

# JOHN DAY

## TRANSPORTATION STUDY

JULY 2021

PREPARED FOR:

**CITY OF JOHN DAY**

**PREPARED BY DKS ASSOCIATES**



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## SECTION 1. INTRODUCTION

The purpose of this transportation impact analysis is to identify potential transportation system needs triggered by the proposed Ironwood Estates (Phase 2 and 3) and The Ridge (Phase 1 and 2) developments located in John Day, OR.

Included in the following sections is a documentation of existing transportation conditions, a summary of the assumptions and methodologies used to analyze future transportation conditions, a detail of traffic operating conditions and a summary of recommendations related to the proposed project.

### PROJECT AREA

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The proposed Ironwood Estates (Phase 2 and 3) development will be located off Valley View Drive and Government Entry Road, at the north end of the City. The proposed Ridge (Phase 1 and 2) development will be located at the east end of the City, to the south of US 26. The following intersections were evaluated as study intersections, with their intersection control listed:

- W. Main Street (US 26) / Patterson Bridge Road (existing stop controlled on the side street)
- W. Main Street (US 26) / NW 3rd Avenue (existing stop controlled on the side street)
- E. Main Street (US 26) / NW 3<sup>rd</sup> Avenue (existing stop controlled on the side street)
- E. Main Street (US 26) / The Ridge Access (proposed stop controlled on the side street)

## SECTION 2. EXISTING CONDITIONS

Much of the land within the study area is rural, except for land surrounding W Main Street through downtown John Day. As a result, many roadways are not constructed to urban standards. Evaluating the transportation impacts of the proposed hotel and conference center development requires an understanding of the current transportation facilities in this area. This section includes descriptions of existing infrastructure to serve pedestrian, bicycle, transit and motor vehicle modes of travel in the immediate study area.

### PEDESTRIAN AND BICYCLE SYSTEM

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An inventory of existing pedestrian and bicycle facilities was conducted to summarize current pedestrian and bike facilities within the project area. Table 1 shows the key roadways, along with existing pedestrian and bicycle facilities. Due to the rural nature of the abutting land uses, many streets in the study area have not been improved to urban standards and generally lack accommodation for pedestrian and bicycle users.

W Main Street is an important connection for pedestrian and bicycle travel in the City. It provides the only current direct route for pedestrians and bicyclists to access all parts of the City. Those walking or biking along this highway often must walk along the shoulder or share the travel lane with motor vehicles. In addition, frequent driveways negatively impact the walking experience and introduce conflict points between pedestrians and motor vehicles. Motor vehicle traffic volumes along this segment of the highway is over 5,000 vehicles per day and the posted speed is 35 miles per hour. These conditions are generally not conducive to comfortable shared walking and biking travel conditions. W Main Street through John Day is also designated as part of the Old West Oregon Scenic Bikeway. Much of this route lacks accommodations for bicyclists.

Pedestrian and bicycle count data during the evening peak period was collected at the study intersections<sup>1</sup>. The count data shows that the only pedestrian activity observed occurred at the W Main Street / NW 3rd Avenue intersection (8 crossings during the p.m. peak period). No bicycle activity was recorded at the study intersections during the p.m. peak period.

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<sup>1</sup> Based on traffic counts conducted during December 2019.

**TABLE 1: STUDY AREA PEDESTRIAN AND BICYCLE CHARACTERISTICS**

ROADWAY (LIMITS)	PEDESTRIAN FACILITIES	BIKE FACILITIES
<b>W MAIN STREET - US 26 / US 395 (PATTERSON BRIDGE ROAD TO 3RD AVENUE)</b>	Sidewalk on north side from 3rd Avenue to the west for 0.25 miles; Intermittent sidewalks on south side	None
<b>NW 3RD AVENUE / NE 3RD AVENUE EXTENSION (US 26 / US 395 TO US 26 / E MAIN STREET)</b>	Sidewalk on both sides from US 26 / US 395 to Brent Drive; sidewalks on south side from Canton Street to Bridge Street; none between Brent Drive and Canton Street and east of Bridge Street	None / Shoulder east of NE Elm Street
<b>VALLEY VIEW DRIVE (BOULDER LANE TO THE WEST)</b>	None	None

**TRANSIT SYSTEM**

Transit service is provided in John Day and other nearby cities by the Grant County People Mover via several fixed bus routes, a Dial-a-Ride service and two deviated fixed route systems. The People Mover connects riders in John Day to nearby cities including Bend, Redmond, Prineville, Mount Vernon, Monument, Pendleton, Walla Walla, Burns, Prairie City and Baker City. The Bend, Redmond, Prineville, Mount Vernon route runs Monday, Wednesday, and Friday; the Monument route runs on Thursdays; the Pendleton and Walla Walla route runs on Tuesdays; the Burns route runs on the 1st, 3rd, and 5th Thursday of the month; and the Prairie City and Baker City route runs on the 2nd and 4th Thursday of the month. Each of these routes typically depart John Day in the morning and return in the evening.

The deviated fixed route services in the John Day valley run Monday through Friday. The route will deviate ½ mile from the fixed route line. The PC MV Route runs between Prairie City and Mt Vernon three times a day, at 7 am, 12 pm and 6 pm. The JD CC Loop runs a set route in John Day and Canyon City every hour, beginning at 7 am and ending at 6 pm. Both the PC MV Route and the JD CC Loop are free.

The Dial-a-Ride, or Demand Response service runs Monday through Friday 8 am to 6 pm and Saturday 9 am to 4 pm. This service picks and drops off passengers at a location of their choosing. Anyone is eligible to ride this service, and it is available in John Day, Canyon City, Mt Vernon and Prairie City.

The deviated fixed routes have transit stops throughout John Day, with 56 stops in and around the City. Most of the intercity routes pick-up and drop-off passengers at the People Mover Bus Depot

located on NE Dayton Street near at NE 1st Avenue. However, the Monument to John Day route pick-ups and drop-offs passengers at the Senior Center parking lot on NE Dayton Street south of NE 1st Avenue.

Transit users in the study area are generally less than one quarter mile from the closest bus stop (within the typical trip length for the average walking trip).

## ROADWAY SYSTEM

The major characteristics of the roadways in the study area are summarized in Table 2. W Main Street provides higher capacity motor vehicle movement through the study area. It is classified by the state as a Statewide Highway and runs east-to-west maintaining a two-lane (i.e., one through lane in each direction) to three-lane cross-section (i.e., one through lane in each direction and a center turn lane) through the study area. Posted speeds along the highway in the study area range between 25 and 35 miles per hour. It is designated as a scenic byway and freight route, and the segment near the NW 3rd Avenue intersection is within an urban business area.

Patterson Bridge Road and Bridge Street run north-to-south from W Main Street, providing the only current crossings of the John Day River. 3rd Avenue runs east-to-west through the center of John Day, connecting to W Main Street. These streets are classified as collectors and generally have lower vehicle-carrying capacity than the highway. All other roadways in the study area are local streets and primarily serve local traffic traveling to and from the highway.

**TABLE 2: STUDY AREA ROADWAY CHARACTERISTICS**

ROADWAY (LIMITS)	FUNCTIONAL CLASSIFICATION*	CROSS SECTION	SPECIAL DESIGNATIONS
<b>W MAIN STREET - US 26 / US 395 (PATTERSON BRIDGE ROAD TO 3RD AVENUE)</b>	Statewide	2 to 3 lanes	Scenic Byway; Freight Route; Urban Business Area (City limits to 3rd Avenue)
<b>PATTERSON BRIDGE ROAD (US 26 / US 395 TO NORTHERN TERMINUS)</b>	Collector	2 lanes	None
<b>3RD AVENUE (US 26 / US 395 TO US 26 / E MAIN STREET)</b>	Collector	2 lanes	None
<b>VALLEY VIEW DRIVE (BOULDER LANE TO THE WEST)</b>	Local	2 lanes	None

\*Source: Oregon Highway Plan; John Day Transportation System Plan, December 1996.



## EXISTING TRAVEL CONDITIONS

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To determine intersection operations, turning movement counts were conducted at study intersections during the weekday evening peak period (4 to 6 p.m.). The raw traffic count data is included in the Appendix.

### DAILY MOTOR VEHICLE VOLUMES

Daily motor vehicle count data was also collected at the two existing motor vehicle crossings of the John Day River, including along NW Bridge Street near the NW 7th Avenue intersection and Patterson Bridge Road north of US 26. The count data indicates that approximately 1,266 vehicles use NW Bridge Street, and 898 vehicles use Patterson Bridge Road to cross the John Day River during an average weekday. The highest number of vehicle crossings occurred during the p.m. peak hour at both locations (4:00 p.m.), with 123 crossings at NW Bridge Street and 100 at Patterson Bridge Road.

### INTERSECTION OPERATIONS

This section discusses the existing conditions for motor vehicles at the study intersections, including an analysis of traffic operations.

#### Intersection Performance Measures

Level of service (LOS) ratings and volume-to-capacity (v/c) ratios are two commonly used performance measures that provide a good picture of intersection operations. Agencies often incorporate these performance measures into their mobility standards. Descriptions are given below:

- Level of service (LOS): A “report card” rating (A through F) based on the average delay experienced by vehicles at the intersection. LOS A, B, and C indicate conditions where traffic moves without significant delays over periods of peak hours travel demand. LOS D and E are progressively worse operation conditions. LOS F represents conditions where average vehicle delay has become excessive, and demand has exceeded capacity.
- Volume-to-capacity (v/c) ratio: A decimal representation (typically between 0.00 and 1.00) of the proportion of capacity that is being used at a turn movement, approach leg, or intersection. It is determined by dividing the peak hour traffic volume by the hourly capacity of a given intersection or movement. A lower ratio indicates smooth operations and minimal delays. As the ratio approaches 1.00, congestion increases, and performance is reduced. If the ratio is greater than 1.00, the turn movement, approach leg, or intersection is oversaturated and usually results in excessive queues and long delays.

#### Jurisdictional Mobility Standards

The mobility standards for the study intersections vary according to the agency of jurisdiction for each roadway. All of the study intersections are under ODOT jurisdiction. ODOT requires a volume

to capacity ratio of 0.85 or less to be maintained for highway movements and a volume to capacity ratio of 0.95 or less to be maintained for the minor approaches<sup>2</sup>.

### Existing Operating Conditions

Motor vehicle conditions were evaluated during the p.m. peak hour at the study intersections (see Table 3). During the peak hour, all study intersections operate well within the adopted mobility standards.

**TABLE 3: EXISTING STUDY INTERSECTION OPERATIONS (PM PEAK)**

INTERSECTION	MOBILITY STANDARD	DELAY	LOS	V/C
W. MAIN STREET / PATTERSON BRIDGE ROAD		13	A/B	0.18
W. MAIN STREET / NW 3RD AVENUE	W. Main Street: 0.85 V/C;	11	A/B	0.10
E. MAIN STREET / NE 3RD AVENUE	Minor: Approaches: 0.95 V/C	11	A/B	0.19
E. MAIN STREET / THE RIDGE ACCESS		-	-	-

v/c = Volume-to-Capacity Ratio of Worst Movement

Delay = Average Intersection Delay (sec.) of Worst Approach

LOS = Level of Service of Major Street/Minor Street

### SAFETY ANALYSIS

Five years of available collision data (2014 – 2018) for the study intersections was obtained from Oregon Department of Transportation (ODOT) and used to evaluate the collision history<sup>3</sup>. Three crashes were recorded, two at the W. Main Street / Patterson Bridge Road intersection and one at the E. Main Street / NE 3<sup>rd</sup> Avenue intersection, over the five-year period.

Crash rates at study intersections were calculated to identify problem areas in need of mitigation. The total number of crashes experienced at an intersection is typically proportional to the number of vehicles entering it, therefore, a crash rate describing the frequency of crashes per million entering vehicles (MEV) is used to determine if the number of crashes should be considered high. Using this technique, a collision rate of 1.0 MEV or greater is commonly used to identify when collision occurrences are higher than average and should be further evaluated. As shown in Table 4, crash rates calculated at all study intersections are well below this threshold, indicating the frequency of collisions is typical for the volume of traffic served.

<sup>2</sup> Table 6, Policy 1F, Oregon Highway Plan, Oregon Department of Transportation, Amended May 2015.

<sup>3</sup> ODOT reported collisions for January 1, 2014 through December 31, 2018.

**TABLE 4: CRASH DATA SUMMARY (2014-2018)**

INTERSECTION	TOTAL CRASHES	CRASH TYPE		CRASH SEVERITY		COLLISION RATE
		REAR END	TURN	PDO*	POSSIBLE INJURY	
W. MAIN STREET / PATTERSON BRIDGE ROAD	2	1	1	0	2	0.28
W. MAIN STREET / NW 3RD AVENUE	0	0	0	0	0	0.00
E. MAIN STREET / NE 3RD AVENUE	1	1	0	1	0	0.21

\*PDO = Property Damage Only

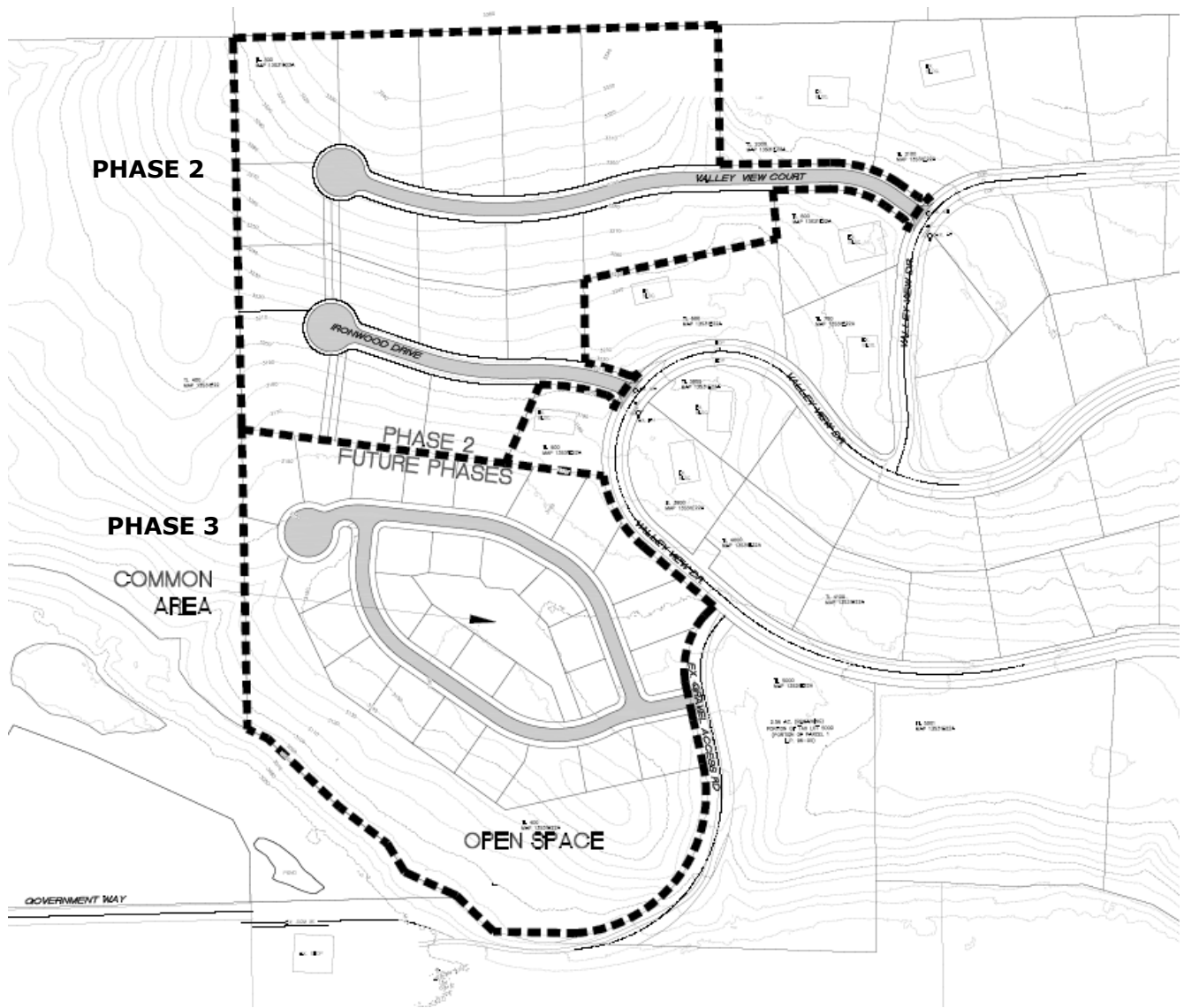
## SECTION 3: ASSUMPTIONS AND METHODOLOGIES

This section outlines key assumptions and methodologies that were used to analyze future conditions and identify any potential impacts at study intersections. Areas of interest covered in this section are trip generation, trip distribution and background traffic growth.

### PROJECT DESCRIPTION

The proposed Ironwood Estates Phase 2 development will consist of 17 single family units (see Figure 1), while the proposed Ironwood Estates Phase 3 will consist of 56 duplex units along with a 2,500 square foot common building (see Figure 1).

