### PRELIMINARY FINDINGS OF FACT CONDITIONAL USE PERMIT CUP24-000001

REQUEST: To approve the installation of a traffic light with related street improvements at the corner of North Main and Boardman Avenue to include conversion of the North Main Street intersection with the NE and NW Front Streets to a right-in/right-out configuration. To determine that the installation is in conformance with the Main Street Interchange Area Management Plan and meets necessary warrants.

APPLICANT/OWNER: City of Boardman

Post Office Box 229

Boardman, Oregon 97818

**ZONING OF THE AREA:** Commercial (Tourist Commercial Sub District) and Residential

**PROPERTY LOCATION:** The subject property includes the rights-of-way for both Main Street

and Boardman Avenue north of the Main Street Interchange. Adjacent businesses include C&D, Chevron, Sinclair, the Boardman Office Center,

and Riverside High School.

**I. BACKGROUND:** A number of years ago the City of Boardman experienced a loss of life at the subject intersection after which the currently installed Rectangular Rapid Flashing Beacon (RRFB) was installed. During peak pedestrian crossings, predominantly at school departure times, use of the RRFB can create traffic backups along Main Street that can impact queuing on the west bound Interstate 84 off ramp creating potential impediments into the west bound travel lane.

This area is subject to the Boardman Main Street Interchange Area Management Plan (MS IAMP) and any development or street projects within the Management Area must conform to the requirements of the IAMP. In the MS IAMP there are streetlights envisioned at the ramp intersections but not other intersections. About two years ago the City engaged Kittelson & Associates to do an evaluation of the Main Street corridor to accomplish an update to the planning level analysis documented in the 2009 MS IAMP. The purpose was to provide an updated list of improvement projects to support multi-modal circulation improvements along the corridor and at the interchange.

After lengthy discussion with the Oregon Department of Transportation concerning the necessary planning process to authorize the installation of the streetlight it was determined that an amendment to the MS IAMP would not be necessary but signal warrants needed to be identified and no impacts to the interchange could occur. Signal warrants were justified and the streetlight was shown not to impact the interchange in the Kittleson & Associates Main Street corridor assessment. Installation of the center median is also justified to convert NW and NE Front Street to right-in/right-out and for traffic queueing/staging at the signalized intersection.

It should be noted that the MS IAMP does say the following about access to Main Street in the vicinity of the Interchange: "A key element of the IAMP is to the long-range preservation of

operational efficiency and safety of the interchange is the management of access to Main Street. Because access points introduce a number of potential vehicular conflicts on a roadway and are frequently the causes of slowing or stopping vehicles, they can significantly degrade the flow of traffic and reduce the efficiency of the transportation system. However, reducing the overall number of access points and providing greater separation between them can minimize the impacts of these conflicts." The proposed center median and limiting left hand turns on North Main Street between Front Street and Boardman Avenue affectively achieves the intent of this statement without closing those accesses.

In limiting NE and NW Front Streets to a right-in/right-out configuration the Boardman Avenue and North Main Street intersection allows full turning movements. For comparison the same configuration on South Main Street would mean that Oregon Trail Boulevard will also allow full turning movements.

The street light installation, including street, sidewalk, and parking improvements, has been designed. It is anticipated that the project will go to bid in July 2024 with construction starting in March or April of 2025 and ending in July or August of that same year. The duration of time between the construction bidding process and the start of construction is for the procurement of long-lead time equipment and materials.

This project is identified in the Capital Improvement Plan adopted by the Boardman City Council on April 2 of this year. The City Manager and Planning Official have met with several of the immediately impacted landowners to discuss the project, the safety concerns it is addressing, mitigation of construction impacts, and to express our understanding of how this can create negative impacts to business operations.

II. APPROVAL CRITERIA: The Boardman Development Code Residential and Commercial use zones both identify in their respective Tables of allowed uses that "transportation projects that are not designated improvements in the Transportation System Plan" are subject to a Conditional Use Permit. While street lights are envisioned in the MS IAMP they are planned for the on- and off-ramps, not other intersections. The applicable criteria are found in Chapter 4.4 Conditional Use Permits at 4.4.400 Criteria, Standards and Conditions of Approval which is in **bold** text with responses in regular text.

### 4.4.400 Criteria, Standards and Conditions of Approval

The City shall approve, approve with conditions, or deny an application for a conditional use or to enlarge or alter a conditional use based on findings of fact with respect to each of the following standards and criteria:

- D. Transportation System Facilities and Improvements
  - 1. City or County facilities and improvements. Construction, reconstruction, or widening of highways, roads, bridges or other transportation facilities that are (1) not designated in the City's adopted Transportation System Plan ("TSP"), or (2) not designed and constructed as part of an approved subdivision or partition, are allowed in all Districts subject to a Conditional Use Permit and satisfaction of all of the following criteria:
    - a. The project and its design are consistent with the City's adopted TSP, or, if the city has not adopted a TSP, consistent with the State Transportation Planning Rule, OAR 660-012 ("the TPR").

- b. The project design is compatible with abutting land uses in regard to noise generation and public safety and is consistent with the applicable zoning and development standards and criteria for the abutting properties.
- c. The project design minimizes environmental impacts to identified wetlands, wildlife habitat, air and water quality, cultural resources, and scenic qualities; and a site with fewer environmental impacts is not reasonably available. The applicant shall document all efforts to obtain a site with fewer environmental impacts, and the reasons alternative sites were not chosen.
- d. The project preserves or improves the safety and function of the facility through access management, traffic calming, or other design features.
- e. The project includes provisions for bicycle and pedestrian access and circulation consistent with the comprehensive plan, the requirements of this ordinance, and the TSP or TPR.

The proposed street light and related improvements are on a city facility and involves the construction of the area in and around the Main Street and Boardman Avenue intersection. The construction will involve the installation of the streetlight and its components, improved street base and new pavement in the intersection and along Boardman Avenue to both the east and west, new sidewalk and improved access points, a median along North Main from the Interchange to the subject intersection, and new striping throughout the area.

