio	0.178	0.038	-	-	0.009	-	-	0.181
HCM Control Delay (s)	13.2	7.6	0	-	7.5	0	-	12.3
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.6	0.1	-	-	0	-	-	0.7

Intersection	
Int Delay, s/veh	4.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	2	29	19	5	75	41
Future Vol, veh/h	2	29	19	5	75	41
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	2	32	21	5	82	45

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	233	24	0	0	26	0
Stage 1	24	-	-	-	-	-
Stage 2	209	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	755	1052	-	-	1588	-
Stage 1	999	-	-	-	-	-
Stage 2	826	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	715	1052	-	-	1588	-
Mov Cap-2 Maneuver	715	-	-	-	-	-
Stage 1	999	-	-	-	-	-
Stage 2	782	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.6	0	4.8
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	1021	1588	-
HCM Lane V/C Ratio	-	-	0.033	0.052	-
HCM Control Delay (s)	-	-	8.6	7.4	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0.2	-

Intersection	
Int Delay, s/veh	1.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	20	166	162	20	20	20
Future Vol, veh/h	20	166	162	20	20	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	22	182	178	22	22	22

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	200	0	-	0	415	189
Stage 1	-	-	-	-	189	-
Stage 2	-	-	-	-	226	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1372	-	-	-	594	853
Stage 1	-	-	-	-	843	-
Stage 2	-	-	-	-	812	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1372	-	-	-	583	853
Mov Cap-2 Maneuver	-	-	-	-	583	-
Stage 1	-	-	-	-	828	-
Stage 2	-	-	-	-	812	-

Approach	EB	WB	SB
HCM Control Delay, s	0.8	0	10.5
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1372	-	-	-	693
HCM Lane V/C Ratio	0.016	-	-	-	0.063
HCM Control Delay (s)	7.7	0	-	-	10.5
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.2

Intersection	
Int Delay, s/veh	5.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	48	109	9	11	115	26	5	63	15	15	40	42
Future Vol, veh/h	48	109	9	11	115	26	5	63	15	15	40	42
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	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	87	87	87	87	87	87	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	55	125	10	13	132	30	6	72	17	17	46	48

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	162	0	0	135	0	0	460	428	130	458	418	147
Stage 1	-	-	-	-	-	-	240	240	-	173	173	-
Stage 2	-	-	-	-	-	-	220	188	-	285	245	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1417	-	-	1449	-	-	512	519	920	513	526	900
Stage 1	-	-	-	-	-	-	763	707	-	829	756	-
Stage 2	-	-	-	-	-	-	782	745	-	722	703	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1417	-	-	1449	-	-	433	492	920	429	499	900
Mov Cap-2 Maneuver	-	-	-	-	-	-	433	492	-	429	499	-
Stage 1	-	-	-	-	-	-	731	677	-	794	748	-
Stage 2	-	-	-	-	-	-	688	738	-	606	673	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	2.2	0.5	13.2	12.4
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	532	1417	-	-	1449	-	-	600
HCM Lane V/C Ratio	0.179	0.039	-	-	0.009	-	-	0.186
HCM Control Delay (s)	13.2	7.6	0	-	7.5	0	-	12.4
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.6	0.1	-	-	0	-	-	0.7

Intersection	
Int Delay, s/veh	5.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	4	46	19	7	91	41
Future Vol, veh/h	4	46	19	7	91	41
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	4	51	21	8	100	45

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	270	25	0	0	29	0
Stage 1	25	-	-	-	-	-
Stage 2	245	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	719	1051	-	-	1584	-
Stage 1	998	-	-	-	-	-
Stage 2	796	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	672	1051	-	-	1584	-
Mov Cap-2 Maneuver	672	-	-	-	-	-
Stage 1	998	-	-	-	-	-
Stage 2	744	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.8	0	5.1
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	1006	1584	-
HCM Lane V/C Ratio	-	-	0.055	0.063	-
HCM Control Delay (s)	-	-	8.8	7.4	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.2	0.2	-

Intersection	
Int Delay, s/veh	2.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	38	166	162	38	40	39
Future Vol, veh/h	38	166	162	38	40	39
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	42	182	178	42	44	43