**FIGURE 1: IRONWOOD ESTATES PHASES 2 AND 3 SITE PLAN**



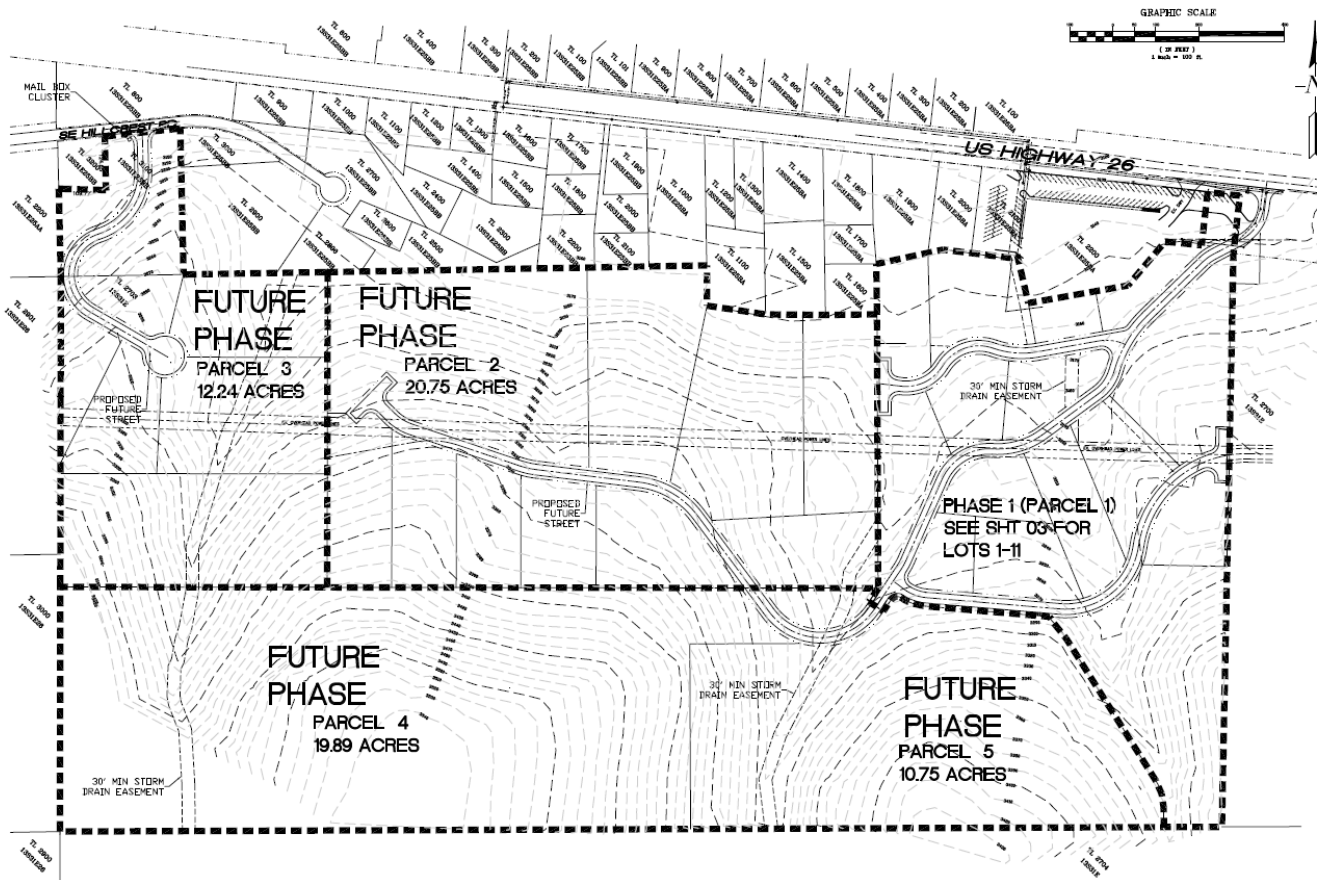
The proposed Ridge development is proposed to occur in two phases as shown in Figure 2, with a proposed 11 single family units in Phase 1 (parcel 1; lots 1-11). Phase 2 is expected to occur among parcels 2 to 5, for a total area of about 63 acres. Several assumptions were utilized to determine the amount of buildable land and sizes of potential development to base trip generation estimates (see Table 5). Average assumptions regarding development densities that can reasonably be expected were utilized to estimate the net quantities of potential development. The development assumptions were based on single family units, and a minimum lot size of 10,000 square feet per unit for the Residential General (RG) zone. Overall, an estimated 221 single family units will be assumed for Phase 2. This represents a conservative estimate for the potential development that could occur within the future Phase 2.

**TABLE 5: THE RIDGE PHASE 2 DEVELOPMENT ASSUMPTIONS**

ZONING	PARCEL	SIZE	DEVELOPMENT DENSITY	NET SIZE
RG	Parcel 2	20.75 acres	20 percent reduction for infrastructure and unbuildable areas	72 single family units
	Parcel 3	12.24 acres		43 single family units
	Parcel 4	19.89 acres	10,000 square foot minimum lot size per unit*	69 single family units
	Parcel 5	10.75 acres		37 single family units
<b>Total</b>	<b>63.63 acres</b>			<b>221 single family units</b>

\*Source: City of John Day Development Code

**FIGURE 2: THE RIDGE PHASES 1 AND 2 SITE PLAN**



## SITE ACCESS

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The Ironwood Estates Phase 2 project has two proposed accesses to Valley View Drive. Both proposed accesses result in cul-de-sacs to the west. Both accesses are recommended to be constructed as residential streets<sup>4</sup>. The access spacing standard for a roadway of this type is 300 feet<sup>5</sup>. The proposed access points will meet this standard.

The Ironwood Estates Phase 3 project has one proposed access to Government Entry Road. The access is recommended to be constructed as a residential street. The access spacing standard for a roadway of this type is 300 feet. The proposed access would not meet the City standard of 300 feet minimum spacing between intersections, as Valley View Drive is approximately 150 feet north of the proposed access. Although the proposed driveway would be located 150 feet closer than the 300-foot spacing standard, no operational or safety issues are anticipated due to the low number of vehicles using the driveway, and a deviation to the Code will be required.

The proposed Ridge development will have one access to E. Main Street. E. Main Street is classified as a statewide highway with a posted speed of 35 mph adjacent to the project site. The access spacing standard for a roadway of this type is 500 feet. The proposed driveway to E. Main Street would be approximately 700 feet east, and 1,150 feet west of the nearest driveways, complying with the spacing standard.

## INTERNAL SITE CIRCULATION

The proposed site plan for Ironwood Estates (shown earlier in Figure 1) shows two connections to Valley View Drive serving Phase 2, and one connection to Government Entry Road serving Phase 3. These roadways will provide access to residential lots. The proposed roadways will provide adequate circulation to the surrounding existing roadway network, and internally within the site.

The proposed site will provide streets with a 25-foot paved width, allowing for two 10-foot travel lanes for the circulation of vehicle traffic and a 5-foot width for pedestrians to walk along the shoulder. Bicyclists will share the roadways with motor vehicles along the internal local streets. The proposed internal pedestrian and bicycle facilities are adequate for the site given the low traffic volumes and speeds expected.

The proposed site plan for The Ridge (shown earlier in Figure 2) shows one connection to E. Main Street serving Phase 1, and one additional connection to SE Hillcrest Road serving the future Phase. These roadways will provide access to residential lots. The proposed roadways will provide adequate circulation to the surrounding existing roadway network, and internally within the site.

The proposed site will provide streets with a 25-foot paved width, allowing for two 10-foot travel lanes for the circulation of vehicle traffic and a 5-foot width for pedestrians to walk along the shoulder. Bicyclists will share the roadways with motor vehicles along the internal local streets. The

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<sup>4</sup> John Day Transportation System Plan

proposed internal pedestrian and bicycle facilities are adequate for the site given the low traffic volumes and speeds expected.

## PLANNING HORIZONS

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The planning horizon years selected for analysis are 2023 and 2025, which represent the expected year of build-out and occupancy for the proposed projects. Four scenarios were evaluated to allow for the identification of capacity constraints associated with proposed project, including:

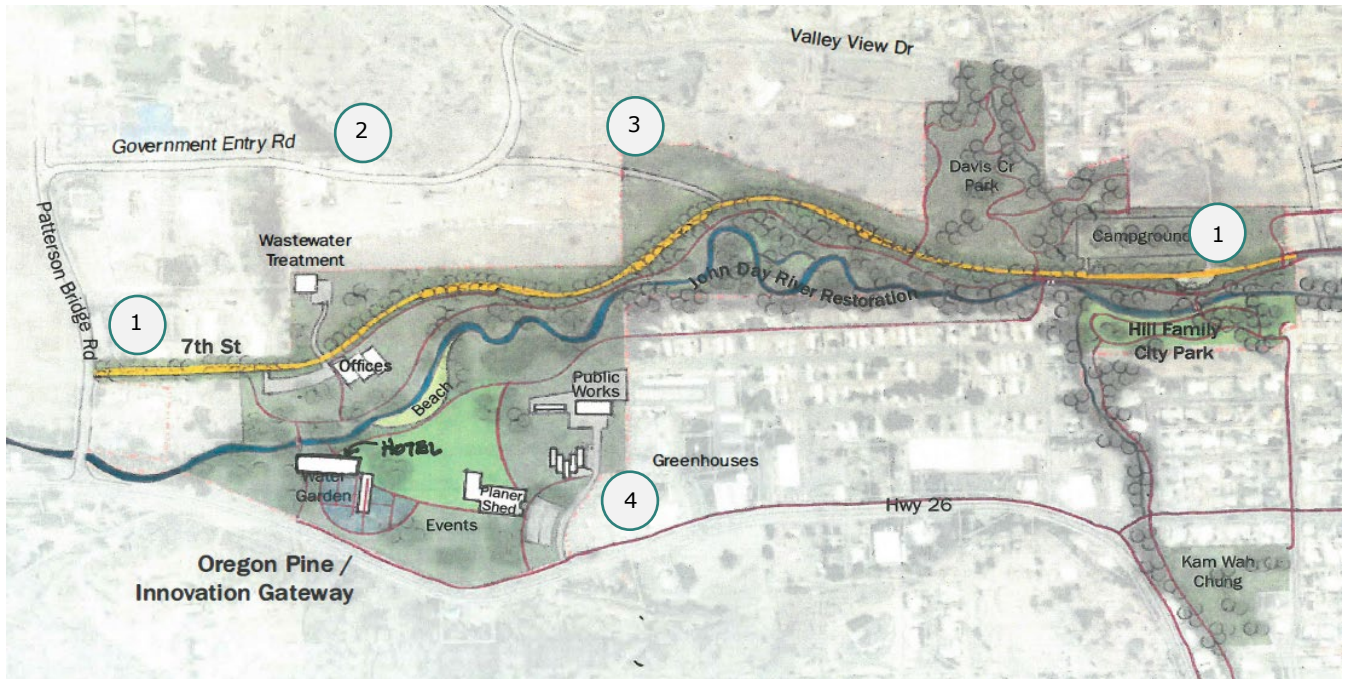
- **2023 Background Conditions** – Existing traffic volumes plus background traffic growth.
- **2023 Project Conditions** – Existing traffic volumes plus background traffic growth, with the added traffic associated with the proposed project (Ironwood Estates Phase 2 and The Ridge Phase 1).
- **2025 Background Conditions** – Existing traffic volumes plus background traffic growth.
- **2025 Project Conditions** – Existing traffic volumes plus background traffic growth, with the added traffic associated with the proposed project (Ironwood Estates Phase 3 and The Ridge Phase 2).

Two additional sensitivity options were tested for the 2025 Project Conditions Scenario that assumed full build-out of the Innovation Gateway Area site, both without and with associated transportation network improvements. These scenarios include the proposed Ironwood Estates and The Ridge projects, a hotel and conference center, offices, a wastewater treatment plant, parks and open space and a campground north of the John Day River, and parks and open space, public works facility and greenhouses south of the river. The sensitivity scenario with the transportation network improvements also includes the following (see Figure 3):

- 1) 7th Street extension from Bridge Street to Patterson Bridge Road
- 2) Government Entry Road construction from Patterson Bridge Road to Valley View Drive
- 3) Gateway Drive construction from 7th Street to Government Entry Road
- 4) Improvements along W Main Street from Patterson Bridge Road to Johnson Drive, and Johnson Drive construction north of W Main Street
- 5) 7th Street east extension, and Holmstrom Road and bridge across the John Day River connecting 7<sup>th</sup> Street with NE 3rd Street



**FIGURE 3: IMPROVEMENTS ASSUMED WITH SENSITIVITY SCENARIO**



### **BACKGROUND TRAFFIC**

In addition to the trips generated from the proposed project, a half percent background traffic growth rate was applied to existing volumes to represent traffic volumes in 2023 and 2025. Although traffic volumes along W. Main Street adjacent to the project site have been steady or even declining slightly in recent years (see Table 6), as a conservative approach the background traffic growth rate would cover any in-process developments that could potentially build-out and increase traffic volumes before the completion of the proposed projects in 2023 and 2025.

**TABLE 6: VOLUME DATA ALONG MAIN STREET**

LOCATION	YEAR	AADT*
MAIN STREET (US 26) MILE POINT 161.30	2011	4,500
	2019	4,100
ANNUAL GROWTH RATE (2011 TO 2019)		<b>-1.1%</b>

\*Source: ODOT Transportation Volume Tables, 2011 and 2018

### TRIP GENERATION

Trip generation is the method used to estimate the number of vehicles that are added to the surrounding roadway network as a result of proposed project. The trip generations for the proposed projects were estimated using the Single-Family Detached Housing (ITE Code 210) and Recreational Community Center (ITE Code 495) land uses as reported by the Institute of Transportation Engineers (ITE)<sup>5</sup>.

Table 7 summarizes the expected trip generation for each phase of each proposed project. As shown, the proposed sites are expected to generate approximately 307 (192 in, 115 out) p.m. peak hour trips.

<sup>5</sup> *Trip Generation Manual*, Institute of Transportation Engineers, 10<sup>th</sup> Edition.

**TABLE 7: TRIP GENERATION FOR THE PROPOSED PROJECTS**

LAND USE	TRIP GENERATION SOURCE	LAND USE SIZE	PM PEAK HOUR		
			IN	OUT	TOTAL
<b>IRONWOOD ESTATES PHASE 2</b>					
<b>SINGLE-FAMILY DETACHED HOUSING</b>	ITE Code 210	17 units	11	6	17
<b>IRONWOOD ESTATES PHASE 3</b>					
<b>SINGLE-FAMILY DETACHED HOUSING</b>	ITE Code 210	56 units	34	21	55
<b>RECREATIONAL COMMUNITY CENTER</b>	ITE Code 495	2,500 sq. ft.	3	3	6
<b>THE RIDGE PHASE 1</b>					
<b>SINGLE-FAMILY DETACHED HOUSING</b>	ITE Code 210	11 units	7	4	11
<b>THE RIDGE PHASE 2</b>					
<b>SINGLE-FAMILY DETACHED HOUSING</b>	ITE Code 210	221 units	137	81	218
<b>Total Proposed Project Trips</b>			<b>192</b>	<b>115</b>	<b>307</b>

**TRIP GENERATION FOR SENSITIVITY SCENARIO**

The estimated trip generation for the Sensitivity Scenario was obtained from the John Day Innovation Gateway Area Plan<sup>6</sup>. Overall, the build-out of the proposed land use assumed for the Innovation Gateway Area is expected to generate about 197 (90 in, 107 out) p.m. peak hour trips (see Table 8).

<sup>6</sup> John Day Gateway Transportation Impact Analysis. DKS Associates, March 2020.

**TABLE 8: TRIP GENERATION FOR SENSITIVIY SCENARIO**

LAND USE	TRIP GENERATION SOURCE	LAND USE SIZE	PM PEAK HOUR		
			IN	OUT	TOTAL
<b>HOTEL</b>	ITE- Hotel land use (ITE Code 310)	60 rooms	18	18	36
<b>CONFERENCE CENTER</b>	Based on space planning practices, auto occupancy rates and arrival and departure patterns	6,500 square feet	38	25	63
<b>OFFICE</b>	ITE- General Office Building (ITE Code 710)	42,000 square feet	7	41	48
<b>PUBLIC WORKS FACILITY</b>	ITE- Small Office Building (ITE Code 712)	7 employees	3	5	8
<b>PARKS AND OPEN SPACES</b> (I.E., PAVILION, LAWN, OPEN SPACE, BEACH, TRAILS, WATER GARDEN, GREENHOUSES)	ITE- Public Park (ITE Code 411)	90 acres	15	13	28
<b>CAMPGROUND</b>	ITE- Campground/ Recreation Vehicle Park (ITE Code 416)	50 campsites	9	5	14
<b>TOTAL PROPOSED PROJECT TRIPS*</b>			<b>90</b>	<b>107</b>	<b>197</b>

\* Source: John Day Innovation Gateway Area Plan

### TRIP DISTRIBUTION

Trip distribution involves estimating how project generated traffic will leave and arrive at the proposed site. The trip distribution was estimated based on regional population distribution and current traffic patterns. It is estimated that 20 percent of the traffic would originate or end from the west along W. Main Street, 15 percent from the east along W. Main Street, 15 percent from the south along S. Canyon Boulevard and 50 percent from within John Day.

## SECTION 4: FUTURE CONDITIONS

The following section summarizes the peak hour transportation operating conditions for the planning horizon years of 2023 and 2025. Future traffic operating conditions were analyzed at the study intersections to determine if the transportation network can support traffic generated by the proposed project. If intersection mobility standards are not met, then mitigations may be necessary to improve network performance.