Staff have determined that the street light is consistent with the MS IAMP as it does conform to the Access Management Plan by:

- Continuing to restrict access to the interchange and interchange ramps and is, in fact, working to eliminate impacts to the interchange ramps from traffic that currently backs up when continual use of the RRFB causes delays of northbound travelers on Main Street.
- Improve safety factors not only within the interchange but also along Main Street and at this intersection in particular.
- Eliminating or reducing turning conflicts along the Main Street corridor from just north of the interchange to the Main Street and Boardman Avenue intersection.
- Assuring that all current accesses are maintained to allow some level of ingress or egress and improving several accesses with improvements that also support pedestrian utilization.

Staff have also determined that the street light is warranted based on the following:

- While not within the standard time frame for consideration there has been a pedestrian loss of life at this intersection.
- This intersection is a primary school crossing area for Riverside High School during the arrival, lunch, and departure times. Use of the current RRFB creates backups along Main Street impacting the west bound off ramp queuing and can result in traffic backing up into the west bound travel lane. This is further discussed on page 7 of the Kittelson & Associates analysis that is attached.
- Pedestrian volume outside of school pedestrian usage continues to increase along Main Street.
- Crash data from 2016 through 2020 identified in the Kittelson & Associates report shows that there are a variety of different types of crashes throughout the study corridor.

Abutting land uses are commercial in nature with the exception of the school. The school building is located 1,000 feet or more from the intersection with school green space and recreational space in between. The C&D Drive-In is most affected by the installation of the streetlight and design of the project took into consideration their setback distance from the road with a desire to maintain their

outdoor seating on the west side of their development. On street parking has been the most effected element through the design process with a number of angle and parallel parking spaces being removed. At least as many, if not more, parking spaces are being constructed resulting in a positive number of parking spaces. The new parking opportunity is being developed along the frontage of the Riverside High School with discussion ongoing to extend the parking further to the east from the current terminus shown on the Schematic Layout.

This project is locationally dependent. It is not specifically being designed to move more traffic, but to move current traffic more efficiently and safely.

Safety is one of the primary reasons for pursuing the street light project based on the loss of life from some years ago along with the reporting of a significant number of near misses with both cars and pedestrians.

Pedestrian, and by extension bicycle, movement and safety will be improved with the street light allowing for protected crossing times and spacing those crossing times to reduce if not eliminate backups along Main Street that can currently affect the queuing of west bound travelers on the west bound off ramp.

2. State facilities and improvements. The State Department of Transportation ("ODOT") shall provide a narrative statement with the application demonstrating compliance with all of the criteria and standards in Section 4.4.400.D. 1.b. – e. above. Where applicable, an Environmental Impact Statement or Environmental Assessment may be used to address one or more of these criteria.

The intersection of Main Street and Boardman Avenue is not a state facility. It is within the Management Area of the MS IAMP which was addressed through significant conversation with ODOT staff about the light, the mechanism to approve the installation of the street light, and will also include conversation with ODOT about management of the light once installed. The above criteria for a state facility have been deemed to not be applicable.

- 3. Proposal inconsistent with TSP/TPR. If the City determines that the proposed use or activity or its design is inconsistent with the TSP or TPR, then the applicant shall apply for and obtain a plan and/or zoning amendment prior to or in conjunction with conditional use permit approval. The applicant shall choose one of the following options: a. If the city determination of inconsistency is made prior to a final decision on the conditional use permit application, the applicant shall withdraw the conditional use permit application; or b If the city determination of inconsistency is made prior to a final decision on the conditional use permit application, the applicant shall withdraw the conditional permit application, apply for a plan/zone amendment, and re-apply for a conditional use permit if and when the amendment is approved; or
  - a. If the city determination of inconsistency is made prior to a final decision on the conditional use permit application, the applicant shall submit a plan/zoning amendment application for joint review and decision with the conditional use permit application, along with a written waiver of the ORS 227.178 120-day period within which to complete all local reviews and appeals once the application is deemed complete; or
  - b. If the city determination of inconsistency is part of a final decision on the conditional use permit application, the applicant shall submit a new conditional use permit application, along with a plan/zoning amendment application for joint review and decision.

The city has determined that the installation of the street light is consistent with the MS IAMP and is therefore consistent with the Transportation Planning Rule. See the discussion under 1. above and the attached Boardman Main Street Circulation Assessment dated March 2024 and prepared by Kittelson & Associates.

4. Expiration. A Conditional Use Permit for Transportation System Facilities and Improvements shall be void after three (3) years.

It is the intent of the City to have this project go to bid in July 2024 with construction to start in March or April 2025 and concluding in July or August 2025.

III. LEGAL NOTICE PUBLISHED: March 26, 2024

East Oregonian

IV. PROPERTY OWNERS NOTIFIED: March 26, 2024

List on file.

V. AGENCIES NOTIFIED: Teresa Penninger, Rich Lani, David Boyd, and Cheryl Jarvis-Smith, Oregon Department of Transportation; Marty Broadbent and Michael Hughes, Boardman Fire Rescue District; Emily Roberts, Morrow County Health District; Mike Lees and Rolf Prag, City of Boardman.

VI. HEARING DATE: April 17, 2024

Boardman City Hall

- **VII. COMMENTS RECEIVED:** The following summarize comments received:
  - o Letter dated April 10, 2024, from Alex Hattenhauer, Hattenhauer Distributing, in opposition.
  - Site Team was held on April 11, 2024, with local utilities, the Fire Marshall, and ODOT staff in attendance. No changes to the proposal emerged from this discussion.
- **VIII. PLANNING OFFICIAL RECOMMENDATION:** The Planning Official recommends that the Planning Commission approve this request as presented affirming that the traffic signal is consistent with the MS IAMP and is warranted.