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	220	0	-	0	465	199
Stage 1	-	-	-	-	199	-
Stage 2	-	-	-	-	266	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1349	-	-	-	556	842
Stage 1	-	-	-	-	835	-
Stage 2	-	-	-	-	779	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1349	-	-	-	537	842
Mov Cap-2 Maneuver	-	-	-	-	537	-
Stage 1	-	-	-	-	806	-
Stage 2	-	-	-	-	779	-

Approach	EB	WB	SB
HCM Control Delay, s	1.4	0	11.3
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1349	-	-	-	654
HCM Lane V/C Ratio	0.031	-	-	-	0.133
HCM Control Delay (s)	7.8	0	-	-	11.3
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.5

Intersection	
Int Delay, s/veh	5.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	51	125	10	11	131	26	6	63	15	15	40	45
Future Vol, veh/h	51	125	10	11	131	26	6	63	15	15	40	45
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	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	87	87	87	87	87	87	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	59	144	11	13	151	30	7	72	17	17	46	52

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	181	0	0	155	0	0	509	475	150	504	465	166
Stage 1	-	-	-	-	-	-	268	268	-	192	192	-
Stage 2	-	-	-	-	-	-	241	207	-	312	273	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1394	-	-	1425	-	-	475	488	896	478	495	878
Stage 1	-	-	-	-	-	-	738	687	-	810	742	-
Stage 2	-	-	-	-	-	-	762	731	-	699	684	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1394	-	-	1425	-	-	396	461	896	395	467	878
Mov Cap-2 Maneuver	-	-	-	-	-	-	396	461	-	395	467	-
Stage 1	-	-	-	-	-	-	704	655	-	773	735	-
Stage 2	-	-	-	-	-	-	666	724	-	582	653	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	2.1	0.5	14	12.9
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	498	1394	-	-	1425	-	-	572
HCM Lane V/C Ratio	0.194	0.042	-	-	0.009	-	-	0.201
HCM Control Delay (s)	14	7.7	0	-	7.5	0	-	12.9
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.7	0.1	-	-	0	-	-	0.7

Intersection	
Int Delay, s/veh	5.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	12	98	68	4	119	68
Future Vol, veh/h	12	98	68	4	119	68
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	13	108	75	4	131	75

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	414	77	0	0	79	0
Stage 1	77	-	-	-	-	-
Stage 2	337	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	595	984	-	-	1519	-
Stage 1	946	-	-	-	-	-
Stage 2	723	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	541	984	-	-	1519	-
Mov Cap-2 Maneuver	541	-	-	-	-	-
Stage 1	946	-	-	-	-	-
Stage 2	658	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.6	0	4.8
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	903	1519	-
HCM Lane V/C Ratio	-	-	0.134	0.086	-
HCM Control Delay (s)	-	-	9.6	7.6	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.5	0.3	-

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	20	193	222	20	20	20
Future Vol, veh/h	20	193	222	20	20	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	22	212	244	22	22	22

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	266	0	-	0	511	255
Stage 1	-	-	-	-	255	-
Stage 2	-	-	-	-	256	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1298	-	-	-	523	784
Stage 1	-	-	-	-	788	-
Stage 2	-	-	-	-	787	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1298	-	-	-	513	784
Mov Cap-2 Maneuver	-	-	-	-	513	-
Stage 1	-	-	-	-	773	-
Stage 2	-	-	-	-	787	-

Approach	EB	WB	SB
HCM Control Delay, s	0.7	0	11.2
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1298	-	-	-	620
HCM Lane V/C Ratio	0.017	-	-	-	0.071
HCM Control Delay (s)	7.8	0	-	-	11.2
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.2

Intersection	
Int Delay, s/veh	5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	32	145	15	11	162	34	18	46	25	25	47	42
Future Vol, veh/h	32	145	15	11	162	34	18	46	25	25	47	42
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	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	34	153	16	12	171	36	19	48	26	26	49	44