### 2023 BACKGROUND CONDITIONS INTERSECTION OPERATIONS

Table 9 shows the future 2023 intersection operations at study intersections, without the proposed projects. As shown, the background traffic growth is expected to have little impact on traffic operations. All study intersections are expected to operate with a v/c ratio of 0.19 or better.

**TABLE 9: 2023 BACKGROUND CONDITIONS STUDY INTERSECTION OPERATIONS (PM PEAK)**

INTERSECTION	MOBILITY STANDARD	DELAY	LOS	V/C
W. MAIN STREET / PATTERSON BRIDGE ROAD		13	A/B	0.18
W. MAIN STREET / NW 3RD AVENUE	W. Main Street: 0.85 V/C;	11	A/B	0.10
E. MAIN STREET / NE 3RD AVENUE	Minor: Approaches: 0.95 V/C	11	A/B	0.19
E. MAIN STREET / THE RIDGE ACCESS		-	-	-

v/c = Volume-to-Capacity Ratio of Worst Movement

Delay = Average Intersection Delay (sec.) of Worst Approach

LOS = Level of Service of Major Street/Minor Street

### 2023 PROJECT CONDITIONS INTERSECTION OPERATIONS

The 2023 project conditions peak hour operations at study intersection are shown in Table 10. As shown, the added traffic associated with the proposed projects (Ironwood Phase 2 and The Ridge Phase 1) is expected to have little impact on traffic operations when compared to the background conditions without the project (see Table 9 earlier in this document). All study intersections are still expected to operate with a v/c ratio of 0.19 or better.

**TABLE 10: 2023 PROJECT CONDITIONS STUDY INTERSECTION OPERATIONS (PM PEAK)**

INTERSECTION	MOBILITY STANDARD	DELAY	LOS	V/C
W. MAIN STREET / PATTERSON BRIDGE ROAD		14	A/B	0.18
W. MAIN STREET / NW 3RD AVENUE	W. Main Street: 0.85 V/C;	11	A/B	0.10
E. MAIN STREET / NE 3RD AVENUE	Minor: Approaches: 0.95 V/C	11	A/B	0.19
E. MAIN STREET / THE RIDGE ACCESS		12	A/B	0.16

v/c = Volume-to-Capacity Ratio of Worst Movement

Delay = Average Intersection Delay (sec.) of Worst Approach

LOS = Level of Service of Major Street/Minor Street

## 2025 BACKGROUND CONDITIONS INTERSECTION OPERATIONS

Table 11 shows the future 2025 intersection operations at study intersections, without the Phase 2 (The Ridge) and 3 (Ironwood Estates) proposed projects. As shown, the background traffic growth is expected to have little impact on traffic operations. All study intersections are expected to operate with a v/c ratio of 0.20 or better.

**TABLE 11: 2025 BACKGROUND CONDITIONS STUDY INTERSECTION OPERATIONS (PM PEAK)**

INTERSECTION	MOBILITY STANDARD	DELAY	LOS	V/C
W. MAIN STREET / PATTERSON BRIDGE ROAD		14	A/B	0.19
W. MAIN STREET / NW 3RD AVENUE	W. Main Street: 0.85 V/C;	12	A/B	0.13
E. MAIN STREET / NE 3RD AVENUE	Minor: Approaches: 0.95 V/C	12	A/B	0.20
E. MAIN STREET / THE RIDGE ACCESS		11	A/B	0.17

v/c = Volume-to-Capacity Ratio of Worst Movement

Delay = Average Intersection Delay (sec.) of Worst Approach

LOS = Level of Service of Major Street/Minor Street

## 2025 PROJECT CONDITIONS INTERSECTION OPERATIONS

The 2025 project conditions peak hour operations at study intersection are shown in Table 12. As shown, the added traffic associated with the proposed projects (Ironwood Phase 3 and The Ridge Phase 2) is expected to have little impact on traffic operations when compared to the background conditions without the project (see Table 11 earlier in this document). All study intersections are still expected to operate with a v/c ratio of 0.28 or better.

**TABLE 12: 2025 PROJECT CONDITIONS STUDY INTERSECTION OPERATIONS (PM PEAK)**

INTERSECTION	MOBILITY STANDARD	DELAY	LOS	V/C
W. MAIN STREET / PATTERSON BRIDGE ROAD		15	A/C	0.22
W. MAIN STREET / NW 3RD AVENUE	W. Main Street: 0.85 V/C;	12	A/B	0.14
E. MAIN STREET / NE 3RD AVENUE	Minor: Approaches: 0.95 V/C	14	A/B	0.28
E. MAIN STREET / THE RIDGE ACCESS		16	A/C	0.25

v/c = Volume-to-Capacity Ratio of Worst Movement

Delay = Average Intersection Delay (sec.) of Worst Approach

LOS = Level of Service of Major Street/Minor Street

## SECTION 5: RECOMMENDATIONS

The proposed project will not have an impact to the study intersection operations based on projected growth. However, a few improvements are recommended to support the proposed project.

### **SITE ACCESS**

The Ironwood Estates Phase 3 project has one proposed access to Government Entry Road. Although the proposed driveway would be located 150 feet closer than the 300-foot spacing standard, no operational or safety issues are anticipated due to the low number of vehicles using the driveway, and a deviation to the Code will be required. All other proposed site accesses meet minimum access spacing requirements.

### **SIGHT DISTANCE**

Prior to occupancy, sight distance at the project driveway will need to be verified, documented, and stamped by a registered professional Civil or Traffic Engineer licensed in the State of Oregon.

### **PEDESTRIAN/BICYCLE IMPROVEMENTS**

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The proposed sites will provide streets with a 25-foot paved width, allowing for two 10-foot travel lanes for the circulation of vehicle traffic and a 5-foot width for pedestrians to walk along the shoulder. Bicyclists will share the roadways with motor vehicles along the internal local streets.



## SECTION 6: INNOVATION GATEWAY AREA SENSITIVITY SCENARIO

The following sections summarize the Innovation Gateway Area sensitivity scenario, including the network improvements, intersection operations and expected benefits.

### NETWORK IMPROVEMENTS

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The following sections summarize the proposed network improvements for pedestrian, bicycle and vehicular travel in and around the Innovation Gateway Area that are included in the sensitivity scenario (summarized in Figure 3 earlier in this document).

#### PEDESTRIAN CIRCULATION SYSTEM IMPROVEMENTS

Pedestrians approaching and traveling within the project site will be able to safely and efficiently walk between destinations using a proposed system of sidewalks, multi-use paths and trails. As a primary pedestrian thoroughfare, an improved W Main Street section will include a continuous sidewalk on the north side from downtown John Day to Patterson Bridge Road, and from downtown John Day to the proposed Johnson Drive on the south side. No sidewalk is recommended on the south side west of the proposed Johnson Drive due to the lack of adjacent development and topography constraints. A network of walkways and trails is recommended just to the west of Johnson Drive that would connect to recommended sidewalks on W Main Street at the Johnson Drive intersection. In addition, curb ramps are recommended at each intersection crossing along W Main Street to bring them into Americans with Disabilities Act (ADA) compliance.

The proposed 7<sup>th</sup> Street extension will serve as the primary pedestrian route north of the John Day River. It will provide a continuous pedestrian connection between Patterson Bridge Road and Bridge Street. This street is proposed to include a 5-foot sidewalk and a multi-use path will parallel the roadway on the south side.

A 5-foot sidewalk is recommended on the east side of Patterson Bridge Road between W Main Street and the proposed Government Entry Road. The proposed Gateway Drive will also provide a local walkway linking the proposed 7<sup>th</sup> Street with the proposed Government Road extension. This street is proposed to include a 5-foot sidewalk on the north side. Government Entry Road is also proposed to include a 5-foot shoulder on each side for pedestrian travel from Patterson Bridge Road to Valley View Drive.

The proposed multi-use path on the south side of the proposed 7<sup>th</sup> Street will provide a primary walkway along the John Day River. This multi-use path will provide for convenient and comfortable travel and recreation between Patterson Bridge Road, the Oregon Pine and Innovation Gateway areas and the proposed Aquatic Center and existing multi-use pathway network within 7<sup>th</sup> Street Park, east of Bridge Street. In addition, a proposed network of multi-use paths and trails will link the proposed multi-use path along the John Day River with Hill Family City Park, Davis Creek Park and Campground, Oregon Pine and Innovation Gateway areas and Valley View Drive.

An improved Oregon Pine Bridge and a bridge adjacent to Hill Family City Park will provide new pedestrian crossings of the John Day River, in addition to the existing crossings at Patterson Bridge Road and Bridge Street. This network of river crossings will provide shorter block lengths for the pedestrian system, will increase pedestrian access to destinations, and will also provide a recreational loop trail. An additional bridge crossing will also be provided via 3rd Avenue at the east end of the City.

Safe and comfortable pedestrian crossings will be provided where facilities cross streets. This will include curb extensions and marked crosswalks where appropriate. A pedestrian wayfinding system for the site and the entire downtown area should also be developed.

### **BICYCLE CIRCULATION SYSTEM IMPROVEMENTS**

The proposed 7th Street extension will serve as a local bikeway, serving those traveling from downtown John Day and the neighborhoods to the north and east. Given the relatively slow vehicular speeds along the proposed street, bicyclists will share travel lanes with vehicular traffic. It is recommended to include sharrows to alert drivers to share the street and be designed to allow bicyclists to travel outside of the door zone of parked vehicles.

In addition, cyclists can travel along the proposed multi-use path along the John Day River between the Oregon Pine and Innovation Gateway areas and Bridge Street. A potential link to Hill Family City Park and 7th Street Park will also connect the site with the multi-use path networks in these parks. This multi-use path will provide for convenient and comfortable bicycle travel between the Oregon Pine and Innovation Gateway areas and Bridge Street.

W Main Street will serve as the primary bikeway south of the John Day River. It is recommended to include 6-foot bike lanes between downtown John Day and Patterson Bridge Road. The recommended bike lanes will also enhance the Old West Oregon Scenic Bikeway through the project area.

The proposed Johnson Drive will connect cyclists from the bike facilities on W Main Street to the Oregon Pine and Innovation Gateway areas. Since it will be a local street and expected to have low traffic volumes and slow vehicular speeds, cyclists will share the travel lanes with vehicular traffic.

Government Entry Road is proposed to include a 5-foot shoulder on each side for bike travel from Patterson Bridge Road to Valley View Drive. Sharrows are also recommended on Patterson Bridge Road between W Main Street and the proposed Government Entry Road.

In addition, it is recommended that bike racks and bike storage zones be incorporated in strategic locations along streetscapes and within future development to encourage bicycle use. A bicycle wayfinding system for the site and the entire downtown area should also be developed. This system could also consider routing to mountain biking opportunities, to enhance the city's reputation for the sport.

## **VEHICULAR CIRCULATION SYSTEM IMPROVEMENTS**

W Main Street provides primary access to the project site south of the John Day River, with two proposed accesses. One access is proposed to be located approximately 1,100 feet east of Patterson Bridge Road, serving the proposed hotel. The primary site access is proposed to be Johnson Drive, which will be located approximately 900 feet east of the proposed hotel driveway. Left-turn lanes are recommended on W Main Street at both proposed access points, and the Johnson Drive approach to W Main Street is recommended to include separate left-turn and right-turn lanes for exiting traffic.

Another key assumption of the proposed vehicular circulation system is the extension of 7<sup>th</sup> Street to Patterson Bridge Road north of the John Day River. 7<sup>th</sup> Street's proposed alignment will provide an alternative route to the highway and a means of vehicular site access to areas north of the river. This new street connection will provide circulation between Patterson Bridge Road and Bridge Street and offer drivers from downtown John Day and neighborhoods to the north and east another option to access the site. An extension of 7<sup>th</sup> Street at the east end of the City will also link to an additional bridge crossing of the river at Holmstrom Road, to connect 7<sup>th</sup> Street on the north side of the river with NE 3rd Street on the south side.

North-south running cross-streets, including Patterson Bridge Road and Bridge Street, will link the proposed 7<sup>th</sup> Street and W Main Street. The proposed Government Entry Road and Gateway Drive will connect 7<sup>th</sup> Street and Patterson Bridge Road with neighborhoods to the north, further enhancing connectivity north of the river.

## **SUMMARY OF BENEFITS**

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The following sections summarize expected benefits of the network improvements included in the sensitivity scenario.

### **TRAVEL TIME / DELAY REDUCTION**

To ensure the future roadway network can accommodate the expected growth from the proposed Ironwood Estates (Phase 2 and 3) and The Ridge (Phase 1 and 2) developments, in addition to the potential growth from the Innovation Gateway Area, the future volumes and study intersection operations under the 2025 Project Conditions were tested with the assumed full build-out of these areas, both without and with associated transportation network improvements (see the summary of improvements earlier in this document).

As shown in Table 13, the traffic associated with the assumed full build-out of the Innovation Gateway Area site and rerouted traffic associated with the transportation network improvements is expected to improve intersection operations when compared to the scenario without them.

**TABLE 13: 2025 SENSITIVITY SCENARIO STUDY INTERSECTION OPERATIONS (PM PEAK)**

INTERSECTION	MOBILITY STANDARD	WITHOUT IMPROVEMENTS			WITH IMPROVEMENTS		
		DELAY	LOS	V/C	DELAY	LOS	V/C
<b>W. MAIN STREET / PATTERSON BRIDGE ROAD</b>	W. Main Street: 0.85 V/C;	19	A/C	0.38	14	A/B	0.24
<b>W. MAIN STREET / NW 3RD AVENUE</b>		13	A/B	0.22	13	A/B	0.18
<b>E. MAIN STREET / NE 3RD AVENUE</b>	Minor: Approaches: 0.95 V/C	14	A/B	0.29	17	A/C	0.26
<b>E. MAIN STREET / THE RIDGE ACCESS</b>		17	A/C	0.26	17	A/C	0.26

v/c = Volume-to-Capacity Ratio of Worst Movement  
 Delay = Average Intersection Delay (sec.) of Worst Approach  
 LOS = Level of Service of Major Street/Minor Street

The improvement to study intersection operations is a result of the street extensions allowing these trips to occur off the highway (i.e., without using Main Street- US 26), including the 7th Street extension from Bridge Street to Patterson Bridge Road. These new streets remove 960 daily trips from W. Main Street, freeing up capacity at several intersections, as reflected in the reduced v/c ratios in Table 13. Total vehicle delay for the minor approaches at the four study intersections during the 2025 pm peak hour is expected to decrease by 924 seconds with the proposed street extensions, from 4,479 seconds to 3,555 seconds.

The estimated travel time for vehicles between Bridge Street and Patterson Bridge Road north of the John Day River, after the extension of 7th Street, is expected to be 3 minutes, down from 5 minutes today. It is estimated that approximately 730 average daily trips will utilize this route upon build out of the Innovation Gateway Area, with these users expected to experience the full 2 minutes (0.03 hours) of travel time savings. This is expected to correspond to a travel time savings of \$143,000/year<sup>7</sup>.

<sup>7</sup> Value of travel time savings = Value of time x Change in trip time x Affected trips = \$17.90/hour x 0.03 hours x 730 average daily trips = \$392/day or \$143,000/year. Hourly value of travel of time of \$17.90/hour for All-Purpose trips, based on Revised Departmental Guidance on Valuation of Travel Time in Economic Analysis. Affected trips based on 73 peak hour trips or 730 daily trips.

## SAFETY

A change in potential collision rates may also occur as a result of these projects:

- Proposed center turn lane along a 2-lane segment of W. Main Street (US 26) from the Patterson Bridge Road intersection across the frontage of the Innovation Gateway Area site, allowing turning vehicles to stop outside of the travel lane, and reduce collision potential. The Patterson Bridge Road intersection has experienced 2 Injury C collisions (i.e., Possible Injury) over the previous 5-years (see Table 4 earlier in this document) with only 50 left-turns per day. With left-turns at this intersection expected to increase over 6 times (to 320 per day) by 2025, it is assumed that 2 injury C collisions will occur each year without a left-turn lane. Using a crash modification factor of 0.797<sup>8</sup>, the installation of a two-way left-turn lane will be expected to reduce injuries by 0.406 annually. This corresponds to a monetized value of \$58,000 annually<sup>9</sup>.
- The proposed pedestrian/bicycle bridge crossing of the John Day River and parallel trail network will eliminate the need for pedestrians and bicyclists to travel along the shoulder of W. Main Street (US 26). Increased pedestrian and bicycle activity will occur around the Innovation Gateway Area and these projects will eliminate the potential collision risk for these users.

## ALTERNATIVE HIGHWAY ROUTE

The proposed 7<sup>th</sup> Street extension will provide an alternative route to US 26 through the city, from Patterson Bridge Road to the proposed Holmstrom Road bridge crossing of the John Day River, approximately 1.50 miles in length. This route will provide a link to the existing two vehicle accessible bridge crossings of the John Day River, at Patterson Bridge Road and Bridge Street bridge, in addition to the proposed bridge at Holmstrom Road. This provides an adjacent route to the highway should it close for an adverse event.

Assuming an event causes the closure of US 26 between Patterson Bridge Road and NW 3<sup>rd</sup> Avenue during the entire pm peak hour of an average weekday, approximately 600 vehicles will be delayed (based on 2025 pm peak volumes east of the Patterson Bridge Road intersection). Using the current vehicle classification data of 4 percent trucks and 96 percent personal vehicles, that would result in travel time delays of \$11,049/hour during the pm peak<sup>10</sup>, while the average off-peak period would result in travel time delays of \$9,612/hour<sup>11</sup>.