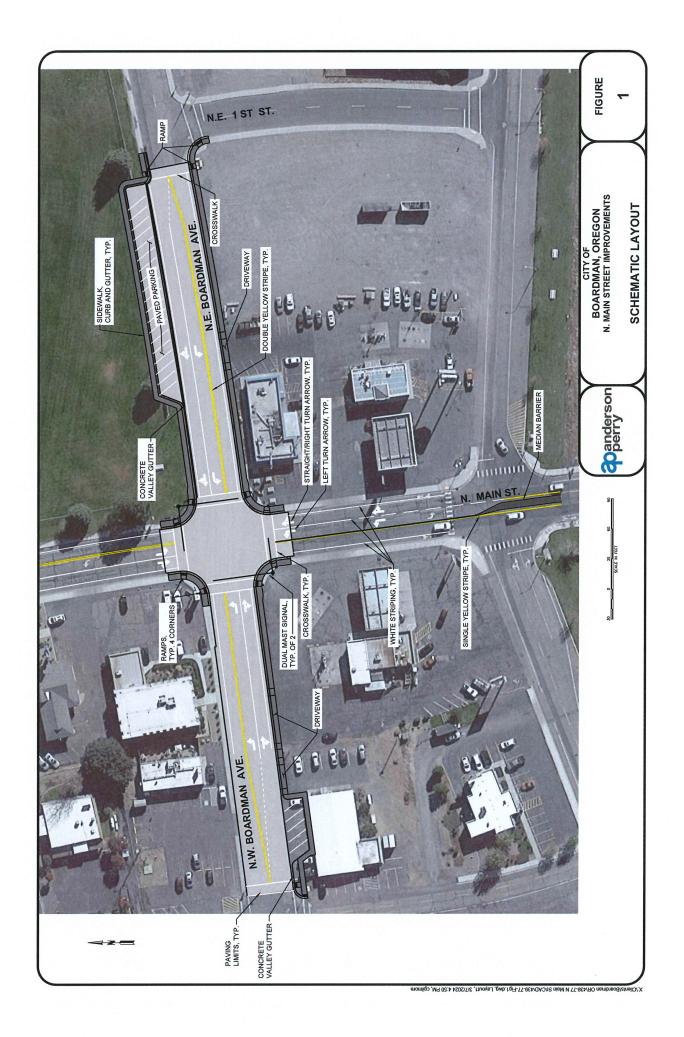
Zack Barresse. Chair	Date

ATTACHMENTS:

Schematic Layout

Boardman Main Street Circulation Assessment (March 2024)

April 10, 2024, letter in opposition – Alex Hattenhauer, Hattenhauer Distributing



P 503.228.5230 F 503.273.8169

### TECHNICAL MEMORANDUM

Date:

March 2024

Project #: 27246

To:

Brandon Hammond, Carla McLane, Rick Stokoe, & Mike Lees; City of Boardman

Teresa Penninger; Oregon Department of Transportation

From:

Matt Hughart, AICP and Ali Razmpa, PE

Project:

**Boardman Main Street Circulation Assessment** 

Subject:

Existing Conditions, Future Conditions, and Circulation Improvements

This report provides an update to the planning level analysis first documented in the 2009 Boardman Main Street Interchange Area Management Plan (IAMP). The purpose of the study is to provide the City of Boardman with an updated list of improvement projects to support multi-modal circulation improvements along Boardman's Main Street corridor and the I-84/Main Street interchange.

### BACKGROUND

In 2009, the City of Boardman and Oregon Department of Transportation (ODOT) adopted the Boardman Main Street IAMP. The purpose of the IAMP was to formally identify circulation and access management improvements that would be needed to keep the I-84/Main Street interchange and the supporting local roadway network functioning safely and efficiently. Since 2009, Boardman and the adjacent Port of Morrow (POM) have experienced significant residential and employment growth which has led to a measurable increase in traffic volumes along the Main Street corridor. This growth has necessitated an updated look at operations along the Main Street corridor stretching from Columbia Avenue to Wilson Lane.

Consistent with the original IAMP planning process, a planning-level update was performed, documenting the current IAMP study area conditions (existing infrastructure and traffic conditions), the future no-build conditions (assuming expected local and regional growth with no infrastructure improvements), and the evaluation and selection of new/additional corridor capacity, access, and intersection improvements.

### Main Street Study Area

To help define the extent of the land use and traffic operations review for this update, the study area includes the Main Street corridor from Columbia Avenue to Wilson Lane and select intersections as illustrated in Figure 1.

Exhibit 1 – Study Area and Study Intersections



### **EXISTING CONDITIONS**

### **Existing Traffic Volumes and Peak Hour Operations**

Intersection turning movement counts were collected at the following study intersections in March 2022:

- 1. N Main Street/Columbia Avenue
- 2. N Main Street/Boardman Avenue
- 3. N Main Street/N Front Street
- 4. N Main Street/I-84 WB Ramp Terminal
- 5. S Main Street/I-84 EB Ramp Terminal
- 6. S Main Street/S Front Street
- 7. S Main Street/Oregon Trail Boulevard
- 8. S Main Street/City Center Circle
- 9. S Main Street/Kincade Road
- 10. S Main Street/Willow Fork Drive
- 11. S Main Street/Wilson Lane

A description of the analysis conducted with this data is summarized in the following sections. *Appendix A contains the traffic count worksheets*.

### Seasonal Adjustments

Following the methodology outlined by ODOT's Analysis Procedures Manual (APM), a seasonal adjustment factor was applied to the traffic counts collected for the existing conditions analysis to estimate 30<sup>th</sup> highest hour volumes given Boardman's significant level of highway-oriented retail establishments. Consistent with the previous 2009 IAMP, ATR #25-008, located on I-84 west of US 730, was determined to have the most similar traffic characteristics within the study area. The seasonal adjustment factor calculations for the intersection counts collected in March is 1.28 as noted in Table 2.