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	207	0	0	169	0	0	489	460	161	479	450	189
Stage 1	-	-	-	-	-	-	229	229	-	213	213	-
Stage 2	-	-	-	-	-	-	260	231	-	266	237	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1364	-	-	1409	-	-	489	498	884	497	504	853
Stage 1	-	-	-	-	-	-	774	715	-	789	726	-
Stage 2	-	-	-	-	-	-	745	713	-	739	709	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1364	-	-	1409	-	-	415	479	884	432	485	853
Mov Cap-2 Maneuver	-	-	-	-	-	-	415	479	-	432	485	-
Stage 1	-	-	-	-	-	-	752	695	-	767	719	-
Stage 2	-	-	-	-	-	-	651	706	-	648	689	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.3	0.4	13.2	13.2
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	531	1364	-	-	1409	-	-	559
HCM Lane V/C Ratio	0.176	0.025	-	-	0.008	-	-	0.215
HCM Control Delay (s)	13.2	7.7	0	-	7.6	0	-	13.2
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.6	0.1	-	-	0	-	-	0.8

Intersection	
Int Delay, s/veh	5.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	12	99	68	4	120	68
Future Vol, veh/h	12	99	68	4	120	68
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	13	109	75	4	132	75

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	416	77	0	0	79	0
Stage 1	77	-	-	-	-	-
Stage 2	339	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	593	984	-	-	1519	-
Stage 1	946	-	-	-	-	-
Stage 2	722	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	539	984	-	-	1519	-
Mov Cap-2 Maneuver	539	-	-	-	-	-
Stage 1	946	-	-	-	-	-
Stage 2	656	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.6	0	4.8
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	903	1519	-
HCM Lane V/C Ratio	-	-	0.135	0.087	-
HCM Control Delay (s)	-	-	9.6	7.6	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.5	0.3	-

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	20	195	224	20	20	20
Future Vol, veh/h	20	195	224	20	20	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	22	214	246	22	22	22

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	268	0	-	0	515	257
Stage 1	-	-	-	-	257	-
Stage 2	-	-	-	-	258	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1296	-	-	-	520	782
Stage 1	-	-	-	-	786	-
Stage 2	-	-	-	-	785	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1296	-	-	-	510	782
Mov Cap-2 Maneuver	-	-	-	-	510	-
Stage 1	-	-	-	-	771	-
Stage 2	-	-	-	-	785	-

Approach	EB	WB	SB
HCM Control Delay, s	0.7	0	11.3
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1296	-	-	-	617
HCM Lane V/C Ratio	0.017	-	-	-	0.071
HCM Control Delay (s)	7.8	0	-	-	11.3
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.2

Intersection	
Int Delay, s/veh	5.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	33	147	15	11	163	35	18	47	26	26	48	43
Future Vol, veh/h	33	147	15	11	163	35	18	47	26	26	48	43
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	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	35	155	16	12	172	37	19	49	27	27	51	45

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	209	0	0	171	0	0	496	466	163	486	456	191
Stage 1	-	-	-	-	-	-	233	233	-	215	215	-
Stage 2	-	-	-	-	-	-	263	233	-	271	241	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1362	-	-	1406	-	-	484	494	882	492	501	851
Stage 1	-	-	-	-	-	-	770	712	-	787	725	-
Stage 2	-	-	-	-	-	-	742	712	-	735	706	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1362	-	-	1406	-	-	409	475	882	426	482	851
Mov Cap-2 Maneuver	-	-	-	-	-	-	409	475	-	426	482	-
Stage 1	-	-	-	-	-	-	748	692	-	765	718	-
Stage 2	-	-	-	-	-	-	647	705	-	643	686	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.3	0.4	13.3	13.3
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	528	1362	-	-	1406	-	-	554
HCM Lane V/C Ratio	0.181	0.026	-	-	0.008	-	-	0.222
HCM Control Delay (s)	13.3	7.7	0	-	7.6	0	-	13.3
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.7	0.1	-	-	0	-	-	0.8

Intersection	
Int Delay, s/veh	5.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	14	116	68	6	138	68
Future Vol, veh/h	14	116	68	6	138	68
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	15	127	75	7	152	75

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	458	79	0	0	82	0
Stage 1	79	-	-	-	-	-
Stage 2	379	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	561	981	-	-	1515	-
Stage 1	944	-	-	-	-	-
Stage 2	692	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	502	981	-	-	1515	-
Mov Cap-2 Maneuver	502	-	-	-	-	-
Stage 1	944	-	-	-	-	-
Stage 2	619	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.8	0	5.1
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	890	1515	-
HCM Lane V/C Ratio	-	-	0.161	0.1	-
HCM Control Delay (s)	-	-	9.8	7.6	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.6	0.3	-