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<sup>8</sup> CMF ID 2341. Install two-way left-turn lane on a two-lane road. Estimated Annual Injuries Prevented = Current Annual Injury Estimate x [1- CMF] = 2 x [1-0.797] = 0.406/year.

<sup>9</sup> Safety Benefits= Baseline Risk x Risk Reduction x Expected Consequences= 2 crashes/year x 20% risk reduction x [2 x \$72,500] = \$58,000/year. Risk reduction based on crash reduction factor of 20.3 for CMF ID 2341. Expected consequences based on KABCO Level C – Possible Injury value of \$72,500.

<sup>10</sup> Hourly value of travel of time of \$17.90/hour for All-Purpose personal vehicles trips and \$30.90/hour for truck drivers, based on Revised Departmental Guidance on Valuation of Travel Time in Economic Analysis. Value of travel time savings = [\$17.90/hour x 1 hour x 576 personal vehicles = \$10,310/hour during the pm peak] + [\$30.90/hour x 1 hour x 24 trucks = \$739/hour during the pm peak] = \$11,049/hour during the pm peak.

<sup>11</sup> Based on the proportion of the hourly tube count data to peak hour data along US 26 east of Patterson Bridge Road, using the average hourly volume between 8am and 6pm of 87% of peak hour volumes.

## **BRIDGE**

The proposed Holmstrom Road bridge will provide a new connection across the John Day River from the 7<sup>th</sup> Street east extension to NE 3<sup>rd</sup> Street, while the proposed 7<sup>th</sup> Street extension will provide residents and businesses north of the John Day River a continuous connection to each bridge. The City's existing two bridges over the John Day River, Patterson Bridge and the Bridge Street Bridge, were recently rated in Fair condition, and since there are no street connections between these bridges, all traffic flow must cross Bridge Street. Should a flooding event or bridge failure occur at the Bridge Street Bridge, residents and businesses north of the John Day River would have to travel approximately 11 minutes roundtrip (0.18 hours) out-of-direction to use the Ranch Road bridge crossing of the river. Currently, 394 average daily vehicle trips utilize the Bridge Street Bridge, which would correspond to travel time losses of \$1,269/day<sup>12</sup>.

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<sup>12</sup> Value of travel time savings = \$17.90/hour x 0.18 hours x 394 average daily trips = \$1,269/day. Hourly value of travel of time of \$17.90/hour for All-Purpose trips, based on Revised Departmental Guidance on Valuation of Travel Time in Economic Analysis.

# APPENDIX

## CONTENTS

TRAFFIC COUNTS

ODOT CRASH DATA AND ANALYSIS

SYNCHRO HCM REPORTS



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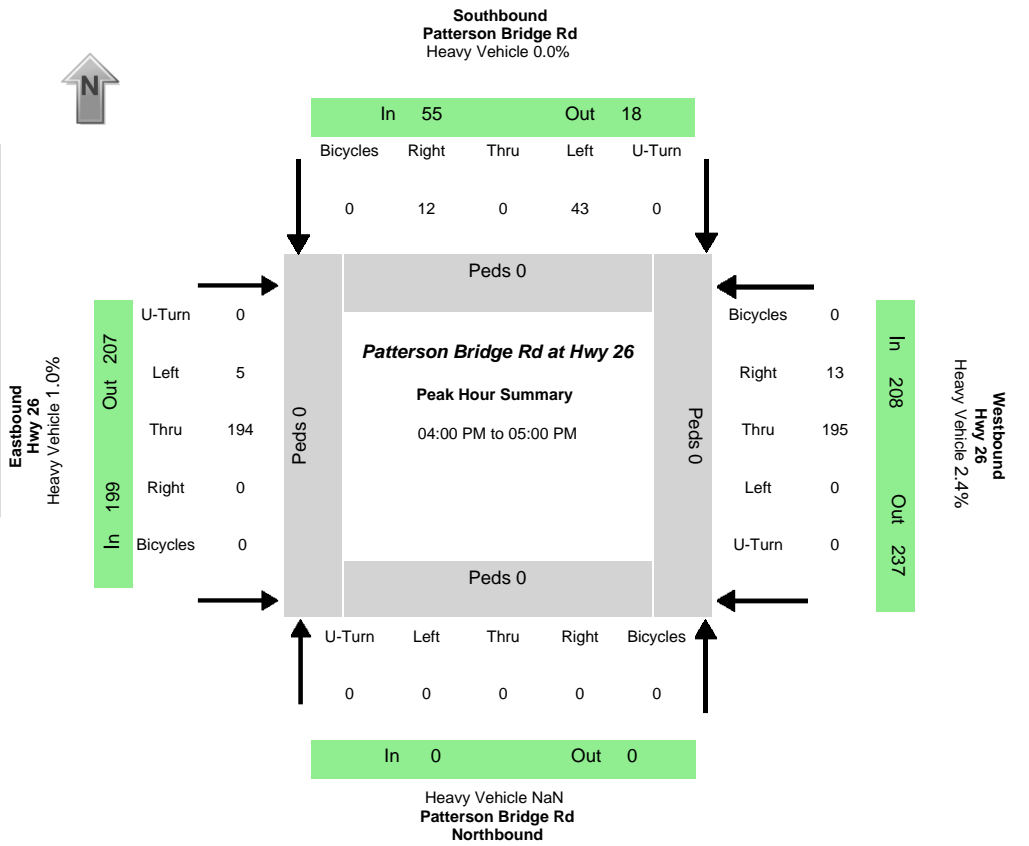
## TRAFFIC COUNTS

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Data Provided by K-D-N.com 503-594-4224

N/S street	<b>Patterson Bridge Rd</b>
E/W street	<b>Hwy 26</b>
City, State	John Day OR
Site Notes	
Location	44.420258 - -118.974304
Start Date	Tuesday, December 17, 2019
Start Time	04:00:00 PM
Weather	
Study ID #	
<b>Peak Hour Start</b>	<b>04:00:00 PM</b>
<b>Peak 15 Min Start</b>	<b>04:00:00 PM</b>
<b>PHF (15-Min Int)</b>	<b>0.70</b>



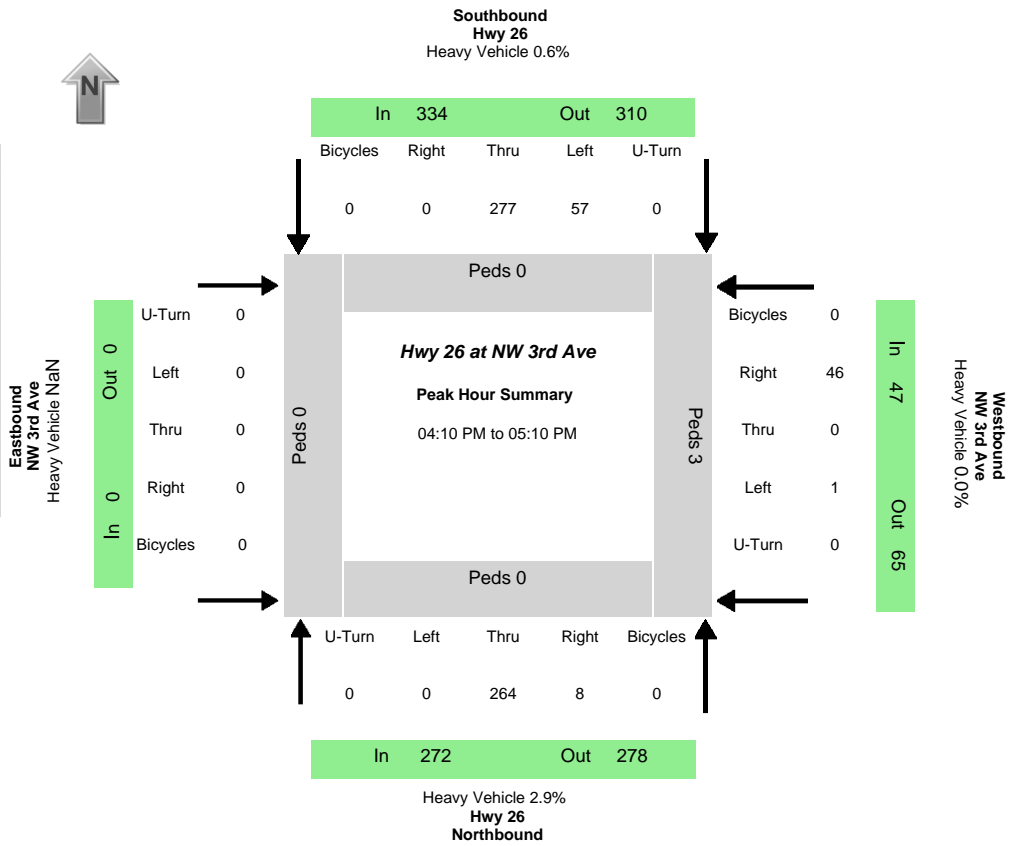
Peak-Hour Volumes (PHV)																							
Northbound				Southbound				Eastbound				Westbound				Entering				Leaving			
Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	NB	SB	EB	WB	NB	SB	EB	WB
0	0	0	0	43	0	12	0	5	194	0	0	0	195	13	0	0	55	199	208	0	18	207	237
Percent Heavy Vehicles																							
0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1.0%	0.0%	0.0%	0.0%	2.1%	7.7%	0.0%	NaN	0.0%	1.0%	2.4%	NaN	5.6%	1.9%	0.8%

PHV - Bicycles														PHV - Pedestrians							
Northbound				Southbound				Eastbound				Westbound				Sum	in Crosswalk				Sum
Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn		NB	SB	EB	WB	
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Time	Northbound Patterson Bridge Rd				Southbound Patterson Bridge Rd				Eastbound Hwy 26				Westbound Hwy 26				15 Min Sum	1 HR Sum
	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn		
04:00:00 PM	0	0	0	0	7	0	1	0	0	36	0	0	0	31	0	0		
04:05:00 PM	0	0	0	0	5	0	1	0	0	15	0	0	0	19	2	0		
04:10:00 PM	0	0	0	0	3	0	0	0	0	24	0	0	0	21	0	0	165	
04:15:00 PM	0	0	0	0	3	0	0	0	3	11	0	0	0	7	2	0	116	
04:20:00 PM	0	0	0	0	3	0	2	0	0	9	0	0	0	17	1	0	106	
04:25:00 PM	0	0	0	0	3	0	2	0	0	11	0	0	0	14	3	0	91	
04:30:00 PM	0	0	0	0	3	0	1	0	0	19	0	0	0	15	0	0	103	
04:35:00 PM	0	0	0	0	4	0	1	0	0	7	0	0	0	16	2	0	101	
04:40:00 PM	0	0	0	0	3	0	3	0	0	11	0	0	0	16	0	0	101	
04:45:00 PM	0	0	0	0	2	0	0	0	1	16	0	0	0	20	1	0	103	
04:50:00 PM	0	0	0	0	3	0	1	0	0	17	0	0	0	11	0	0	105	
04:55:00 PM	0	0	0	0	4	0	0	0	1	18	0	0	0	8	2	0	105	462
05:00:00 PM	0	0	0	0	6	0	0	0	1	17	0	0	0	13	1	0	103	425
05:05:00 PM	0	0	0	0	4	0	2	0	1	18	0	0	0	18	0	0	114	426
05:10:00 PM	0	0	0	0	2	0	1	0	1	9	0	0	0	14	0	0	108	405
05:15:00 PM	0	0	0	0	3	0	0	0	1	11	0	0	0	27	1	0	113	422
05:20:00 PM	0	0	0	0	2	0	1	0	0	10	0	0	0	18	1	0	102	422
05:25:00 PM	0	0	0	0	2	0	0	0	0	15	0	0	0	22	1	0	115	429
05:30:00 PM	0	0	0	0	1	0	1	0	1	10	0	0	0	5	1	0	91	410
05:35:00 PM	0	0	0	0	1	0	0	0	0	8	0	0	0	7	0	0	75	396
05:40:00 PM	0	0	0	0	1	0	0	0	0	11	0	0	0	10	1	0	58	386
05:45:00 PM	0	0	0	0	0	0	1	0	1	6	0	0	0	7	1	0	55	362
05:50:00 PM	0	0	0	0	0	0	1	0	0	9	0	0	0	9	0	0	58	349
05:55:00 PM	0	0	0	0	1	0	0	0	0	5	0	0	0	7	0	0	48	329

Data Provided by K-D-N.com 503-594-4224

N/S street	Hwy 26
E/W street	NW 3rd Ave
City, State	John Day OR
Site Notes	
Location	44.419346 - -118.958715
Start Date	Tuesday, December 17, 2019
Start Time	04:00:00 PM
Weather	
Study ID #	
Peak Hour Start	04:10:00 PM
Peak 15 Min Start	04:55:00 PM
PHF (15-Min Int)	0.84



Peak-Hour Volumes (PHV)																							
Northbound				Southbound				Eastbound				Westbound				Entering				Leaving			
Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	NB	SB	EB	WB	NB	SB	EB	WB
0	264	8	0	57	277	0	0	0	0	0	0	1	0	46	0	272	334	0	47	278	310	0	65
Percent Heavy Vehicles																							
0.0%	3.0%	0.0%	0.0%	0.0%	0.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	2.9%	0.6%	NaN	0.0%	0.7%	2.6%	NaN	0.0%

PHV - Bicycles												PHV - Pedestrians									
Northbound				Southbound				Eastbound				Westbound				in Crosswalk					
Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Sum	NB	SB	EB	WB	Sum
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	3

Time	Northbound Hwy 26				Southbound Hwy 26				Eastbound NW 3rd Ave				Westbound NW 3rd Ave				15 Min Sum	1 HR Sum
	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn		
04:00:00 PM	0	31	1	0	3	29	0	0	0	0	0	0	2	0	4	0		
04:05:00 PM	0	22	0	0	2	32	0	0	0	0	0	0	0	0	3	0		
04:10:00 PM	0	22	0	0	6	19	0	0	0	0	0	0	1	0	4	0	181	
04:15:00 PM	0	18	1	0	4	27	0	0	0	0	0	0	0	0	5	0	166	
04:20:00 PM	0	16	0	0	4	18	0	0	0	0	0	0	0	0	2	0	147	
04:25:00 PM	0	24	0	0	8	22	0	0	0	0	0	0	0	0	4	0	153	
04:30:00 PM	0	18	2	0	4	20	0	0	0	0	0	0	0	0	3	0	145	
04:35:00 PM	0	22	0	0	2	24	0	0	0	0	0	0	0	0	7	0	160	
04:40:00 PM	0	23	1	0	5	16	0	0	0	0	0	0	0	0	3	0	150	
04:45:00 PM	0	28	0	0	3	16	0	0	0	0	0	0	0	0	3	0	153	
04:50:00 PM	0	19	1	0	4	27	0	0	0	0	0	0	0	0	3	0	152	
04:55:00 PM	0	28	0	0	4	28	0	0	0	0	0	0	0	0	2	0	166	650
05:00:00 PM	0	18	0	0	3	32	0	0	0	0	0	0	0	0	3	0	172	636
05:05:00 PM	0	28	3	0	10	28	0	0	0	0	0	0	0	0	7	0	194	653
05:10:00 PM	0	12	0	0	4	20	0	0	0	0	0	0	0	0	5	0	173	642
05:15:00 PM	0	25	2	0	7	18	0	0	0	0	0	0	0	0	2	0	171	641
05:20:00 PM	0	19	0	0	3	20	0	0	0	0	0	0	0	0	6	0	143	649
05:25:00 PM	0	21	0	0	5	18	0	0	0	0	0	0	1	0	4	0	151	640
05:30:00 PM	0	12	0	0	6	22	0	0	0	0	0	0	0	0	1	0	138	634
05:35:00 PM	0	14	0	0	7	18	0	0	0	0	0	0	0	0	3	0	132	621
05:40:00 PM	0	16	1	0	2	19	0	0	0	0	0	0	0	0	3	0	124	614
05:45:00 PM	0	13	0	0	5	12	0	0	0	0	0	0	0	0	3	0	116	597
05:50:00 PM	0	13	0	0	2	15	0	0	0	0	0	0	0	0	0	0	104	573
05:55:00 PM	1	14	0	0	1	12	0	0	0	0	0	0	0	0	1	0	92	540

**KEY DATA NETWORK**

K-D-N.com  
 Tualatin, OR 97062  
 503-804-3294

Main St west of Lyons St  
 Date Start: 31-Jan-19  
 Latitude: 44' 25.1848 North  
 Longitude: 118' 57.6796 West