**Table 1 - Seasonal Adjustment Factor Calculations** 

	2019	2018	2017	2016	2015	Avg
			ATR 25-008			
Peak Month (August)	123	122	<del>125</del>	122	124	123
Count Month (March)	96	97	99	96	96	96

- The average peak month (August) is: (122% + 123% + 124%) / 3 = 123%
- The average count month (March) is: (96% + 97% + 96%) / 3 = 96.3%
- The seasonal adjustment factor is 123%/96.3% = 1.28

After applying the 1.28 seasonal adjustment factor, the intersection turning movement volumes at the I-84/Main Street interchange were analyzed to discern any notable traffic patterns that would help inform the IAMP update process as noted in the following sections.

### **Existing Intersection Operations**

ODOT uses volume-to-capacity (v/c) ratios to assess intersection operations. Table 6 of the *Oregon Highway Plan* (OHP) provides maximum volume-to-capacity ratio targets for all signalized/roundabout and unsignalized intersections. Table 2 summarizes the applicable v/c ratio that will be used to evaluate the existing and future operations at the ODOT owned/maintained I-84/Main Street ramp terminals.

Table 2 - ODOT Mobility Targets

Intersection	OHP Mobility Target
Main Street/I-84 WB Ramp Terminal	v/c = 0.85 Main Street Approach/0.80 ramp approach
Main Street/I-84 EB Ramp Terminal	v/c = 0.85 Main Street Approach/0.80 ramp approach

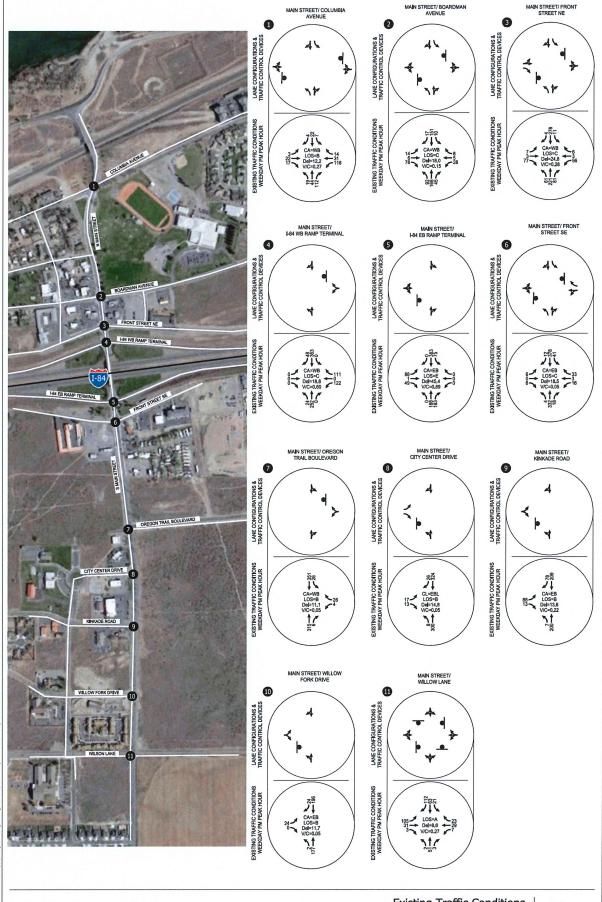
The operational standard for intersections involving only City roadways is based on level-of-service (LOS). The City maintains a LOS standard of "C" or better for all intersections.

Using these standards, an operations assessment was performed at the previously noted intersections. The existing traffic conditions at the study intersections are summarized in Figure 1 during the weekday PM peak hour (4:00-5:00 PM). As shown, the study intersection operations satisfy applicable ODOT and City of Boardman mobility targets/standards. *Appendix B contains the existing traffic operations worksheets*.

While all of the study intersections have the capacity to accommodate existing PM peak hour demand, observations at the ramp terminal intersections found that offramp movements can experience periods of delay. This delay is attributed to continuous demand along the Main Street corridor, the lack of left-turn lanes onto each on-ramp, the close spacing of the north and south Front Street intersections, and periods of occassional vehicle queue spillback generated by a pedestrian crossing beacon at the Boardman Avenue intersection.

### Intersection Crash History

Study intersection crash histories were obtained and reviewed in an effort to identify potential safety issues. ODOT provided crash records for the study intersections for the five-year period from January 1, 2016 through December 31, 2020. Appendix C provides the ODOT crash report which provides more details on the reported crashes. Table 3 summarizes the ODOT crash data.



- Study Intersections

Existing Traffic Conditions Weekday PM Peak Hour City of Boardman, Oregon

Figure 1

Table 3 – Reported Crash History (January 1, 2016 – December 31, 2020)

			Crash Type				Severity		
Study Intersection	Angle	Turn	Rear-End	Sideswipe	Other	PDO	Injury	Fatal	Total
N Main Street/ Columbia Avenue	-	-	-	-	-	0	О	0	0
N Main Street/ Boardman Avenue	1	-	-	-	-	1	0	0	1
N Main Street/ N Front Street	-	1	-	-	-	1	0	0	1
N Main Street/ I-84 WB Ramp Terminal	2	4	3	-	-	4	5	0	9
S Main Street/ I-84 EB Ramp Terminal	1	2	-	-	-	3	0	0	3
S Main Street/ S Front Street	-	-	-	-	-	0	0	0	0
S Main Street/ Oregon Trail Boulevard	-	-	1	-	-	1	0	0	1
S Main Street/ City Center Circle	-	-	-	-	-	0	0	0	0
S Main Street/ Kincade Road	-	-	-	-	-	0	0	0	0
S Main Street/ Willow Fork Drive	-	-	-	-	-	0	0	0	0
S Main Street/ Wilson Lane	2	1	-	-	-	2	1	0	3

PDO = Property Damage Only

Intersection crash rates were calculated and compared to statewide crash rate performance thresholds. For this analysis, the critical crash rate was calculated and compared to the 90<sup>th</sup> percentile crash rates for urban intersections by traffic control and 3- versus 4-legged configurations (as appropriate). This is shown in Table 4.