Intersection	
Int Delay, s/veh	2.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	40	195	224	40	40	39
Future Vol, veh/h	40	195	224	40	40	39
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	44	214	246	44	44	43

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	290	0	-	0	570	268
Stage 1	-	-	-	-	268	-
Stage 2	-	-	-	-	302	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1272	-	-	-	483	771
Stage 1	-	-	-	-	777	-
Stage 2	-	-	-	-	750	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1272	-	-	-	464	771
Mov Cap-2 Maneuver	-	-	-	-	464	-
Stage 1	-	-	-	-	747	-
Stage 2	-	-	-	-	750	-

Approach	EB	WB	SB
HCM Control Delay, s	1.3	0	12.3
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1272	-	-	-	578
HCM Lane V/C Ratio	0.035	-	-	-	0.15
HCM Control Delay (s)	7.9	0	-	-	12.3
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.5

Intersection	
Int Delay, s/veh	5.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	36	163	16	11	179	35	19	47	26	26	48	46
Future Vol, veh/h	36	163	16	11	179	35	19	47	26	26	48	46
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	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	38	172	17	12	188	37	20	49	27	27	51	48

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	225	0	0	189	0	0	537	506	181	526	496	207
Stage 1	-	-	-	-	-	-	257	257	-	231	231	-
Stage 2	-	-	-	-	-	-	280	249	-	295	265	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1344	-	-	1385	-	-	455	469	862	462	475	833
Stage 1	-	-	-	-	-	-	748	695	-	772	713	-
Stage 2	-	-	-	-	-	-	727	701	-	713	689	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1344	-	-	1385	-	-	380	449	862	397	455	833
Mov Cap-2 Maneuver	-	-	-	-	-	-	380	449	-	397	455	-
Stage 1	-	-	-	-	-	-	724	673	-	747	706	-
Stage 2	-	-	-	-	-	-	629	694	-	619	667	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.3	0.4	14	13.9
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	498	1344	-	-	1385	-	-	530
HCM Lane V/C Ratio	0.194	0.028	-	-	0.008	-	-	0.238
HCM Control Delay (s)	14	7.8	0	-	7.6	0	-	13.9
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.7	0.1	-	-	0	-	-	0.9

Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	4:50	4:50	4:50	4:50	4:50	4:50
End Time	6:00	6:00	6:00	6:00	6:00	6:00
Total Time (min)	70	70	70	70	70	70
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	3	3	3	3	3	3
# of Recorded Intervals	2	2	2	2	2	2
Vehs Entered	617	654	579	659	622	628
Vehs Exited	625	650	578	660	625	628
Starting Vehs	21	8	9	16	16	12
Ending Vehs	13	12	10	15	13	12
Travel Distance (mi)	306	318	275	323	313	307
Travel Time (hr)	13.1	13.6	11.7	13.8	13.3	13.1
Total Delay (hr)	0.8	0.7	0.6	0.8	0.7	0.7
Total Stops	262	258	235	266	242	251
Fuel Used (gal)	9.8	10.2	8.7	10.3	9.7	9.7

Interval #0 Information Seeding

Start Time	4:50
End Time	5:00
Total Time (min)	10

Volumes adjusted by PHF, Growth Factors.

No data recorded this interval.

Interval #1 Information Recording

Start Time	5:00
End Time	5:15
Total Time (min)	15

Volumes adjusted by PHF, Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	175	172	165	168	174	170
Vehs Exited	180	171	157	173	174	171
Starting Vehs	21	8	9	16	16	12
Ending Vehs	16	9	17	11	16	8
Travel Distance (mi)	90	86	75	86	88	85
Travel Time (hr)	3.9	3.7	3.2	3.7	3.8	3.7
Total Delay (hr)	0.3	0.2	0.2	0.2	0.2	0.2
Total Stops	80	66	72	67	68	70
Fuel Used (gal)	2.9	2.8	2.4	2.7	2.8	2.7

Interval #2 Information Recording2

Start Time	5:15
End Time	6:00
Total Time (min)	45

Volumes adjusted by Growth Factors, Anti PHF.