EB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classed	Total
01/31/19	0	2	3	0	2	1	0	0	0	0	0	0	0	0	8
01:00	0	1	0	2	1	5	0	0	0	0	0	0	0	0	9
02:00	0	0	1	0	5	0	0	0	0	0	0	0	0	0	6
03:00	0	2	5	1	6	1	0	0	0	0	0	0	0	0	15
04:00	0	6	4	1	2	0	0	0	0	0	0	0	0	1	14
05:00	1	14	15	0	8	3	0	0	0	1	0	0	0	2	44
06:00	0	41	19	2	10	7	0	4	0	2	0	0	0	7	92
07:00	0	95	35	7	35	2	0	1	2	0	0	0	0	7	184
08:00	3	80	55	1	31	2	0	0	1	0	0	0	0	17	190
09:00	1	90	55	3	35	7	0	1	3	0	0	0	0	12	207
10:00	3	81	75	2	34	3	0	7	2	0	1	0	0	24	232
11:00	0	95	82	0	37	1	0	1	1	0	0	0	0	27	244
12 PM	0	98	69	0	40	1	0	2	1	0	0	0	0	30	241
13:00	2	93	76	1	56	6	0	4	1	0	0	0	0	28	267
14:00	1	89	67	1	52	2	0	4	2	0	0	0	0	18	236
15:00	4	105	70	0	47	4	0	2	0	0	0	0	0	29	261
16:00	1	121	80	1	54	0	0	2	0	0	0	0	0	32	291
17:00	1	92	55	2	45	0	0	2	0	0	0	0	0	17	214
18:00	1	61	35	1	23	0	0	1	0	0	0	0	0	9	131
19:00	0	34	16	0	6	1	0	0	0	0	0	0	0	0	57
20:00	0	15	5	0	4	0	0	0	0	0	0	0	0	2	26
21:00	0	17	8	0	4	0	0	1	0	0	0	0	0	2	32
22:00	0	1	1	0	1	0	0	0	0	0	0	0	0	0	3
23:00	0	0	1	0	1	0	0	0	0	0	0	0	0	1	3
Total	18	1233	832	25	539	46	0	32	13	3	1	0	0	265	3007
Percent	0.6%	41.0%	27.7%	0.8%	17.9%	1.5%	0.0%	1.1%	0.4%	0.1%	0.0%	0.0%	0.0%	8.8%	
AM Peak	08:00	07:00	11:00	07:00	11:00	06:00		10:00	09:00	06:00	10:00			11:00	
Vol.	3	95	82	7	37	7		7	3	2	1			27	
PM Peak	15:00	16:00	16:00	17:00	13:00	13:00		13:00	14:00					16:00	
Vol.	4	121	80	2	56	6		4	2					32	
Grand Total	18	1233	832	25	539	46	0	32	13	3	1	0	0	265	3007
Percent	0.6%	41.0%	27.7%	0.8%	17.9%	1.5%	0.0%	1.1%	0.4%	0.1%	0.0%	0.0%	0.0%	8.8%	

**KEY DATA NETWORK**

K-D-N.com  
 Tualatin, OR 97062  
 503-804-3294

Main St west of Lyons St  
 Date Start: 31-Jan-19  
 Latitude: 44' 25.1848 North  
 Longitude: 118' 57.6796 West

WB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classed	Total
01/31/19	0	0	1	0	0	0	0	0	0	0	0	0	0	4	5
01:00	0	1	0	0	2	0	0	0	0	0	0	0	0	4	7
02:00	0	0	0	0	1	0	0	0	0	0	0	0	0	5	6
03:00	0	2	2	2	1	0	0	1	0	0	0	0	0	8	16
04:00	0	3	3	1	2	1	0	0	0	0	0	0	0	24	34
05:00	0	2	4	7	3	0	0	0	0	0	0	0	0	66	82
06:00	0	3	4	7	10	0	0	0	0	0	0	0	0	84	108
07:00	3	6	7	3	10	0	0	0	0	0	0	0	0	154	183
08:00	1	4	8	10	18	0	0	1	0	0	0	0	0	152	194
09:00	3	11	16	6	22	2	0	1	0	0	0	0	0	142	203
10:00	9	61	46	1	30	0	0	3	0	1	0	0	0	84	235
11:00	5	91	62	1	39	0	0	7	1	0	0	0	0	53	259
12 PM	4	114	70	0	68	3	0	1	2	3	0	0	1	45	311
13:00	5	99	80	1	46	0	0	3	4	1	0	0	1	50	290
14:00	7	92	63	0	51	0	0	3	2	1	0	0	1	40	260
15:00	6	95	61	2	45	0	0	6	0	0	0	0	0	45	260
16:00	4	98	63	1	49	1	0	5	0	0	0	0	0	55	276
17:00	3	65	30	0	43	0	0	1	0	0	0	0	0	95	237
18:00	0	7	8	1	14	0	0	2	0	0	0	0	0	93	125
19:00	2	5	4	1	2	0	0	2	0	0	0	0	0	59	75
20:00	0	3	3	0	0	0	0	1	0	0	0	0	0	43	50
21:00	0	3	0	0	0	0	0	0	0	0	0	0	0	28	31
22:00	0	0	0	0	0	0	0	0	0	0	0	0	0	16	16
23:00	0	0	0	0	0	0	0	1	0	0	0	0	0	7	8
Total	52	765	535	44	456	7	0	38	9	6	0	0	3	1356	3271
Percent	1.6%	23.4%	16.4%	1.3%	13.9%	0.2%	0.0%	1.2%	0.3%	0.2%	0.0%	0.0%	0.1%	41.5%	
AM Peak	10:00	11:00	11:00	08:00	11:00	09:00		11:00	11:00	10:00				07:00	
Vol.	9	91	62	10	39	2		7	1	1				154	
PM Peak	14:00	12:00	13:00	15:00	12:00	12:00		15:00	13:00	12:00			12:00	17:00	
Vol.	7	114	80	2	68	3		6	4	3			1	95	
Grand Total	52	765	535	44	456	7	0	38	9	6	0	0	3	1356	3271
Percent	1.6%	23.4%	16.4%	1.3%	13.9%	0.2%	0.0%	1.2%	0.3%	0.2%	0.0%	0.0%	0.1%	41.5%	

	A	B	C	D	E	F	G	H	I	J	K
1	Page 1			KEY DATA NETWORK							
2				K-D-N.com							
3	Main St west of Lyons St			Tualatin, OR 97062							
4	Date Start: 1/31/2019			503-804-329							
5	Latitude: 44' 25.1848 North										
6	Longitude: 118' 57.6796 West										
7											
8											
9											
10		1/31/2019			Combined						
11		Thu	EB	WB	Total			% of peak			
12	12:00 AM		8	5	13			0.022928			
13	01:00		9	7	16			0.028219			
14	02:00		6	6	12			0.021164			
15	03:00		15	16	31			0.054674			
16	04:00		14	34	48			0.084656			
17	05:00		44	82	126			0.222222			
18	06:00		92	108	200			0.352734			
19	07:00		184	183	367			0.647266			
20	08:00		190	194	384			0.677249			
21	09:00		207	203	410			0.723104		Average 8am-6pm	
22	10:00		232	235	467			0.823633		0.865608	
23	11:00		244	259	503			0.887125			
24	12:00 PM		241	311	552			0.973545			
25	01:00		267	290	557			0.982363			
26	02:00		236	260	496			0.87478			
27	03:00		261	260	521			0.918871			
28	04:00		291	276	567			1			
29	05:00		214	237	451			0.795414			
30	06:00		131	125	256			0.451499			
31	07:00		57	75	132			0.232804			
32	08:00		26	50	76			0.134039			
33	09:00		32	31	63			0.111111			
34	10:00		3	16	19			0.03351			
35	11:00		3	8	11			0.0194			
36	Total		3007	3271							
37	Percent		47.9%	52.1%							
39	Grand Total		3007	3271							
40	Percentage		47.9%	52.1%							



**KEY DATA NETWORK**

K-D-N.com  
 Tualatin, OR 97062  
 503-804-3294

Patterson Bridge Rd north of Hwy 26  
 Date Start: 12/17/2019  
 Latitude: 44' 25.2436 North  
 Longitude: 118' 58.4583 West

Start Time	12/18/2019 Wed	SB	NB	Combined Total	
12:00 AM		1	1	2	█
01:00		1	3	4	█
02:00		3	5	8	█
03:00		4	3	7	█
04:00		8	2	10	█
05:00		2	13	15	█
06:00		8	53	61	█
07:00		19	45	64	█
08:00		23	26	49	█
09:00		27	26	53	█
10:00		34	32	66	█
11:00		51	36	87	█
12:00 PM		38	47	85	█
01:00		35	44	79	█
02:00		35	28	63	█
03:00		44	34	78	█
04:00		66	34	100	█
05:00		35	12	47	█
06:00		6	4	10	█
07:00		2	0	2	█
08:00		2	1	3	█
09:00		0	2	2	█
10:00		2	0	2	█
11:00		0	1	1	█
<b>Total</b>		<b>446</b>	<b>452</b>	<b>898</b>	
<b>Percent</b>		<b>49.7%</b>	<b>50.3%</b>		

**KEY DATA NETWORK**

K-D-N.com  
 Tualatin, OR 97062  
 503-804-3294

Patterson Bridge Rd north of Hwy 26  
 Date Start: 12/17/2019  
 Latitude: 44' 25.2436 North  
 Longitude: 118' 58.4583 West

Start Time	12/19/2019 Thu	SB	NB	Combined Total	
12:00 AM		1	1	2	█
01:00		1	2	3	█
02:00		5	3	8	██
03:00		3	0	3	█
04:00		2	1	3	█
05:00		9	20	29	██████████
06:00		10	46	56	██████████████████
07:00		21	52	73	██████████████████████
08:00		32	32	64	██████████████████████
09:00		21	35	56	██████████████████████
10:00		7	15	22	██████
11:00		*	*	*	
12:00 PM		*	*	*	
01:00		*	*	*	
02:00		*	*	*	
03:00		*	*	*	
04:00		*	*	*	
05:00		*	*	*	
06:00		*	*	*	
07:00		*	*	*	
08:00		*	*	*	
09:00		*	*	*	
10:00		*	*	*	
11:00		*	*	*	
<b>Total</b>		<b>112</b>	<b>207</b>	<b>319</b>	
<b>Percent</b>		<b>35.1%</b>	<b>64.9%</b>		
<b>Grand Total</b>		<b>677</b>	<b>716</b>		
<b>Percentage</b>		<b>48.6%</b>	<b>51.4%</b>		
<b>ADT</b>		<b>ADT 892</b>		<b>AADT 892</b>	



**KEY DATA NETWORK**

K-D-N.com  
 Tualatin, OR 97062  
 503-804-3294

Patterson Bridge Rd north of Hwy 26  
 Date Start: 17-Dec-19  
 Latitude: 44' 25.2436 North  
 Longitude: 118' 58.4583 West

SB

Start Time	1	21	23	25	27	29	31	33	35	37	39	41	43	45	Total	85th Percent	95th Percent
12/17/19	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
01:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
02:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
03:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
04:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
05:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
06:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
07:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
08:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
09:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
10:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
11:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
12 PM	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
13:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
14:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
15:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
16:00	<b>34</b>	<b>12</b>	<b>7</b>	<b>2</b>	0	0	0	0	0	0	0	0	0	0	<b>55</b>	22	23
17:00	27	7	3	1	1	0	0	0	0	0	0	0	0	0	39	21	24
18:00	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3	17	19
19:00	12	2	0	0	0	0	0	0	0	0	0	0	0	0	14	19	21
20:00	4	2	0	0	0	0	0	0	0	0	0	0	0	0	6	21	21
21:00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	21	21
22:00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	21	21
23:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
Total	80	25	10	3	1	0	0	0	0	0	0	0	0	0	119		
Percent	67.2%	21.0%	8.4%	2.5%	0.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak Vol.																	
PM Peak Vol.	16:00 34	16:00 12	16:00 7	16:00 2	17:00 1										16:00 55		

**KEY DATA NETWORK**

K-D-N.com  
 Tualatin, OR 97062  
 503-804-3294

Patterson Bridge Rd north of Hwy 26  
 Date Start: 17-Dec-19  
 Latitude: 44' 25.2436 North  
 Longitude: 118' 58.4583 West

SB

Start Time	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	999	Total	85th Percent	95th Percent
12/18/19	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	17	19	
01:00	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	17	19	
02:00	0	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	23	23	
03:00	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	17	19	
04:00	7	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	19	21	
05:00	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	21	21	
06:00	7	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	19	23	
07:00	15	1	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	19	22	23	
08:00	17	4	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	23	21	22	
09:00	19	3	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	27	22	23	
10:00	23	8	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	34	21	23	
11:00	<b>32</b>	<b>9</b>	<b>8</b>	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	<b>51</b>	22	23	
12 PM	20	12	5	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	38	22	23
13:00	21	10	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	35	21	23
14:00	27	6	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	35	20	22
15:00	37	2	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	44	20	23
16:00	<b>45</b>	<b>15</b>	4	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	<b>66</b>	21	23
17:00	23	5	5	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	35	22	24
18:00	4	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	22	23	
19:00	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	23	23	
20:00	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	21	21	
21:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*	
22:00	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	21	21	
23:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*	
<b>Total</b>	<b>305</b>	<b>84</b>	<b>48</b>	<b>7</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>446</b>			
Percent	68.4%	18.8%	10.8%	1.6%	0.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%				
AM Peak	11:00	11:00	11:00	10:00	11:00																							11:00		
Vol.	32	9	8	1	1																							51		
PM Peak	16:00	16:00	12:00	17:00	16:00																							16:00		
Vol.	45	15	5	2	1																							66		

**KEY DATA NETWORK**

K-D-N.com  
 Tualatin, OR 97062  
 503-804-3294

Patterson Bridge Rd north of Hwy 26  
 Date Start: 17-Dec-19  
 Latitude: 44' 25.2436 North  
 Longitude: 118' 58.4583 West

SB

Start Time	1	21	23	25	27	29	31	33	35	37	39	41	43	45	Total	85th Percent	95th Percent
	20	22	24	26	28	30	32	34	36	38	40	42	44	999			
12/19/19	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	17	19
01:00	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	17	19
02:00	5	0	0	0	0	0	0	0	0	0	0	0	0	0	5	17	19
03:00	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3	17	19
04:00	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2	17	19
05:00	8	1	0	0	0	0	0	0	0	0	0	0	0	0	9	19	21
06:00	10	0	0	0	0	0	0	0	0	0	0	0	0	0	10	17	19
07:00	19	2	0	0	0	0	0	0	0	0	0	0	0	0	21	18	20
08:00	<b>26</b>	<b>3</b>	2	0	1	0	0	0	0	0	0	0	0	0	<b>32</b>	20	23
09:00	14	3	<b>4</b>	0	0	0	0	0	0	0	0	0	0	0	21	22	23
10:00	5	1	0	<b>1</b>	0	0	0	0	0	0	0	0	0	0	7	21	25
11:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
12 PM	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
13:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
14:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
15:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
16:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
17:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
18:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
19:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
20:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
21:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
22:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
23:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Total	94	10	6	1	1	0	0	0	0	0	0	0	0	0	112		
Percent	83.9%	8.9%	5.4%	0.9%	0.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak	08:00	08:00	09:00	10:00	08:00												
Vol.	26	3	4	1	1												32
PM Peak																	
Vol.																	
Grand Total	479	119	64	11	4	0	0	0	0	0	0	0	0	0	677		
Percent	70.8%	17.6%	9.5%	1.6%	0.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			

15th Percentile : 4 MPH  
 50th Percentile : 14 MPH  
 85th Percentile : 21 MPH  
 95th Percentile : 23 MPH

Statistics  
 10 MPH Pace Speed : 15-24 MPH  
 Number in Pace : 327  
 Percent in Pace : 48.3%  
 Number of Vehicles > 25 MPH : 9  
 Percent of Vehicles > 25 MPH : 1.4%  
 Mean Speed(Average) : 14 MPH

**KEY DATA NETWORK**

K-D-N.com  
 Tualatin, OR 97062  
 503-804-3294

Patterson Bridge Rd north of Hwy 26  
 Date Start: 17-Dec-19  
 Latitude: 44' 25.2436 North  
 Longitude: 118' 58.4583 West

NB

Start Time	1	21	23	25	27	29	31	33	35	37	39	41	43	45	Total	85th Percent	95th Percent
12/17/19	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
01:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
02:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
03:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
04:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
05:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
06:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
07:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
08:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
09:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
10:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
11:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
12 PM	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
13:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
14:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
15:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
16:00	<b>13</b>	<b>5</b>	<b>3</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>23</b>	<b>23</b>	<b>25</b>
17:00	11	3	1	1	0	0	0	0	0	0	0	0	0	0	16	21	24
18:00	6	0	2	0	0	0	0	0	0	0	0	0	0	0	8	22	23
19:00	6	0	0	0	0	0	0	0	0	0	0	0	0	0	6	17	19
20:00	0	1	1	1	0	0	0	0	0	0	0	0	0	0	3	25	25
21:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
22:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
23:00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	21	21
Total	36	10	7	3	1	0	0	0	0	0	0	0	0	0	57		
Percent	63.2%	17.5%	12.3%	5.3%	1.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak Vol.																	
PM Peak Vol.	16:00 13	16:00 5	16:00 3	16:00 1	16:00 1										16:00 23		



**KEY DATA NETWORK**

K-D-N.com  
 Tualatin, OR 97062  
 503-804-3294

Patterson Bridge Rd north of Hwy 26  
 Date Start: 17-Dec-19  
 Latitude: 44' 25.2436 North  
 Longitude: 118' 58.4583 West

NB

Start Time	1	21	23	25	27	29	31	33	35	37	39	41	43	45	Total	85th Percent	95th Percent
	20	22	24	26	28	30	32	34	36	38	40	42	44	999			
12/19/19	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	17	19
01:00	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2	17	19
02:00	2	0	1	0	0	0	0	0	0	0	0	0	0	0	3	23	23
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
04:00	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	17	19
05:00	14	3	3	0	0	0	0	0	0	0	0	0	0	0	20	22	23
06:00	25	14	3	2	2	0	0	0	0	0	0	0	0	0	46	22	25
07:00	30	11	10	1	0	0	0	0	0	0	0	0	0	0	52	22	23
08:00	19	9	4	0	0	0	0	0	0	0	0	0	0	0	32	21	23
09:00	25	7	3	0	0	0	0	0	0	0	0	0	0	0	35	21	22
10:00	11	2	0	1	1	0	0	0	0	0	0	0	0	0	15	21	26
11:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
12 PM	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
13:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
14:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
15:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
16:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
17:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
18:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
19:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
20:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
21:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
22:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
23:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Total	130	46	24	4	3	0	0	0	0	0	0	0	0	0	207		
Percent	62.8%	22.2%	11.6%	1.9%	1.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak	07:00	06:00	07:00	06:00	06:00										07:00		
Vol.	30	14	10	2	2										52		
PM Peak																	
Vol.																	
Grand Total	446	151	76	29	12	2	0	0	0	0	0	0	0	0	716		
Percent	62.3%	21.1%	10.6%	4.1%	1.7%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			