Table 4 - Intersection Crash Rate Assessment

Study Intersection	Total Crashes	Observed Crash Rate	90 <sup>th</sup> Percentile Rate by Lane Type and Traffic Control	Observed Crash Rate > 90 <sup>th</sup> Percentile Rate?
N Main Street/ Boardman Avenue	1	0.09	0.41	No
N Main Street/ N Front Street	1	0.07	0.41	No
N Main Street/ I-84 WB Ramp Terminal	9	0.54	0.29	Yes
S Main Street/ I-84 EB Ramp Terminal	3	0.17	0.29	No
S Main Street/ Oregon Trail Boulevard	1	0.08	0.29	No
S Main Street/ Wilson Lane	3	0.37	0.41	No

### Existing Operations/Crash Findings

While the operations analysis indicates that all study intersections have capacity during the peak time periods, a review of the crash history and field observations along the Main Street corridor revealed several characteristics that can impact corridor operations:

- Although not summarized in the operations analysis, the EB and WB I-84/Main Street off ramps are single-lane ramps with shared single-lane stop-controlled approaches to Main Street. During peak time periods, volumes on the off ramps can generate some relatively long queues, especially when there are large trucks exiting the freeway.
- The N Main Street/I-84 WB Ramp Terminal intersection exceeds the critical crash rate based on lane type and traffic control. A detailed review of the intersection crash data revealed that all three rear-end crashes occurred on the westbound I-84 offramp approaching the intersection and all seven turning/angle crashes involved vehicles making left- and right-turns from the westbound offramp ramp approach and interacting with northbound or southbound Main Street vehicles.
  - While the crash data is limited in detail, it appears that some of these crashes could be mitigated by improved access management along the N Main Street corridor (the closely spaced north and south Front Street intersections introduce additional turning movements within close proximity of the ramp terminals) and traffic control improvements at the ramp terminal intersections. These mitigation scenarios will be explored later in this report.
- Field observations were made at the N Main Street/Boardman Avenue intersection during multiple days and time periods to better understand how the adjacent Rectangular Rapid Flashing Beacon (RRFB) impacts traffic circulation along the N Main Street corridor. Key findings from these observations include:
  - The highest concentration of pedestrian crossings were observed to occur during the 10:45 – 11:45 AM time period which coincides with Riverside Jr/Sr High School lunch period. During this period, students were observed walking from the campus to various lunch destinations along the N Main Street corridor. The RRFB was consistently utilized to assist in the crossing of the north leg of N Main Street.
  - While students typically crossed in groups, there were instances where repeated back-to-back activations of the RRFB led to the formation of northbound vehicle queues on N Main Street. In some instances, particularly when there were multiple trucks involved, these vehicle queues were observed backing up to and beyond the I-84 WB Ramp Terminal intersection. This is generally a significant safety concern as the interruption of traffic flow can lead to backups on the offramp, which can in turn impact the I-84 westbound freeway lanes under worst case circumstances.
  - Other peak activation periods of the RRFB occurred in the 6:45-7:45 AM time period and 2:45-3:34 PM time period, however the number of pedestrians were observed to be measurably lower, more spread out, and less likely to generate significant vehicle queues along N Main Street.

### **FUTURE 2042 CONDITIONS**

This section documents the future travel demand and forecast traffic operations along the Main Street study corridor. The future traffic projections are based on anticipated land use and development through the year 2042 using the same cumulative traffic forecast methodology from the 2009 IAMP.

### Future 2042 Land Uses/Development Projections

Based on an updated land use inventory, a review of current development patterns, and discussions with City of Boardman staff, an updated land use forecast was performed for all vacant/undeveloped parcels located within the larger Main Street study corridor. Appendix D contains a detailed description of assumed future developments for these parcels.

From this land use forecast, a future trip generation profile was developed for each vacant parcel with anticipated weekday PM peak hour trips distributed to/from the Main Street corridor and study intersections. This distribution was based on the type of land use (highway-oriented commercial/retail uses with a focus to/from the I-84 corridor, Boardman supporting commercial/retail uses with a focus to/from local residential neighborhoods, and residential uses with a commuting focus to/from local and regional employment centers), and future roadway connections shown in the 2009 IAMP's Roadway Network and Classification Plan (see Exhibit 2).

BOARDMAN

BOARDMAN

ST

FRONT

ST

FRONT

ST

ROW

OREGON TRAIL BLVD

WESON

ST

KINKADE

WESON

KUNZE

Exhibit 2 – Excerpt from the 2009 IAMP's Roadway Network and Classification Plan Map

From this map, the following connections were assumed to be constructed as part of future development within the 20-year timeframe of this assessment:

- 1. A new backage road connection linking SE Front Street to Oregon Trail Boulevard (likely is being constructed in the 2024-2025 period).
- 2. A new backage road connection linking SW Front Street to a future westerly extension of Oregon Trail Boulevard.
- 3. A westerly extension of Oregon Trail Boulevard from S Main Street to Faler Road.
- 4. A new local street grid pattern on the east side of S Main Street connecting Oregon Trail Boulevard to Wilson Lane with a connection to S Main Street.