Run Number	1	2	3	4	5	Avg
Vehs Entered	442	482	414	491	448	455
Vehs Exited	445	479	421	487	451	456
Starting Vehs	16	9	17	11	16	8
Ending Vehs	13	12	10	15	13	12
Travel Distance (mi)	216	232	200	237	224	222
Travel Time (hr)	9.2	9.9	8.5	10.2	9.5	9.5
Total Delay (hr)	0.5	0.6	0.4	0.6	0.5	0.5
Total Stops	182	192	163	199	174	180
Fuel Used (gal)	6.9	7.4	6.3	7.6	6.9	7.0

Intersection: 1: Rhododendron Drive & 9th Street

Movement	WB	SB
Directions Served	LR	LT
Maximum Queue (ft)	44	28
Average Queue (ft)	18	3
95th Queue (ft)	46	18
Link Distance (ft)	1866	775
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 2: 9th Street & Greenwood Street

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	39	53
Average Queue (ft)	5	23
95th Queue (ft)	25	50
Link Distance (ft)	1866	712
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 3: Kingwood Street & 9th Street

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	52	33	79	75
Average Queue (ft)	9	2	37	39
95th Queue (ft)	36	15	62	63
Link Distance (ft)	1251	602	784	958
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Network Summary

Network wide Queuing Penalty: 0

Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	4:50	4:50	4:50	4:50	4:50	4:50
End Time	6:00	6:00	6:00	6:00	6:00	6:00
Total Time (min)	70	70	70	70	70	70
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	3	3	3	3	3	3
# of Recorded Intervals	2	2	2	2	2	2
Vehs Entered	637	631	637	641	685	647
Vehs Exited	633	635	638	648	692	649
Starting Vehs	12	16	11	15	21	13
Ending Vehs	16	12	10	8	14	10
Travel Distance (mi)	308	309	315	316	336	317
Travel Time (hr)	13.2	13.2	13.5	13.5	14.4	13.5
Total Delay (hr)	0.8	0.7	0.8	0.8	0.9	0.8
Total Stops	294	279	267	251	319	283
Fuel Used (gal)	9.7	9.7	10.0	9.9	10.7	10.0

Interval #0 Information Seeding

Start Time	4:50
End Time	5:00
Total Time (min)	10

Volumes adjusted by PHF, Growth Factors.

No data recorded this interval.

Interval #1 Information Recording

Start Time	5:00
End Time	5:15
Total Time (min)	15

Volumes adjusted by PHF, Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	162	168	180	174	184	174
Vehs Exited	153	165	177	172	196	172
Starting Vehs	12	16	11	15	21	13
Ending Vehs	21	19	14	17	9	13
Travel Distance (mi)	75	79	89	85	91	84
Travel Time (hr)	3.3	3.4	3.9	3.7	3.9	3.6
Total Delay (hr)	0.2	0.2	0.2	0.2	0.2	0.2
Total Stops	89	69	67	76	92	79
Fuel Used (gal)	2.3	2.5	2.9	2.7	2.9	2.7

Interval #2 Information Recording2

Start Time	5:15
End Time	6:00
Total Time (min)	45

Volumes adjusted by Growth Factors, Anti PHF.

Run Number	1	2	3	4	5	Avg
Vehs Entered	475	463	457	467	501	473
Vehs Exited	480	470	461	476	496	476
Starting Vehs	21	19	14	17	9	13
Ending Vehs	16	12	10	8	14	10
Travel Distance (mi)	233	229	226	231	245	233
Travel Time (hr)	10.0	9.8	9.6	9.8	10.4	9.9
Total Delay (hr)	0.6	0.6	0.5	0.5	0.6	0.6
Total Stops	205	210	200	175	227	203
Fuel Used (gal)	7.4	7.2	7.1	7.2	7.8	7.4

Intersection: 1: Rhododendron Drive & 9th Street

Movement	WB	SB
Directions Served	LR	LT
Maximum Queue (ft)	55	21
Average Queue (ft)	22	3
95th Queue (ft)	49	19
Link Distance (ft)	1866	775
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 2: 9th Street & Greenwood Street

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	49	45
Average Queue (ft)	5	25
95th Queue (ft)	28	50
Link Distance (ft)	1866	712
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 3: Kingwood Street & 9th Street

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	76	34	77	90
Average Queue (ft)	9	2	38	42
95th Queue (ft)	43	16	62	71
Link Distance (ft)	1251	602	784	958
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Network Summary