15th Percentile : 4 MPH  
 50th Percentile : 16 MPH  
 85th Percentile : 22 MPH  
 95th Percentile : 24 MPH

Statistics  
 10 MPH Pace Speed : 15-24 MPH  
 Number in Pace : 361  
 Percent in Pace : 50.4%  
 Number of Vehicles > 25 MPH : 29  
 Percent of Vehicles > 25 MPH : 4.0%  
 Mean Speed(Average) : 15 MPH



**KEY DATA NETWORK**

K-D-N.com  
 Tualatin, OR 97062  
 503-804-3294

NW Bridge St south of 7th  
 Date Start: 12/17/2019  
 Latitude: 44' 25.3402 North  
 Longitude: 118' 57.2681 West

Start Time	12/18/2019 Wed	NB	SB	Combined Total	
12:00 AM		1	2	3	█
01:00		1	0	1	█
02:00		0	0	0	
03:00		1	0	1	█
04:00		3	2	5	█
05:00		1	3	4	█
06:00		8	14	22	██████
07:00		7	28	35	██████████
08:00		13	57	70	██████████████
09:00		21	31	52	██████████████
10:00		38	35	73	██████████████
11:00		35	41	76	██████████████
12:00 PM		48	42	90	██████████████
01:00		60	54	114	██████████████
02:00		55	50	105	██████████████
03:00		43	60	103	██████████████
04:00		62	61	123	██████████████
05:00		51	41	92	██████████████
06:00		70	43	113	██████████████
07:00		25	38	63	██████████████
08:00		34	18	52	██████████████
09:00		22	18	40	██████████████
10:00		10	8	18	██████
11:00		6	5	11	████
<b>Total</b>		<b>615</b>	<b>651</b>	<b>1266</b>	
<b>Percent</b>		<b>48.6%</b>	<b>51.4%</b>		



**KEY DATA NETWORK**

K-D-N.com  
 Tualatin, OR 97062  
 503-804-3294

NW Bridge St south of 7th  
 Date Start: 12/17/2019  
 Latitude: 44' 25.3402 North  
 Longitude: 118' 57.2681 West

Start Time	12/19/2019 Thu	NB	SB	Combined Total	
12:00 AM		1	1	2	█
01:00		1	0	1	█
02:00		1	0	1	█
03:00		1	3	4	█
04:00		1	0	1	█
05:00		1	1	2	█
06:00		10	17	27	██████████
07:00		5	24	29	██████████
08:00		20	69	89	████████████████████
09:00		34	39	73	██████████████████
10:00		30	50	80	██████████████████
11:00		21	20	41	██████████
12:00 PM		*	*	*	
01:00		*	*	*	
02:00		*	*	*	
03:00		*	*	*	
04:00		*	*	*	
05:00		*	*	*	
06:00		*	*	*	
07:00		*	*	*	
08:00		*	*	*	
09:00		*	*	*	
10:00		*	*	*	
11:00		*	*	*	
<b>Total</b>		<b>126</b>	<b>224</b>	<b>350</b>	
<b>Percent</b>		<b>36.0%</b>	<b>64.0%</b>		
<b>Grand Total</b>		<b>956</b>	<b>1054</b>		
<b>Percentage</b>		<b>47.6%</b>	<b>52.4%</b>		
<b>ADT</b>		<b>ADT 1,272</b>		<b>AADT 1,272</b>	

**KEY DATA NETWORK**

K-D-N.com  
 Tualatin, OR 97062  
 503-804-3294

NW Bridge St south of 7th  
 Date Start: 17-Dec-19  
 Latitude: 44' 25.3402 North  
 Longitude: 118' 57.2681 West

NB

Start Time	1	21	23	25	27	29	31	33	35	37	39	41	43	45	Total	85th Percent	95th Percent
12/17/19	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
01:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
02:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
03:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
04:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
05:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
06:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
07:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
08:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
09:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
10:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
11:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
12 PM	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
13:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
14:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
15:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
16:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
17:00	40	7	1	0	0	0	0	0	0	0	0	0	0	0	48	20	21
18:00	<b>43</b>	<b>14</b>	4	1	0	<b>1</b>	0	0	0	0	0	0	0	0	<b>63</b>	21	23
19:00	19	11	<b>6</b>	<b>2</b>	0	0	0	0	0	0	0	0	0	0	38	22	24
20:00	22	4	1	1	0	0	0	0	0	0	0	0	0	0	28	20	23
21:00	15	7	2	1	0	0	0	0	0	0	0	0	0	0	25	21	23
22:00	8	1	2	0	0	0	0	0	0	0	0	0	0	0	11	22	23
23:00	1	1	0	0	0	0	0	0	0	0	0	0	0	0	2	21	21
Total	148	45	16	5	0	1	0	0	0	0	0	0	0	0	215		
Percent	68.8%	20.9%	7.4%	2.3%	0.0%	0.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak Vol.																	
PM Peak Vol.	18:00	18:00	19:00	19:00		18:00									18:00		
	43	14	6	2		1									63		

**KEY DATA NETWORK**

K-D-N.com  
 Tualatin, OR 97062  
 503-804-3294

NW Bridge St south of 7th  
 Date Start: 17-Dec-19  
 Latitude: 44' 25.3402 North  
 Longitude: 118' 57.2681 West

NB

Start Time	1	21	23	25	27	29	31	33	35	37	39	41	43	45	Total	85th Percent	95th Percent
	20	22	24	26	28	30	32	34	36	38	40	42	44	999			
12/18/19	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	21	21
01:00	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	23	23
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
03:00	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	27	27
04:00	2	0	1	0	0	0	0	0	0	0	0	0	0	0	3	23	23
05:00	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	17	19
06:00	5	1	2	0	0	0	0	0	0	0	0	0	0	0	8	22	23
07:00	3	3	1	0	0	0	0	0	0	0	0	0	0	0	7	21	23
08:00	11	1	0	1	0	0	0	0	0	0	0	0	0	0	13	20	24
09:00	20	0	0	1	0	0	0	0	0	0	0	0	0	0	21	17	19
10:00	18	11	5	2	1	1	0	0	0	0	0	0	0	0	38	23	26
11:00	24	6	1	3	0	1	0	0	0	0	0	0	0	0	35	21	25
12 PM	21	14	8	3	2	0	0	0	0	0	0	0	0	0	48	23	25
13:00	21	21	11	5	2	0	0	0	0	0	0	0	0	0	60	23	25
14:00	32	9	10	4	0	0	0	0	0	0	0	0	0	0	55	23	24
15:00	26	10	5	2	0	0	0	0	0	0	0	0	0	0	43	22	23
16:00	43	11	6	2	0	0	0	0	0	0	0	0	0	0	62	21	23
17:00	37	12	1	0	1	0	0	0	0	0	0	0	0	0	51	21	21
18:00	45	14	9	2	0	0	0	0	0	0	0	0	0	0	70	22	23
19:00	20	4	1	0	0	0	0	0	0	0	0	0	0	0	25	20	21
20:00	21	5	7	1	0	0	0	0	0	0	0	0	0	0	34	22	23
21:00	18	2	2	0	0	0	0	0	0	0	0	0	0	0	22	20	22
22:00	9	1	0	0	0	0	0	0	0	0	0	0	0	0	10	18	21
23:00	4	2	0	0	0	0	0	0	0	0	0	0	0	0	6	21	21
<b>Total</b>	<b>381</b>	<b>128</b>	<b>71</b>	<b>26</b>	<b>7</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>615</b>		
Percent	62.0%	20.8%	11.5%	4.2%	1.1%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak	11:00	10:00	10:00	11:00	03:00	10:00									10:00		
Vol.	24	11	5	3	1	1									38		
PM Peak	18:00	13:00	13:00	13:00	12:00										18:00		
Vol.	45	21	11	5	2										70		

**KEY DATA NETWORK**

K-D-N.com  
 Tualatin, OR 97062  
 503-804-3294

NW Bridge St south of 7th  
 Date Start: 17-Dec-19  
 Latitude: 44' 25.3402 North  
 Longitude: 118' 57.2681 West

NB

Start Time	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	999	Total	85th Percent	95th Percent
12/19/19	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	17	19	
01:00	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	17	19	
02:00	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	23	23	
03:00	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	17	19	
04:00	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	17	19	
05:00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	21	21	
06:00	8	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	23	27	
07:00	3	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	21	21	
08:00	15	3	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20	21	25	
09:00	20	9	3	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	34	21	24	
10:00	20	5	4	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	30	22	23	
11:00	16	3	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21	21	22	
12 PM	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
13:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
14:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
15:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
16:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
17:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
18:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
19:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
20:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
21:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
22:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
23:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Total	86	23	11	3	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	126			
Percent	68.3%	18.3%	8.7%	2.4%	1.6%	0.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%					
AM Peak	09:00	09:00	10:00	08:00	06:00	10:00																					09:00			
Vol.	20	9	4	2	1	1																					34			
PM Peak																														
Vol.																														
Grand Total	615	196	98	34	9	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	956			
Percent	64.3%	20.5%	10.3%	3.6%	0.9%	0.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%					

15th Percentile : 4 MPH  
 50th Percentile : 15 MPH  
 85th Percentile : 22 MPH  
 95th Percentile : 23 MPH

Statistics  
 10 MPH Pace Speed : 15-24 MPH  
 Number in Pace : 478  
 Percent in Pace : 50.0%  
 Number of Vehicles > 35 MPH : 0  
 Percent of Vehicles > 35 MPH : 0.0%  
 Mean Speed(Average) : 15 MPH

**KEY DATA NETWORK**

K-D-N.com  
 Tualatin, OR 97062  
 503-804-3294

NW Bridge St south of 7th  
 Date Start: 17-Dec-19  
 Latitude: 44' 25.3402 North  
 Longitude: 118' 57.2681 West

SB

Start Time	1	21	23	25	27	29	31	33	35	37	39	41	43	45	Total	85th Percent	95th Percent
	20	22	24	26	28	30	32	34	36	38	40	42	44	999			
12/17/19	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
01:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
02:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
03:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
04:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
05:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
06:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
07:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
08:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
09:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
10:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
11:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
12 PM	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
13:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
14:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
15:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
16:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
17:00	32	9	1	0	1	0	0	0	0	0	0	0	0	0	43	21	21
18:00	40	6	4	0	0	0	0	0	0	0	0	0	0	0	50	20	22
19:00	25	4	3	1	0	1	0	0	0	0	0	0	0	0	34	21	24
20:00	15	1	0	0	0	0	0	0	0	0	0	0	0	0	16	18	20
21:00	17	3	5	1	0	0	0	0	0	0	0	0	0	0	26	22	23
22:00	3	1	1	1	0	0	0	0	0	0	0	0	0	0	6	24	25
23:00	2	2	0	0	0	0	0	0	0	0	0	0	0	0	4	21	21
Total	134	26	14	3	1	1	0	0	0	0	0	0	0	0	179		
Percent	74.9%	14.5%	7.8%	1.7%	0.6%	0.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak Vol.																	
PM Peak Vol.	18:00	17:00	21:00	19:00	17:00	19:00									18:00		
	40	9	5	1	1	1									50		

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NW Bridge St south of 7th  
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 Latitude: 44' 25.3402 North  
 Longitude: 118' 57.2681 West

SB

Start Time	1	21	23	25	27	29	31	33	35	37	39	41	43	45	Total	85th Percent	95th Percent
	20	22	24	26	28	30	32	34	36	38	40	42	44	999			
12/18/19	1	1	0	0	0	0	0	0	0	0	0	0	0	0	2	21	21
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
04:00	1	0	1	0	0	0	0	0	0	0	0	0	0	0	2	23	23
05:00	1	0	2	0	0	0	0	0	0	0	0	0	0	0	3	23	23
06:00	9	3	2	0	0	0	0	0	0	0	0	0	0	0	14	21	23
07:00	18	7	2	1	0	0	0	0	0	0	0	0	0	0	28	21	23
08:00	<b>45</b>	<b>6</b>	<b>6</b>	0	0	0	0	0	0	0	0	0	0	0	<b>57</b>	21	23
09:00	29	2	0	0	0	0	0	0	0	0	0	0	0	0	31	18	20
10:00	22	<b>10</b>	2	0	<b>1</b>	0	0	0	0	0	0	0	0	0	35	21	23
11:00	28	9	2	<b>2</b>	0	0	0	0	0	0	0	0	0	0	41	21	23
12 PM	24	<b>13</b>	3	<b>2</b>	0	0	0	0	0	0	0	0	0	0	42	21	23
13:00	31	13	<b>10</b>	0	0	0	0	0	0	0	0	0	0	0	54	22	23
14:00	36	8	4	2	0	0	0	0	0	0	0	0	0	0	50	21	23
15:00	47	12	0	1	0	0	0	0	0	0	0	0	0	0	60	20	21
16:00	<b>50</b>	8	3	0	0	0	0	0	0	0	0	0	0	0	<b>61</b>	20	21
17:00	28	11	2	0	0	0	0	0	0	0	0	0	0	0	41	21	21
18:00	30	11	2	0	0	0	0	0	0	0	0	0	0	0	43	21	21
19:00	29	6	3	0	0	0	0	0	0	0	0	0	0	0	38	21	22
20:00	13	2	2	1	0	0	0	0	0	0	0	0	0	0	18	22	24
21:00	14	2	2	0	0	0	0	0	0	0	0	0	0	0	18	21	23
22:00	5	2	1	0	0	0	0	0	0	0	0	0	0	0	8	21	23
23:00	3	1	0	0	0	0	<b>1</b>	0	0	0	0	0	0	0	5	30	31
Total	464	127	49	9	1	0	1	0	0	0	0	0	0	0	651		
Percent	71.3%	19.5%	7.5%	1.4%	0.2%	0.0%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak	08:00	10:00	08:00	11:00	10:00										08:00		
Vol.	45	10	6	2	1										57		
PM Peak	16:00	12:00	13:00	12:00		23:00									16:00		
Vol.	50	13	10	2		1									61		

**KEY DATA NETWORK**

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NW Bridge St south of 7th  
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 Latitude: 44' 25.3402 North  
 Longitude: 118' 57.2681 West

SB

Start Time	20	21	23	25	27	29	31	33	35	37	39	41	43	45	Total	85th Percent	95th Percent
12/19/19	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	17	19
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
03:00	2	0	1	0	0	0	0	0	0	0	0	0	0	0	3	23	23
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	*	*
05:00	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	17	19
06:00	11	4	2	0	0	0	0	0	0	0	0	0	0	0	17	21	23
07:00	19	4	1	0	0	0	0	0	0	0	0	0	0	0	24	20	21
08:00	<b>51</b>	<b>13</b>	<b>5</b>	0	0	0	0	0	0	0	0	0	0	0	<b>69</b>	21	22
09:00	30	5	2	<b>2</b>	0	0	0	0	0	0	0	0	0	0	39	21	24
10:00	36	11	3	0	0	0	0	0	0	0	0	0	0	0	50	21	22
11:00	19	1	0	0	0	0	0	0	0	0	0	0	0	0	20	17	20
12 PM	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
13:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
14:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
15:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
16:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
17:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
18:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
19:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
20:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
21:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
22:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
23:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Total	170	38	14	2	0	0	0	0	0	0	0	0	0	0	224		
Percent	75.9%	17.0%	6.3%	0.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak	08:00	08:00	08:00	09:00													
Vol.	51	13	5	2													
PM Peak																	
Vol.																	
Grand Total	768	191	77	14	2	1	1	0	0	0	0	0	0	0	1054		
Percent	72.9%	18.1%	7.3%	1.3%	0.2%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			

15th Percentile : 4 MPH  
 50th Percentile : 13 MPH  
 85th Percentile : 21 MPH  
 95th Percentile : 23 MPH

Statistics  
 10 MPH Pace Speed : 15-24 MPH  
 Number in Pace : 498  
 Percent in Pace : 47.2%  
 Number of Vehicles > 35 MPH : 0  
 Percent of Vehicles > 35 MPH : 0.0%  
 Mean Speed(Average) : 14 MPH