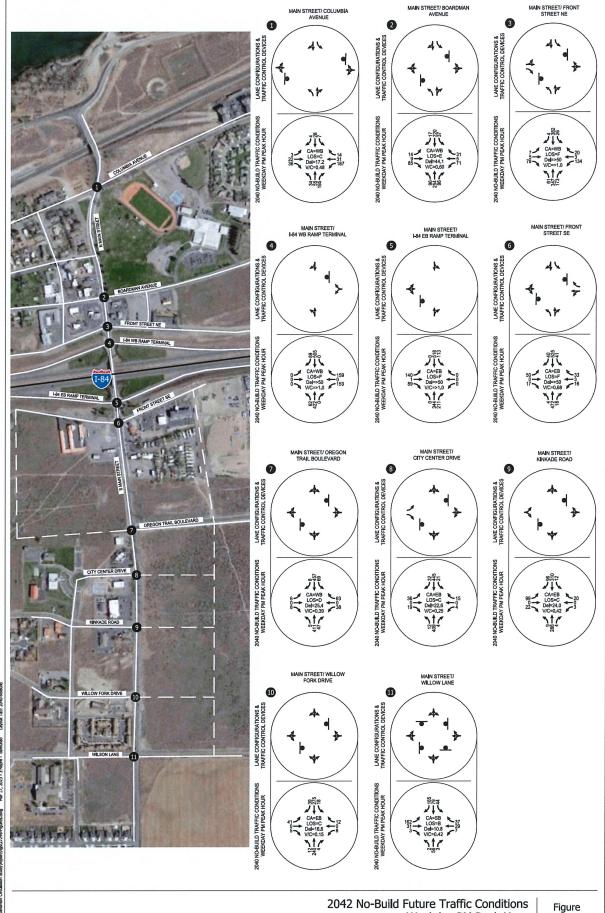
### **Future 2042 Traffic Conditions**

Future year 2042 No-Build weekday PM peak hour traffic volumes were determined by applying the growth projections and development-related trips to the existing traffic network. The resulting future year 2042 No-Build weekday PM peak hour traffic volumes are shown in Figure 2. As shown in the figure, intersection capacity and/or operational performance issues are forecast at the following intersections:

- N Main Street/Boardman Avenue the critical westbound approach is forecast to operate at LOS E conditions during the weekday PM peak hour. This is primarily due to the limited capacity of the single-lane stop-controlled Boardman Avenue approach and forecast traffic growth along the Boardman Avenue corridor.
- N Main Street/N Front Street the critical westbound Front Street approach is forecast to operate above capacity during the weekday PM Peak hour. This is primarily due to increasing forecast north/south demand on Main Street and the impacts of anticipated highway-oriented development along the N Front Street corridor.
- N Main Street/I-84 WB Ramp Terminal the critical westbound offramp approach is forecast to operate above capacity during the weekday PM Peak hour. This is primarily due to anticipated long-term traffic growth and the limited capacity of the single lane stop-controlled offramp approach to Main Street.
- S Main Street/I-84 EB Ramp Terminal the critical eastbound approach is forecast to operate above capacity during the weekday PM Peak hour. This is primarily due to anticipated traffic growth on Main Street, forecast left-turn demand, and the limited capacity of the single-lane stop-controlled offramp approach to Main Street.
- S. Main Street/Front Street SE the critical eastbound approach is forecast to operate at LOS E conditions during the weekday PM peak hour. This can be attributed to anticipated highway-oriented retail growth on the southwest corner of the interchange.

Appendix E contains the 2042 no-build traffic conditions worksheets.

While relatively consistent with the forecast operations from the 2009 IAMP, the forecast operations at the N Main Street/Boardman Avenue and S Main Street/I-84 EB Ramp Terminal intersections necessitated the reinvestigated of several improvement alternatives.



KITTELSON & ASSOCIATES

Study Intersections

2042 No-Build Future Traffic Conditions Weekday PM Peak Hour City of Boardman, Oregon

Figure 2

### INTERCHANGE CONCEPT REDEVELOPMENT & EVALUATION

This section of the report documents the development and evaluation of new interchange and access configuration concepts for Boardman's Main Street corridor.

### Initial Interchange Concept Development

The initial interchange improvement concepts considered in this section were developed by the project team to address the existing and forecast capacity, operations, safety, and access management conditions within the study area. In particular, concepts were developed that focus on addressing the following issues:

- Mitigating the forecast LOS constraints at the critical Boardman Avenue approaches to the N Main Street intersection.
- Improving the turning movement conflicts between the closely spaced north and south Front Street intersections with the I-84 Ramp Terminal intersections.
- Mitigating the forecast over capacity conditions at the N Main Street/I-84 Westbound Ramp Terminal and S Main Street/I-84 Eastbound Ramp Terminal intersections without widening the I-84/Main Street overpass.

### N Main Street/Boardman Avenue Intersection Improvements

The 2009 IAMP did not specifically identify future improvements at the N Main Street/Boardman Avenue intersection. However, as documented in the existing conditions section of this report, the intersection has an RRFB crossing, that under certain circumstances, can lead to long vehicle queues along the corridor that can extend back to the I-84 WB ramp terminal and interrupt traffic flow from the offramp. In addition to the RRFB-related queuing issues, the westbound Boardman Avenue approach is forecast to operate at LOS E conditions during the weekday PM peak hour. Based on these findings, improvement scenarios were investigated that would better accommodate the pedestrian crossings and address the forecast operational deficiencies.

### Traffic Control Options

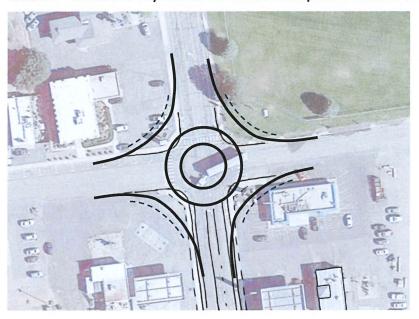
Given the forecast operations and the likely increased volume impacts that could be generated in the near-term by other projects currently in the 2009 IAMP (restrictions of N Front Street to right-in/right-out movements and a raised median along the N Main Street corridor), the need for traffic control improvements was investigated at a planning level.