Network wide Queuing Penalty: 0

Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	4:50	4:50	4:50	4:50	4:50	4:50
End Time	6:00	6:00	6:00	6:00	6:00	6:00
Total Time (min)	70	70	70	70	70	70
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	3	3	3	3	3	3
# of Recorded Intervals	2	2	2	2	2	2
Vehs Entered	723	719	701	709	684	708
Vehs Exited	733	723	696	706	687	710
Starting Vehs	18	18	10	16	17	14
Ending Vehs	8	14	15	19	14	14
Travel Distance (mi)	360	363	353	358	350	357
Travel Time (hr)	15.6	15.6	15.2	15.4	15.2	15.4
Total Delay (hr)	1.0	1.0	0.9	1.0	0.9	1.0
Total Stops	363	342	326	348	316	338
Fuel Used (gal)	11.6	11.6	11.4	11.5	11.2	11.5

Interval #0 Information Seeding

Start Time	4:50
End Time	5:00
Total Time (min)	10

Volumes adjusted by PHF, Growth Factors.

No data recorded this interval.

Interval #1 Information Recording

Start Time	5:00
End Time	5:15
Total Time (min)	15

Volumes adjusted by PHF, Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	198	195	184	200	180	191
Vehs Exited	194	197	182	198	175	189
Starting Vehs	18	18	10	16	17	14
Ending Vehs	22	16	12	18	22	18
Travel Distance (mi)	99	101	94	100	93	97
Travel Time (hr)	4.2	4.4	4.0	4.3	4.0	4.2
Total Delay (hr)	0.3	0.3	0.2	0.3	0.2	0.3
Total Stops	99	102	80	105	91	94
Fuel Used (gal)	3.2	3.2	3.0	3.2	3.0	3.1

Interval #2 Information Recording2

Start Time	5:15
End Time	6:00
Total Time (min)	45

Volumes adjusted by Growth Factors, Anti PHF.

Run Number	1	2	3	4	5	Avg
Vehs Entered	525	524	517	509	504	516
Vehs Exited	539	526	514	508	512	519
Starting Vehs	22	16	12	18	22	18
Ending Vehs	8	14	15	19	14	14
Travel Distance (mi)	261	261	259	258	257	259
Travel Time (hr)	11.3	11.2	11.2	11.1	11.2	11.2
Total Delay (hr)	0.7	0.7	0.7	0.7	0.7	0.7
Total Stops	264	240	246	243	225	243
Fuel Used (gal)	8.4	8.4	8.4	8.3	8.3	8.4

Intersection: 1: Rhododendron Drive & 9th Street

Movement	WB	SB
Directions Served	LR	LT
Maximum Queue (ft)	57	34
Average Queue (ft)	26	3
95th Queue (ft)	54	20
Link Distance (ft)	1866	775
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 2: 9th Street & Greenwood Street

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	67	74
Average Queue (ft)	9	37
95th Queue (ft)	39	60
Link Distance (ft)	1866	712
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 3: Kingwood Street & 9th Street

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	50	38	70	82
Average Queue (ft)	11	2	38	39
95th Queue (ft)	39	17	64	65
Link Distance (ft)	1251	602	784	958
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Network Summary

Network wide Queuing Penalty: 0

Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	4:50	4:50	4:50	4:50	4:50	4:50
End Time	6:00	6:00	6:00	6:00	6:00	6:00
Total Time (min)	70	70	70	70	70	70
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	3	3	3	3	3	3
# of Recorded Intervals	2	2	2	2	2	2
Vehs Entered	866	838	819	810	857	836
Vehs Exited	867	826	823	818	849	837
Starting Vehs	18	15	15	23	14	14
Ending Vehs	17	27	11	15	22	16
Travel Distance (mi)	446	439	418	428	455	437
Travel Time (hr)	19.1	18.7	17.9	18.3	19.5	18.7
Total Delay (hr)	1.2	1.3	1.2	1.2	1.2	1.2
Total Stops	354	387	388	386	391	380
Fuel Used (gal)	14.3	14.1	13.2	13.5	14.6	13.9

Interval #0 Information Seeding

Start Time	4:50
End Time	5:00
Total Time (min)	10

Volumes adjusted by PHF, Growth Factors.