# ODOT CRASH DATA AND ANALYSIS

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001 Crash ID	001 Crash Year	005 Crash Hour	003 Jurisdiction	014 Street Name	015 Intersecting Street Name	021 Collision Type	022 Crash Cause	024 Crash Severity Detail	026 Lighting	029 Traffic Control	035 Bike or Ped Flag	042 Crash Date	020 Crash Type	023 Crash Event	025 Crash Severity Categ	027 Road Surface	028 Weather	034 Road Character	043 Veh1 Type	044 Veh1 Striking Flag	045 Veh2 Type	046 Veh2 Striking Flag	047 Veh2 Hit Run Flag	048 Veh2 Speed Flag	074 Driver1 Acc	075 Driver1 Error
170255	2017	13P	Grant County	Marl	Patterson	REAR	TOD-CLOS	Possible Injury	DAY	UNKNOWN	Neither	10/27/2017 5-STOP	INI	INI	DRY	CLR	CURVE	PSNGR CAR	TRUE	PSNGR CAR	FALSE	FALSE	FALSE	FALSE	60	TOD-CLOSE
179493	2018	6A	Grant County	Marl	Patterson	TURN	NO-YIELD	Possible Injury	DAWN	UNKNOWN	Neither	4/4/2018 ANGL-OTH	INI	INI	DRY	CLR	ALLEY	PSNGR CAR	TRUE	PSNGR CAR	FALSE	FALSE	FALSE	49	NONE	
175762	2017	3P	John Day	W MAIN ST	N 3RD AVE	REAR	TOD-CLOS	POD	DAY	NONE	Neither	9/17/2017 5-STOP	PSNGR TOW	POD	DRY	CLR	STRAIGHT	PSNGR CAR	TRUE	PSNGR CAR	FALSE	FALSE	FALSE	0	NONE	

**General & Site Information**

Analyst:	DKS
Agency/Company:	
Date:	4/27/2021
Project Name:	John Day

**Intersection Crash Data**

Intersection	Intersection Type	Year					Total	Intersection
		2014	2015	2016	2017	2018		
W Main St/ Patterson Brid	Urban 3ST	0	0	0	1	1	2	1
W Main St./NW 3rd Ave.	Urban 3ST	0	0	0	0	0	0	2
E Main St./NE 3rd Ave.	Urban 3ST	0	0	0	1	0	1	3
							0	4
							0	5
							0	6
							0	7
							0	8
							0	9
							0	10
							0	11
							0	12
							0	13
							0	14
							0	15
							0	16
							0	
							0	
							0	
							0	
							0	
							0	
							0	
							0	
							0	
							0	
							0	
	Total	0	0	0	2	1	3	

Intersection Population Type Crash Rate				
Average Crash Rate per intersection type				
Intersection Pop. Type	Sum of Crashes	Sum of 5-year MEV	Avg Crash Rate for Ref Pop.	INT in Pop
Rural 3SG	0	0		
Rural 3ST	0	0		
Rural 4SG	0	0		
Rural 4ST	0	0		
Urban 3ST	3	21	0.1455	3
Urban 3SG	0	0		
Urban 4ST	0	0		
Urban 4SG	0	0		

Critical Rate Calculation													
Intersection	AADT Entering Intersection	5-year MEV	Crash Total	Intersection Population Type	Intersection Crash Rate	Reference Population Crash Rate	Critical Rate	Over Critical	APM Exhibit 4-1 Mean Crash Rate	Statewide Critical Rate	Over Statewide Critical	APM Exhibit 4-1 90th Percentile Rate	Over 90th
W Main St./ Patterson Brid	3,900	7.1	2	Urban 3ST	0.281	APM Exhibit 4-1			0.131	0.424	Under	0.293	Under
W Main St./NW 3rd Ave.	4,800	8.8	0	Urban 3ST	0.000	APM Exhibit 4-1			0.131	0.389	Under	0.293	Under
E Main St./NE 3rd Ave.	2,600	4.7	1	Urban 3ST	0.211	APM Exhibit 4-1			0.131	0.510	Under	0.293	Under

# SYNCHRO HCM REPORTS

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HCM 6th TWSC  
 1: W. Main Street & Patterson Bridge Road

05/05/2021

**Intersection**

Int Delay, s/veh 1.8

**Movement** EBL EBT WBT WBR SBL SBR

Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	5	195	195	15	45	15
Future Vol, veh/h	5	195	195	15	45	15
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	70	70	70	70	70	70
Heavy Vehicles, %	0	1	2	0	0	0
Mvmt Flow	7	279	279	21	64	21

**Major/Minor** Major1 Major2 Minor2

Conflicting Flow All	300	0	-	0	583	290
Stage 1	-	-	-	-	290	-
Stage 2	-	-	-	-	293	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1273	-	-	-	478	754
Stage 1	-	-	-	-	764	-
Stage 2	-	-	-	-	762	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1273	-	-	-	475	754
Mov Cap-2 Maneuver	-	-	-	-	475	-
Stage 1	-	-	-	-	759	-
Stage 2	-	-	-	-	762	-

**Approach** EB WB SB

HCM Control Delay, s	0.2	0	13.2
HCM LOS			B

**Minor Lane/Major Mvmt** EBL EBT WBT WBR SBLn1

Capacity (veh/h)	1273	-	-	-	523
HCM Lane V/C Ratio	0.006	-	-	-	0.164
HCM Control Delay (s)	7.8	0	-	-	13.2
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.6

HCM 6th TWSC  
2: W. Main Street & NW 3rd Avenue

05/05/2021

Intersection						
Int Delay, s/veh	1.6					
Movement	WBL	WBR	SEL	SET	NWT	NWR
Lane Configurations						
Traffic Vol, veh/h	5	50	60	280	265	10
Future Vol, veh/h	5	50	60	280	265	10
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	-	100	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	84	84	84	84	84	84
Heavy Vehicles, %	0	0	1	0	3	0
Mvmt Flow	6	60	71	333	315	12

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	796	321	327	0	-	0
Stage 1	321	-	-	-	-	-
Stage 2	475	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.11	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.209	-	-	-
Pot Cap-1 Maneuver	359	724	1238	-	-	-
Stage 1	740	-	-	-	-	-
Stage 2	630	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	339	724	1238	-	-	-
Mov Cap-2 Maneuver	339	-	-	-	-	-
Stage 1	698	-	-	-	-	-
Stage 2	630	-	-	-	-	-

Approach	WB	SE	NW
HCM Control Delay, s	11.1	1.4	0
HCM LOS	B		

Minor Lane/Major Mvmt	NWT	NWRWBLn1	SEL	SET
Capacity (veh/h)	-	-	656	1238
HCM Lane V/C Ratio	-	-	0.1	0.058
HCM Control Delay (s)	-	-	11.1	8.1
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.3	0.2

HCM 6th TWSC  
3: E. Main Street & NE 3rd Avenue

05/05/2021

**Intersection**

Int Delay, s/veh 1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	25	260	260	25	10	25
Future Vol, veh/h	25	260	260	25	10	25
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	27	283	283	27	11	27

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	310	0	-	0	634 297
Stage 1	-	-	-	-	297 -
Stage 2	-	-	-	-	337 -
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	1250	-	-	-	443 742
Stage 1	-	-	-	-	754 -
Stage 2	-	-	-	-	723 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1250	-	-	-	431 742
Mov Cap-2 Maneuver	-	-	-	-	431 -
Stage 1	-	-	-	-	734 -
Stage 2	-	-	-	-	723 -

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)	1250	-	-	-	615
HCM Lane V/C Ratio	0.022	-	-	-	0.062
HCM Control Delay (s)	7.9	0	-	-	11.2
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.2

HCM 6th TWSC  
 4: Mahogany Ridge Access & E. Main Street

05/05/2021

Intersection						
Int Delay, s/veh	0					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	250	0	0	250	0	0
Future Vol, veh/h	250	0	0	250	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	272	0	0	272	0	0

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	272	0	544
Stage 1	-	-	-	-	272
Stage 2	-	-	-	-	272
Critical Hdwy	-	-	4.12	-	6.42
Critical Hdwy Stg 1	-	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	-	5.42
Follow-up Hdwy	-	-	2.218	-	3.518
Pot Cap-1 Maneuver	-	-	1291	-	500
Stage 1	-	-	-	-	774
Stage 2	-	-	-	-	774
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1291	-	500
Mov Cap-2 Maneuver	-	-	-	-	500
Stage 1	-	-	-	-	774
Stage 2	-	-	-	-	774

Approach	EB	WB	NB
HCM Control Delay, s	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	-	-	-	1291	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	-	-	-	0	-

HCM 6th TWSC  
 1: W. Main Street & Patterson Bridge Road

05/05/2021

**Intersection**

Int Delay, s/veh 1.8

**Movement** EBL EBT WBT WBR SBL SBR

Lane Configurations		↕	↔		↕	
Traffic Vol, veh/h	5	200	200	15	45	15
Future Vol, veh/h	5	200	200	15	45	15
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	70	70	70	70	70	70
Heavy Vehicles, %	0	1	2	0	0	0
Mvmt Flow	7	286	286	21	64	21

**Major/Minor** Major1 Major2 Minor2

Conflicting Flow All	307	0	-	0	597	297
Stage 1	-	-	-	-	297	-
Stage 2	-	-	-	-	300	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1265	-	-	-	469	747
Stage 1	-	-	-	-	758	-
Stage 2	-	-	-	-	756	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1265	-	-	-	466	747
Mov Cap-2 Maneuver	-	-	-	-	466	-
Stage 1	-	-	-	-	753	-
Stage 2	-	-	-	-	756	-

**Approach** EB WB SB

HCM Control Delay, s	0.2	0	13.4
HCM LOS			B

**Minor Lane/Major Mvmt** EBL EBT WBT WBR SBLn1

Capacity (veh/h)	1265	-	-	-	514
HCM Lane V/C Ratio	0.006	-	-	-	0.167
HCM Control Delay (s)	7.9	0	-	-	13.4
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.6



Intersection						
Int Delay, s/veh	1.6					
Movement	WBL	WBR	SEL	SET	NWT	NWR
Lane Configurations						
Traffic Vol, veh/h	5	50	60	285	270	10
Future Vol, veh/h	5	50	60	285	270	10
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	-	100	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	84	84	84	84	84	84
Heavy Vehicles, %	0	0	1	0	3	0
Mvmt Flow	6	60	71	339	321	12

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	808	327	333	0	-	0
Stage 1	327	-	-	-	-	-
Stage 2	481	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.11	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.209	-	-	-
Pot Cap-1 Maneuver	353	719	1232	-	-	-
Stage 1	735	-	-	-	-	-
Stage 2	626	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	333	719	1232	-	-	-
Mov Cap-2 Maneuver	333	-	-	-	-	-
Stage 1	692	-	-	-	-	-
Stage 2	626	-	-	-	-	-

Approach	WB	SE	NW
HCM Control Delay, s	11.2	1.4	0
HCM LOS	B		

Minor Lane/Major Mvmt	NWT	NWRWBLn1	SEL	SET
Capacity (veh/h)	-	-	650	1232
HCM Lane V/C Ratio	-	-	0.101	0.058
HCM Control Delay (s)	-	-	11.2	8.1
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.3	0.2

**Intersection**

Int Delay, s/veh 1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	25	265	265	25	10	25
Future Vol, veh/h	25	265	265	25	10	25
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	27	288	288	27	11	27

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	315	0	-	0	644 302
Stage 1	-	-	-	-	302 -
Stage 2	-	-	-	-	342 -
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	1245	-	-	-	437 738
Stage 1	-	-	-	-	750 -
Stage 2	-	-	-	-	719 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1245	-	-	-	426 738
Mov Cap-2 Maneuver	-	-	-	-	426 -
Stage 1	-	-	-	-	731 -
Stage 2	-	-	-	-	719 -

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)	1245	-	-	-	610
HCM Lane V/C Ratio	0.022	-	-	-	0.062
HCM Control Delay (s)	8	0	-	-	11.3
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.2

HCM 6th TWSC  
 4: Mahogany Ridge Access & E. Main Street

05/05/2021

Intersection						
Int Delay, s/veh	0					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	255	0	0	255	0	0
Future Vol, veh/h	255	0	0	255	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	277	0	0	277	0	0

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	277	0	554
Stage 1	-	-	-	-	277
Stage 2	-	-	-	-	277
Critical Hdwy	-	-	4.12	-	6.42
Critical Hdwy Stg 1	-	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	-	5.42
Follow-up Hdwy	-	-	2.218	-	3.518
Pot Cap-1 Maneuver	-	-	1286	-	493
Stage 1	-	-	-	-	770
Stage 2	-	-	-	-	770
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1286	-	493
Mov Cap-2 Maneuver	-	-	-	-	493
Stage 1	-	-	-	-	770
Stage 2	-	-	-	-	770

Approach	EB	WB	NB
HCM Control Delay, s	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	-	-	-	1286	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	-	-	-	0	-

HCM 6th TWSC  
 1: W. Main Street & Patterson Bridge Road

07/09/2021

**Intersection**

Int Delay, s/veh 1.8

**Movement** EBL EBT WBT WBR SBL SBR

Lane Configurations		↕	↔		↕	
Traffic Vol, veh/h	5	203	202	15	45	15
Future Vol, veh/h	5	203	202	15	45	15
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	70	70	70	70	70	70
Heavy Vehicles, %	0	1	2	0	0	0
Mvmt Flow	7	290	289	21	64	21

**Major/Minor** Major1 Major2 Minor2

Conflicting Flow All	310	0	-	0	604	300
Stage 1	-	-	-	-	300	-
Stage 2	-	-	-	-	304	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1262	-	-	-	465	744
Stage 1	-	-	-	-	756	-
Stage 2	-	-	-	-	753	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1262	-	-	-	462	744
Mov Cap-2 Maneuver	-	-	-	-	462	-
Stage 1	-	-	-	-	751	-
Stage 2	-	-	-	-	753	-

**Approach** EB WB SB

HCM Control Delay, s	0.2	0	13.5
HCM LOS			B

**Minor Lane/Major Mvmt** EBL EBT WBT WBR SBLn1

Capacity (veh/h)	1262	-	-	-	510
HCM Lane V/C Ratio	0.006	-	-	-	0.168
HCM Control Delay (s)	7.9	0	-	-	13.5
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.6

Intersection						
Int Delay, s/veh	1.6					
Movement	WBL	WBR	SEL	SET	NWT	NWR
Lane Configurations						
Traffic Vol, veh/h	5	51	62	285	270	10
Future Vol, veh/h	5	51	62	285	270	10
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	-	100	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	84	84	84	84	84	84
Heavy Vehicles, %	0	0	1	0	3	0
Mvmt Flow	6	61	74	339	321	12

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	814	327	333	0	-	0
Stage 1	327	-	-	-	-	-
Stage 2	487	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.11	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.209	-	-	-
Pot Cap-1 Maneuver	350	719	1232	-	-	-
Stage 1	735	-	-	-	-	-
Stage 2	622	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	329	719	1232	-	-	-
Mov Cap-2 Maneuver	329	-	-	-	-	-
Stage 1	691	-	-	-	-	-
Stage 2	622	-	-	-	-	-

Approach	WB	SE	NW
HCM Control Delay, s	11.2	1.4	0
HCM LOS	B		

Minor Lane/Major Mvmt	NWT	NWRWBLn1	SEL	SET
Capacity (veh/h)	-	-	650	1232
HCM Lane V/C Ratio	-	-	0.103	0.06
HCM Control Delay (s)	-	-	11.2	8.1
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.3	0.2

HCM 6th TWSC  
 3: E. Main Street & NE 3rd Avenue

07/09/2021

**Intersection**

Int Delay, s/veh 1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	25	268	268	25	10	25
Future Vol, veh/h	25	268	268	25	10	25
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	27	291	291	27	11	27

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	318	0	0
Stage 1	-	-	305
Stage 2	-	-	345
Critical Hdwy	4.12	-	6.42
Critical Hdwy Stg 1	-	-	5.42
Critical Hdwy Stg 2	-	-	5.42
Follow-up Hdwy	2.218	-	3.518
Pot Cap-1 Maneuver	1242	-	434
Stage 1	-	-	748
Stage 2	-	-	717
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1242	-	423
Mov Cap-2 Maneuver	-	-	423
Stage 1	-	-	729
Stage 2	-	-	717

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)	1242	-	-	-	607
HCM Lane V/C Ratio	0.022	-	-	-	0.063
HCM Control Delay (s)	8	0	-	-	11.3
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.2

HCM 6th TWSC  
 4: Mahogany Ridge Access & E. Main Street

07/09/2021

Intersection						
Int Delay, s/veh	0					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	256	2	0	257	2	0
Future Vol, veh/h	256	2	0	257	2	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	278	2	0	279	2	0

Major/Minor	Major1	Major2	Minor1			
Conflicting Flow All	0	0	280	0	558	279
Stage 1	-	-	-	-	279	-
Stage 2	-	-	-	-	279	-
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	-	-	1283	-	491	760
Stage 1	-	-	-	-	768	-
Stage 2	-	-	-	-	768	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1283	-	491	760
Mov Cap-2 Maneuver	-	-	-	-	491	-
Stage 1	-	-	-	-	768	-
Stage 2	-	-	-	-	768	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	12.4
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	491	-	-	1283	-
HCM Lane V/C Ratio	0.004	-	-	-	-
HCM Control Delay (s)	12.4	-	-	0	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0	-	-	0	-

HCM 6th TWSC  
 1: W. Main Street & Patterson Bridge Road

07/09/2021

**Intersection**

Int Delay, s/veh 2.1

**Movement** EBL EBT WBT WBR SBL SBR

Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	10	205	205	20	50	20
Future Vol, veh/h	10	205	205	20	50	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	70	70	70	70	70	70
Heavy Vehicles, %	0	1	2	0	0	0
Mvmt Flow	14	293	293	29	71	29

**Major/Minor** Major1 Major2 Minor2

Conflicting Flow All	322	0	-	0	629	308
Stage 1	-	-	-	-	308	-
Stage 2	-	-	-	-	321	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1249	-	-	-	449	737
Stage 1	-	-	-	-	750	-
Stage 2	-	-	-	-	740	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1249	-	-	-	443	737
Mov Cap-2 Maneuver	-	-	-	-	443	-
Stage 1	-	-	-	-	740	-
Stage 2	-	-	-	-	740	-