### Roundabout

From an operations perspective and considering it is less than 500 feet north of the I-84 WB ramp terminal, a single lane roundabout would be an appropriate treatment at the N Main Street/Boardman Avenue intersection. However, given the interchange is expected to continue to serve freeway oriented freight traffic, any roundabout treatment would need to be large enough to accommodate the circulation needs of large trucks and trailers. A conceptual sizing footprint of a roundabout large enough to

accommodate WB-67 trucks is shown in Exhibit 3. As shown, there would be significant private property impacts and right-of-way acquisition needs in the northwest, southwest, and southeast quadrants. Based on these impacts, it was determined that a roundabout is not a reasonably viable near or long-term traffic control option.

Exhibit 3 - N Main Street/Boardman Avenue Conceptual Roundabout Footprint



### Signalization

Given the existing north, south, east, and west approaches all have adequate width to support separate left-turn and shared through/right movements, a traffic signal was investigated. A planning-level signal warrant analysis was conducted at the intersection in accordance with the procedures outlined in ODOT's preliminary traffic signal warrant analysis. From this analysis, it was found that the intersection would meet this preliminary signal warrant which focuses on high volumes on the intersecting minor street with high volumes on the major street. While meeting this preliminary signal warrant is not an outright indicator that signalization should be implemented, it does suggest there is sufficient projected demand to meet a basic volume-based criteria. In addition, a traffic signal could replace the existing RRFB with a standard signal-integrated pedestrian crossing phase. The pedestrian crossing phase would eliminate repeated back-to-back activations and minimize instances of vehicle queue spillback along the N Main Street corridor. For these reasons, signalization was found to be a reasonably viable and implementable near- or long-term traffic control treatment at the N Main Street/Boardman Avenue intersection. A more detailed operations analysis of a figure signalization scenario is presented later in this report.

### Initial Interchange Concept Evaluation

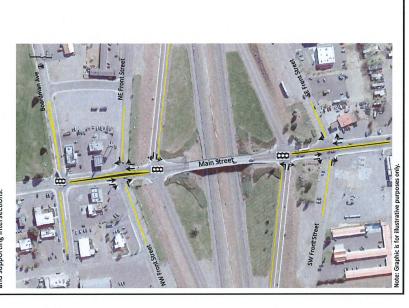
In response to these issues, two interchange improvement concepts were developed as documented in the following tables. Each table contains the following planning-level evaluation:

- A graphical illustration that conveys the basic components of the concept overlaid on an aerial photograph.
- A short narrative summarizing the main infrastructure components of the concept.
- A planning-level evaluation using the operations/land use/access spacing/cost/constructability evaluation criteria from the original IAMP.

The respective 2042 intersection operations associated with each concept are shown in Figures 3 and 4 which follow each evaluation table. *Appendices F and G contains the traffic conditions worksheets.* 

# Table 5 – Circulation Alternative #1 Summary and Evaluation

Circulation Alternative #1		Evaluation	8
Concept Description and Illustration	Category	Evaluation Criteria	nacion of
Circulation Alternative #1 signalizes the two I-84 EB and WB ramp terminals (when warranted) and converts the NA Main Streat/NE Errors Streat and S Main Streat/NE Errors Streat and S Main Streat/NE Front Streat and S Main Streat (SE Errors Streat)		A ship and the state of the A	
in/right-out through a median on Main Street. To accommodate anticipated re-routing of traffic volumes, the		operational deficiencies at the	
N Main Street/Boardman Avenue intersection would be signalized (when warranted) along with widening of		Front Street, WB ramp	
the eastbound and westbound Boardman Avenue approaches. Given the complexity and cost, no widening is		terminals and EB ramp terminals	
assumed on the Main Street overpass of I-84. The rationale for this alternative is to develop an attainable			-
(primarily from a cost perspective) corridor improvement that better manages the close spacing of the two	Transportation		
Front Street intersections and incorporates long-term intersection traffic control at the adjacent interchange			
and connection interceptions			_