No data recorded this interval.

Interval #1 Information Recording

Start Time	5:00
End Time	5:15
Total Time (min)	15

Volumes adjusted by PHF, Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	228	245	225	186	207	220
Vehs Exited	234	228	216	195	199	214
Starting Vehs	18	15	15	23	14	14
Ending Vehs	12	32	24	14	22	19
Travel Distance (mi)	115	127	113	100	106	112
Travel Time (hr)	5.0	5.5	4.8	4.2	4.6	4.8
Total Delay (hr)	0.3	0.4	0.3	0.3	0.3	0.3
Total Stops	99	121	109	86	89	101
Fuel Used (gal)	3.7	4.1	3.6	3.1	3.4	3.6

Interval #2 Information Recording2

Start Time	5:15
End Time	6:00
Total Time (min)	45

Volumes adjusted by Growth Factors, Anti PHF.

Run Number	1	2	3	4	5	Avg
Vehs Entered	638	593	594	624	650	622
Vehs Exited	633	598	607	623	650	623
Starting Vehs	12	32	24	14	22	19
Ending Vehs	17	27	11	15	22	16
Travel Distance (mi)	331	312	305	328	349	325
Travel Time (hr)	14.1	13.3	13.1	14.0	14.9	13.9
Total Delay (hr)	0.8	0.8	0.9	0.9	1.0	0.9
Total Stops	255	266	279	300	302	281
Fuel Used (gal)	10.6	10.0	9.6	10.3	11.2	10.4

Intersection: 1: Rhododendron Drive & 9th Street

Movement	WB	SB
Directions Served	LR	LT
Maximum Queue (ft)	86	58
Average Queue (ft)	44	12
95th Queue (ft)	70	43
Link Distance (ft)	1866	775
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 2: 9th Street & Greenwood Street

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	44	60
Average Queue (ft)	5	25
95th Queue (ft)	25	55
Link Distance (ft)	1866	712
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 3: Kingwood Street & 9th Street

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	43	33	77	93
Average Queue (ft)	6	2	39	45
95th Queue (ft)	28	13	63	74
Link Distance (ft)	1251	602	784	958
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Network Summary

Network wide Queuing Penalty: 0

Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	4:50	4:50	4:50	4:50	4:50	4:50
End Time	6:00	6:00	6:00	6:00	6:00	6:00
Total Time (min)	70	70	70	70	70	70
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	3	3	3	3	3	3
# of Recorded Intervals	2	2	2	2	2	2
Vehs Entered	834	798	787	809	852	816
Vehs Exited	835	807	795	813	865	823
Starting Vehs	15	21	19	20	27	18
Ending Vehs	14	12	11	16	14	13
Travel Distance (mi)	438	417	406	416	449	425
Travel Time (hr)	18.8	17.9	17.4	18.0	19.3	18.3
Total Delay (hr)	1.2	1.2	1.2	1.2	1.2	1.2
Total Stops	393	372	385	397	392	386
Fuel Used (gal)	14.2	13.4	13.0	13.3	14.5	13.7

Interval #0 Information Seeding

Start Time	4:50
End Time	5:00
Total Time (min)	10

Volumes adjusted by PHF, Growth Factors.

No data recorded this interval.

Interval #1 Information Recording

Start Time	5:00
End Time	5:15
Total Time (min)	15

Volumes adjusted by PHF, Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	233	221	222	211	230	226
Vehs Exited	226	223	222	217	240	226
Starting Vehs	15	21	19	20	27	18
Ending Vehs	22	19	19	14	17	19
Travel Distance (mi)	119	112	113	108	119	114
Travel Time (hr)	5.1	4.9	4.8	4.7	5.1	4.9
Total Delay (hr)	0.3	0.3	0.3	0.3	0.3	0.3
Total Stops	113	112	100	104	101	107
Fuel Used (gal)	3.8	3.6	3.7	3.4	3.8	3.7

Interval #2 Information Recording2

Start Time	5:15
End Time	6:00
Total Time (min)	45

Volumes adjusted by Growth Factors, Anti PHF.