**Approach** EB WB SB

HCM Control Delay, s	0.4	0	14
HCM LOS			B

**Minor Lane/Major Mvmt** EBL EBT WBT WBR SBLn1

Capacity (veh/h)	1249	-	-	-	500
HCM Lane V/C Ratio	0.011	-	-	-	0.2
HCM Control Delay (s)	7.9	0	-	-	14
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.7



**Intersection**

Int Delay, s/veh 1.8

**Movement** WBL WBR SEL SET NWT NWR

Lane Configurations	W	R	L	T	T	R
Traffic Vol, veh/h	10	55	65	290	275	15
Future Vol, veh/h	10	55	65	290	275	15
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	-	100	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	84	84	84	84	84	84
Heavy Vehicles, %	0	0	1	0	3	0
Mvmt Flow	12	65	77	345	327	18

**Major/Minor** Minor2 Major1 Major2

Conflicting Flow All	835	336	345	0	-	0
Stage 1	336	-	-	-	-	-
Stage 2	499	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.11	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.209	-	-	-
Pot Cap-1 Maneuver	340	711	1220	-	-	-
Stage 1	728	-	-	-	-	-
Stage 2	614	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	319	711	1220	-	-	-
Mov Cap-2 Maneuver	319	-	-	-	-	-
Stage 1	682	-	-	-	-	-
Stage 2	614	-	-	-	-	-

**Approach** WB SE NW

HCM Control Delay, s	11.9	1.5	0
HCM LOS	B		

**Minor Lane/Major Mvmt** NWT NWRWBLn1 SEL SET

Capacity (veh/h)	-	-	598	1220	-
HCM Lane V/C Ratio	-	-	0.129	0.063	-
HCM Control Delay (s)	-	-	11.9	8.2	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.4	0.2	-

HCM 6th TWSC  
 3: E. Main Street & NE 3rd Avenue

07/09/2021

Intersection						
Int Delay, s/veh	1.2					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	30	275	275	30	15	30
Future Vol, veh/h	30	275	275	30	15	30
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	33	299	299	33	16	33

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	332	0	-	0	681 316
Stage 1	-	-	-	-	316 -
Stage 2	-	-	-	-	365 -
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	1227	-	-	-	416 724
Stage 1	-	-	-	-	739 -
Stage 2	-	-	-	-	702 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1227	-	-	-	403 724
Mov Cap-2 Maneuver	-	-	-	-	403 -
Stage 1	-	-	-	-	715 -
Stage 2	-	-	-	-	702 -

Approach	EB	WB	SB
HCM Control Delay, s	0.8	0	11.9
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1227	-	-	-	572
HCM Lane V/C Ratio	0.027	-	-	-	0.086
HCM Control Delay (s)	8	0	-	-	11.9
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.3

HCM 6th TWSC  
 4: Mahogany Ridge Access & E. Main Street

07/09/2021

Intersection						
Int Delay, s/veh	0.3					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	260	5	5	260	5	5
Future Vol, veh/h	260	5	5	260	5	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	283	5	5	283	5	5

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	288	0	579 286
Stage 1	-	-	-	-	286 -
Stage 2	-	-	-	-	293 -
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	-	-	1274	-	477 753
Stage 1	-	-	-	-	763 -
Stage 2	-	-	-	-	757 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1274	-	475 753
Mov Cap-2 Maneuver	-	-	-	-	475 -
Stage 1	-	-	-	-	763 -
Stage 2	-	-	-	-	753 -

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	11.3
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	583	-	-	1274	-
HCM Lane V/C Ratio	0.019	-	-	0.004	-
HCM Control Delay (s)	11.3	-	-	7.8	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

HCM 6th TWSC  
 1: W. Main Street & Patterson Bridge Road

07/09/2021

**Intersection**

Int Delay, s/veh 2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	10	240	226	20	50	20
Future Vol, veh/h	10	240	226	20	50	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	70	70	70	70	70	70
Heavy Vehicles, %	0	1	2	0	0	0
Mvmt Flow	14	343	323	29	71	29

**Major/Minor**

	Major1	Major2	Minor2		
Conflicting Flow All	352	0	-	0	709
Stage 1	-	-	-	-	338
Stage 2	-	-	-	-	371
Critical Hdwy	4.1	-	-	-	6.4
Critical Hdwy Stg 1	-	-	-	-	5.4
Critical Hdwy Stg 2	-	-	-	-	5.4
Follow-up Hdwy	2.2	-	-	-	3.5
Pot Cap-1 Maneuver	1218	-	-	-	404
Stage 1	-	-	-	-	727
Stage 2	-	-	-	-	702
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1218	-	-	-	398
Mov Cap-2 Maneuver	-	-	-	-	398
Stage 1	-	-	-	-	717
Stage 2	-	-	-	-	702

**Approach**

	EB	WB	SB
HCM Control Delay, s	0.3	0	15.1
HCM LOS			C

**Minor Lane/Major Mvmt**

	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1218	-	-	-	455
HCM Lane V/C Ratio	0.012	-	-	-	0.22
HCM Control Delay (s)	8	0	-	-	15.1
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	0.8

Intersection						
Int Delay, s/veh	1.9					
Movement	WBL	WBR	SEL	SET	NWT	NWR
Lane Configurations						
Traffic Vol, veh/h	10	60	72	317	291	15
Future Vol, veh/h	10	60	72	317	291	15
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	-	100	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	84	84	84	84	84	84
Heavy Vehicles, %	0	0	1	0	3	0
Mvmt Flow	12	71	86	377	346	18

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	904	355	364	0	0
Stage 1	355	-	-	-	-
Stage 2	549	-	-	-	-
Critical Hdwy	6.4	6.2	4.11	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.209	-	-
Pot Cap-1 Maneuver	310	693	1200	-	-
Stage 1	714	-	-	-	-
Stage 2	583	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	288	693	1200	-	-
Mov Cap-2 Maneuver	288	-	-	-	-
Stage 1	663	-	-	-	-
Stage 2	583	-	-	-	-

Approach	WB	SE	NW
HCM Control Delay, s	12.3	1.5	0
HCM LOS	B		

Minor Lane/Major Mvmt	NWT	NWRWBLn1	SEL	SET
Capacity (veh/h)	-	-	577	1200
HCM Lane V/C Ratio	-	-	0.144	0.071
HCM Control Delay (s)	-	-	12.3	8.2
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.5	0.2

HCM 6th TWSC  
 3: E. Main Street & NE 3rd Avenue

07/09/2021

**Intersection**

Int Delay, s/veh 1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	30	395	349	30	15	30
Future Vol, veh/h	30	395	349	30	15	30
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	33	429	379	33	16	33

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	412	0	891
Stage 1	-	-	396
Stage 2	-	-	495
Critical Hdwy	4.12	-	6.42
Critical Hdwy Stg 1	-	-	5.42
Critical Hdwy Stg 2	-	-	5.42
Follow-up Hdwy	2.218	-	3.518
Pot Cap-1 Maneuver	1147	-	653
Stage 1	-	-	680
Stage 2	-	-	613
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1147	-	653
Mov Cap-2 Maneuver	-	-	301
Stage 1	-	-	654
Stage 2	-	-	613

Approach	EB	WB	SB
HCM Control Delay, s	0.6	0	13.5
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1147	-	-	-	470
HCM Lane V/C Ratio	0.028	-	-	-	0.104
HCM Control Delay (s)	8.2	0	-	-	13.5
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.3

HCM 6th TWSC  
 4: Mahogany Ridge Access & E. Main Street

07/09/2021

Intersection						
Int Delay, s/veh	2.2					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	264	121	26	266	74	17
Future Vol, veh/h	264	121	26	266	74	17
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	287	132	28	289	80	18

Major/Minor	Major1	Major2	Minor1			
Conflicting Flow All	0	0	419	0	698	353
Stage 1	-	-	-	-	353	-
Stage 2	-	-	-	-	345	-
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	-	-	1140	-	407	691
Stage 1	-	-	-	-	711	-
Stage 2	-	-	-	-	717	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1140	-	395	691
Mov Cap-2 Maneuver	-	-	-	-	395	-
Stage 1	-	-	-	-	711	-
Stage 2	-	-	-	-	696	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.7	15.9
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	429	-	-	1140	-
HCM Lane V/C Ratio	0.231	-	-	0.025	-
HCM Control Delay (s)	15.9	-	-	8.2	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	0.9	-	-	0.1	-

HCM 6th TWSC  
 1: W. Main Street & Patterson Bridge Road

07/09/2021

**Intersection**

Int Delay, s/veh 3.3

**Movement** EBL EBT WBT WBR SBL SBR

Lane Configurations		↕	↔		↕	
Traffic Vol, veh/h	11	256	239	26	83	28
Future Vol, veh/h	11	256	239	26	83	28
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	70	70	70	70	70	70
Heavy Vehicles, %	0	1	2	0	0	0
Mvmt Flow	16	366	341	37	119	40

**Major/Minor** Major1 Major2 Minor2

Conflicting Flow All	378	0	-	0	758	360
Stage 1	-	-	-	-	360	-
Stage 2	-	-	-	-	398	-
Critical Hdwy	4.1	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.2	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1192	-	-	-	378	689
Stage 1	-	-	-	-	710	-
Stage 2	-	-	-	-	683	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1192	-	-	-	372	689
Mov Cap-2 Maneuver	-	-	-	-	372	-
Stage 1	-	-	-	-	698	-
Stage 2	-	-	-	-	683	-

**Approach** EB WB SB

HCM Control Delay, s	0.3	0	18.6
HCM LOS			C

**Minor Lane/Major Mvmt** EBL EBT WBT WBR SBLn1

Capacity (veh/h)	1192	-	-	-	421
HCM Lane V/C Ratio	0.013	-	-	-	0.377
HCM Control Delay (s)	8.1	0	-	-	18.6
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	1.7



**Intersection**

Int Delay, s/veh 2.6

**Movement** WBL WBR SEL SET NWT NWR

Lane Configurations	W	W	S	S	N	N
Traffic Vol, veh/h	10	93	114	348	316	15
Future Vol, veh/h	10	93	114	348	316	15
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	-	100	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	84	84	84	84	84	84
Heavy Vehicles, %	0	0	1	0	3	0
Mvmt Flow	12	111	136	414	376	18

**Major/Minor** Minor2 Major1 Major2

Conflicting Flow All	1071	385	394	0	-	0
Stage 1	385	-	-	-	-	-
Stage 2	686	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.11	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.209	-	-	-
Pot Cap-1 Maneuver	247	667	1170	-	-	-
Stage 1	692	-	-	-	-	-
Stage 2	504	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	218	667	1170	-	-	-
Mov Cap-2 Maneuver	218	-	-	-	-	-
Stage 1	612	-	-	-	-	-
Stage 2	504	-	-	-	-	-

**Approach** WB SE NW

HCM Control Delay, s 13.3 2.1 0  
HCM LOS B

**Minor Lane/Major Mvmt** NWT NWRWBLn1 SEL SET

Capacity (veh/h)	-	-	556	1170	-
HCM Lane V/C Ratio	-	-	0.221	0.116	-
HCM Control Delay (s)	-	-	13.3	8.5	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.8	0.4	-

HCM 6th TWSC  
 3: E. Main Street & NE 3rd Avenue

07/09/2021

**Intersection**

Int Delay, s/veh 1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	30	411	363	30	15	30
Future Vol, veh/h	30	411	363	30	15	30
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	33	447	395	33	16	33

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	428	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.12	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.218	-	-
Pot Cap-1 Maneuver	1131	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1131	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0.6	0	13.9
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1131	-	-	-	454
HCM Lane V/C Ratio	0.029	-	-	-	0.108
HCM Control Delay (s)	8.3	0	-	-	13.9
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.4

HCM 6th TWSC  
 4: Mahogany Ridge Access & E. Main Street

07/09/2021

Intersection						
Int Delay, s/veh	2.2					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	280	121	26	279	74	17
Future Vol, veh/h	280	121	26	279	74	17
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	304	132	28	303	80	18

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	0	436	0	729
Stage 1	-	-	-	-	370
Stage 2	-	-	-	-	359
Critical Hdwy	-	-	4.12	-	6.42
Critical Hdwy Stg 1	-	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	-	5.42
Follow-up Hdwy	-	-	2.218	-	3.518
Pot Cap-1 Maneuver	-	-	1124	-	390
Stage 1	-	-	-	-	699
Stage 2	-	-	-	-	707
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1124	-	378
Mov Cap-2 Maneuver	-	-	-	-	378
Stage 1	-	-	-	-	699
Stage 2	-	-	-	-	686

Approach	EB	WB	NB
HCM Control Delay, s	0	0.7	16.5
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	412	-	-	1124	-
HCM Lane V/C Ratio	0.24	-	-	0.025	-
HCM Control Delay (s)	16.5	-	-	8.3	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	0.9	-	-	0.1	-

HCM 6th TWSC  
 1: W. Main Street & Patterson Bridge Road

07/09/2021

Intersection						
Int Delay, s/veh	2.5					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	32	236	217	20	35	50
Future Vol, veh/h	32	236	217	20	35	50
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	150	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	70	70	70	70	70	70
Heavy Vehicles, %	0	1	2	0	0	0
Mvmt Flow	46	337	310	29	50	71

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	339	0	-	0	754
Stage 1	-	-	-	-	325
Stage 2	-	-	-	-	429
Critical Hdwy	4.1	-	-	-	6.4
Critical Hdwy Stg 1	-	-	-	-	5.4
Critical Hdwy Stg 2	-	-	-	-	5.4
Follow-up Hdwy	2.2	-	-	-	3.5
Pot Cap-1 Maneuver	1231	-	-	-	380
Stage 1	-	-	-	-	737
Stage 2	-	-	-	-	661
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1231	-	-	-	366
Mov Cap-2 Maneuver	-	-	-	-	366
Stage 1	-	-	-	-	710
Stage 2	-	-	-	-	661

Approach	EB	WB	SB
HCM Control Delay, s	1	0	14.1
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1231	-	-	-	515
HCM Lane V/C Ratio	0.037	-	-	-	0.236
HCM Control Delay (s)	8	-	-	-	14.1
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.9

**Intersection**

Int Delay, s/veh 2.1

**Movement** WBL WBR SEL SET NWT NWR

Lane Configurations	W					
Traffic Vol, veh/h	10	75	72	332	310	15
Future Vol, veh/h	10	75	72	332	310	15
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	-	100	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	84	84	84	84	84	84
Heavy Vehicles, %	0	0	1	0	3	0
Mvmt Flow	12	89	86	395	369	18

**Major/Minor** Minor2 Major1 Major2

Conflicting Flow All	945	378	387	0	-	0
Stage 1	378	-	-	-	-	-
Stage 2	567	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.11	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.209	-	-	-
Pot Cap-1 Maneuver	293	673	1177	-	-	-
Stage 1	697	-	-	-	-	-
Stage 2	572	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	272	673	1177	-	-	-
Mov Cap-2 Maneuver	272	-	-	-	-	-
Stage 1	646	-	-	-	-	-
Stage 2	572	-	-	-	-	-

**Approach** WB SE NW

HCM Control Delay, s	12.6	1.5	0
HCM LOS	B		

**Minor Lane/Major Mvmt** NWT NWRWBLn1 SEL SET

Capacity (veh/h)	-	-	574	1177	-
HCM Lane V/C Ratio	-	-	0.176	0.073	-
HCM Control Delay (s)	-	-	12.6	8.3	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.6	0.2	-

HCM 6th TWSC  
 3: E. Main Street & NE 3rd Avenue

07/09/2021

Intersection						
Int Delay, s/veh	1.9					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	30	366	326	62	55	30
Future Vol, veh/h	30	366	326	62	55	30
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	33	398	354	67	60	33

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	421	0	-	0	852 388
Stage 1	-	-	-	-	388 -
Stage 2	-	-	-	-	464 -
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	1138	-	-	-	330 660
Stage 1	-	-	-	-	686 -
Stage 2	-	-	-	-	633 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1138	-	-	-	318 660
Mov Cap-2 Maneuver	-	-	-	-	318 -
Stage 1	-	-	-	-	661 -
Stage 2	-	-	-	-	633 -

Approach	EB	WB	SB
HCM Control Delay, s	0.6	0	17.1
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1138	-	-	-	389
HCM Lane V/C Ratio	0.029	-	-	-	0.238
HCM Control Delay (s)	8.3	0	-	-	17.1
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0.1	-	-	-	0.9

HCM 6th TWSC  
 4: Mahogany Ridge Access & E. Main Street

07/09/2021

Intersection						
Int Delay, s/veh	2.2					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	279	121	26	279	74	17
Future Vol, veh/h	279	121	26	279	74	17
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	303	132	28	303	80	18

Major/Minor	Major1	Major2	Minor1			
Conflicting Flow All	0	0	435	0	728	369
Stage 1	-	-	-	-	369	-
Stage 2	-	-	-	-	359	-
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	-	-	1125	-	390	677
Stage 1	-	-	-	-	699	-
Stage 2	-	-	-	-	707	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1125	-	378	677
Mov Cap-2 Maneuver	-	-	-	-	378	-
Stage 1	-	-	-	-	699	-
Stage 2	-	-	-	-	686	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.7	16.5
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	412	-	-	1125	-
HCM Lane V/C Ratio	0.24	-	-	0.025	-
HCM Control Delay (s)	16.5	-	-	8.3	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	0.9	-	-	0.1	-