Run Number	1	2	3	4	5	Avg
Vehs Entered	601	577	565	598	622	592
Vehs Exited	609	584	573	596	625	598
Starting Vehs	22	19	19	14	17	19
Ending Vehs	14	12	11	16	14	13
Travel Distance (mi)	319	305	293	308	330	311
Travel Time (hr)	13.7	13.1	12.5	13.3	14.2	13.4
Total Delay (hr)	0.9	0.8	0.8	0.9	0.9	0.9
Total Stops	280	260	285	293	291	279
Fuel Used (gal)	10.4	9.8	9.4	9.9	10.7	10.0

Intersection: 1: Rhododendron Drive & 9th Street

Movement	WB	SB
Directions Served	LR	LT
Maximum Queue (ft)	95	56
Average Queue (ft)	43	10
95th Queue (ft)	73	40
Link Distance (ft)	1866	775
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 2: 9th Street & Greenwood Street

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	51	49
Average Queue (ft)	9	25
95th Queue (ft)	38	51
Link Distance (ft)	1866	712
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 3: Kingwood Street & 9th Street

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	61	39	80	116
Average Queue (ft)	8	3	40	47
95th Queue (ft)	36	21	67	79
Link Distance (ft)	1251	602	784	958
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Network Summary

Network wide Queuing Penalty: 0

Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	4:50	4:50	4:50	4:50	4:50	4:50
End Time	6:00	6:00	6:00	6:00	6:00	6:00
Total Time (min)	70	70	70	70	70	70
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	3	3	3	3	3	3
# of Recorded Intervals	2	2	2	2	2	2
Vehs Entered	935	914	887	861	875	896
Vehs Exited	929	910	880	858	873	891
Starting Vehs	16	17	12	18	20	14
Ending Vehs	22	21	19	21	22	18
Travel Distance (mi)	476	479	461	456	465	468
Travel Time (hr)	20.5	20.6	19.9	19.6	20.0	20.1
Total Delay (hr)	1.4	1.4	1.4	1.3	1.3	1.4
Total Stops	479	431	458	448	454	453
Fuel Used (gal)	15.4	15.5	14.8	14.7	14.9	15.0

Interval #0 Information Seeding

Start Time	4:50
End Time	5:00
Total Time (min)	10

Volumes adjusted by PHF, Growth Factors.

No data recorded this interval.

Interval #1 Information Recording

Start Time	5:00
End Time	5:15
Total Time (min)	15

Volumes adjusted by PHF, Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	239	251	258	233	242	247
Vehs Exited	229	246	240	233	244	239
Starting Vehs	16	17	12	18	20	14
Ending Vehs	26	22	30	18	18	21
Travel Distance (mi)	122	129	126	122	132	126
Travel Time (hr)	5.2	5.5	5.5	5.2	5.6	5.4
Total Delay (hr)	0.3	0.4	0.4	0.3	0.4	0.4
Total Stops	120	120	124	112	124	121
Fuel Used (gal)	3.9	4.3	4.0	3.9	4.2	4.1

Interval #2 Information Recording2

Start Time	5:15
End Time	6:00
Total Time (min)	45

Volumes adjusted by Growth Factors, Anti PHF.

Run Number	1	2	3	4	5	Avg
Vehs Entered	696	663	629	628	633	648
Vehs Exited	700	664	640	625	629	651
Starting Vehs	26	22	30	18	18	21
Ending Vehs	22	21	19	21	22	18
Travel Distance (mi)	355	350	335	335	333	341
Travel Time (hr)	15.2	15.0	14.5	14.4	14.4	14.7
Total Delay (hr)	1.1	1.0	1.0	1.0	0.9	1.0
Total Stops	359	311	334	336	330	334
Fuel Used (gal)	11.5	11.3	10.8	10.7	10.7	11.0

Intersection: 1: Rhododendron Drive & 9th Street

Movement	WB	SB
Directions Served	LR	LT
Maximum Queue (ft)	75	51
Average Queue (ft)	44	8
95th Queue (ft)	70	34
Link Distance (ft)	1866	775
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 2: 9th Street & Greenwood Street

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	60	69
Average Queue (ft)	11	37
95th Queue (ft)	42	61
Link Distance (ft)	1866	712
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 3: Kingwood Street & 9th Street

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	57	32	73	95
Average Queue (ft)	10	2	38	45
95th Queue (ft)	41	17	62	74
Link Distance (ft)	1251	602	784	958
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Network Summary

Network wide Queuing Penalty: 0