Promision of Signature Control of Signature Contr		Addresses the identified	17	Fully addresses the identified operation, capacity, and queuing concerns		While the signalization of the WB I-84 ramp terminal intersection would improve intersection operations (see
terminals  -1 Does not fundamentally address the major    Third operations, capacity, and queueling concerns		operational deficiencies at the Front Street, WB ramp terminal. and EB ramp	0	Only partially addresses the identified operations, capacity, and queuing concerns	4	the rollowing Figure 3), the I-94 EB ramp terminal would operate over capacity. In addition, the lack of a NB/SB Main Street left-turn lane at both the EB and WB ramp terminals
Improves walking and biking   +1   Improves walking and biking to existing and improves walking and biking   +1   Improves walking and biking to existing or future destination along Main Street relative to existing conditions.   -1   Alternative provides for long-term growth in the study area with minimal ROW and/or dirulation impacts   -1   Alternative provides for long-term growth but has some ROW and/or dirulation impacts   -1   Improves or moves in the direction meeting of his some ROW and/or dirulation impacts   -1   Improves or moves in the direction meeting of his some ROW and/or dirulation impacts   -1   Does not meet, improve, or move in the direction of meeting ODOT's access spacing guidelines are spacing guidelines active to existing conditions.   -1   Low construction costs   -1   Low construction costs   -1   Substantial construction costs   -1   Substantial construction costs   -1   Substantial construction of improvements will be a physical   -1   -1   Althous construction of improvements will be a physical   -1   -1   Construction of improvements will be a physical   -1   -1   -1   -1   -1   -1   -1   -	Transportation	terminals	-1	Does not fundamentally address the major operations, capacity, and queueing concerns		will create long vehicle queues on Main Street and limit the operational efficiency of the intersections and the Main Street corridor.
Minimizes right-of-way impacts  Minimizes right-of-way impacts  Moves in the direction of the forest not improve or long-term growth in the impacts of the direction of impacts of the direction		Improves walking and biking alone Main Street	‡	Improves walking and biking to existing and future destinations along Main Street	7	Pedestrian and bityde movements along Main Street will improve with fewer turning movement interactions at the two Front Street intersections and signalized crossings at
Minimizes right-of-way impacts  Minimizes right-of-way impacts  Moves in the direction of Alternative provides for long-term growth but has some ROW and/or directiation impacts  Moves in the direction of Alternative provides for long-term growth but has some ROW and/or directiation impacts  Moves in the direction of the direction meeting of DODT access spacing guidelines and the direction meeting of GODT access spacing guidelines and access spacing guidelines and access spacing guidelines and direction of meeting OODT's access spacing guidelines and direction of meeting OODT's access spacing guidelines and direction of meeting OODT's access spacing guidelines and direction of meeting or struction costs  Cost relative to other concepts  1 Low construction costs  1 Substantial construction costs  1 Substantial construction costs  2 Droject can be constructed with relative ease  3 And/or can maintain existing traffic during construction.  4 Construction of improvements will be a physical during construction.  4 during construction.			0	Does not improve walking or biking to existing or future destination along Main Street relative to existing conditions.		Boardman Avenue and the two I-84 ramp terminal volume intersections.
Alternative provides for long-term growth but has some ROW and/or direculation impacts	Land Use/ Economic	Minimizes right-of-way impacts	+1	Alternative provides for long-term growth in the study area with minimal ROW and/or circulation impacts	0	Likely to be no right-of-way impacts. However, a median along N Main Street will have access impacts to adjacent
Moves in the direction of 41 Improves or moves in the direction meeting of 2007 access spacing guidelines.  10007 access spacing 0007 access spacing direction of meeting 0007 access spacing direction of meeting 0007 access spacing conditions.  11 Low construction costs  12 Low construction costs  13 Substantial construction costs  14 And/or can maintain existing staffic during construction.  15 Substantial construction costs  16 And/or can maintain existing staffic during construction.  17 Constructability  18 Construction.  19 Construction in require major detours construction.  19 And or can maintain existing staffic during construction.  19 Construction in require major detours construction.	Development		0	Alternative provides for long-term growth but has some ROW and/or circulation impacts		retail establishments along Main Street and Front Street.
Spacing   Coop access spacing   Does not meet, improve, or move in the requirements   O direction of meeting DOOT's access spacing   O direction of meeting conditions.   O direction of meeting conditions.   O direction of meeting pool of the project and meeting pool of the project and or an animal meeting traffic during   O direction of improvements will be a physical of meeting pool of challenge and/or will require major detours   O diring construction.   O direction of improvements will be a physical during construction.   O direction of improvements will be a physical during construction.   O direction of improvements will be a physical during construction.   O direction of improvements will be a physical during construction.   O direction of improvements will be a physical during construction.   O direction of improvements will be a physical during construction.   O direction of improvements will be a physical during construction.   O direction of improvements will be a physical during construction.   O direction of improvements will be a physical during construction.   O direction of improvements will be a physical during construction.   O direction of improvements will be a physical during construction.   O direction of improvements will be a physical during construction.   O direction of improvements will be a physical during construction or direction of improvements will be a physical during construction or direction or		Moves in the direction of	+1	Improves or moves in the direction meeting of ODOT's access spacing guidelines		While the alternative does not close the two Front Street intersections, the limited access right-in/right-out
Cost relative to other concepts 0 Moderate construction costs  -1 Substantial construc	Access spacing	ODOT access spacing requirements	0	Does not meet, improve, or move in the direction of meeting ODOT's access spacing guidelines relative to existing conditions.	Ŧ	configuration will minimize turning movements near the two ramp terminals and improve the safety and operations along the Main Street corridor.
Cost relative to other concepts 0 Moderate construction costs 0  -1 Substantial construction costs -1 Substantial construction costs  Project an ab constructed with relative ease and/or can maintain existing traffic during construction.  Construction Constructability Construction of improvements will be a physical construction of improvements will be a physical during construction.  -2 Administration Construction of improvements will be a physical construction of improvements will be a physical during construction.			+1	Low construction costs		
Constructability  Constructability  Construction of improvements will be a physical during construction.	Cost	Cost relative to other concepts	0	Moderate construction costs	۰	This concept has a planning level cost estimate of approximately \$2.5M.
Constructability  Construction in a physical and constructed with relative ease and/or can maintain existing traffic during construction.  Construction of improvements will be a physical children and challenge and/or will require major detours 42			-1	Substantial construction costs		
Construction of improvements will be a physical of challenge and/or will require major detours during construction.	nolementation	Constructshillty	+1	Project can be constructed with relative ease and/or can maintain existing traffic during construction.	7	Michael Incoless conteston ferror
		Constitution	0	Construction of improvements will be a physical challenge and/or will require major detours during construction.	!	William Imprementation 193465.
					+5	Total Score

While signalization of the I-84 WB and EB ramp terminals is possible, it is unlikely that such a mitigation measure would be considered widening of the Main Street
overpass Structure that would accommodate separate northbound and southbound alter.
 Signalization of the I-84 WB and EB ramp terminals would not preclude the ability to accommodate oversized freight loads. ODOT has noted that oversized height-related loads have needed
to utilize the off- and on-ramps due to clearance issues with the Main Street overpass over I-84.

Portland, Oregon

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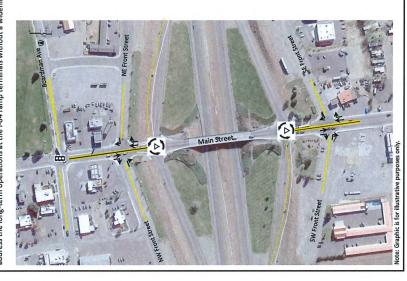
Circulation Alternative #1, Future Traffic Conditions Weekday PM Peak Hour City of Boardman, Oregon

Figure 3

## Boardman Main Street Circulation Assessment March 2024

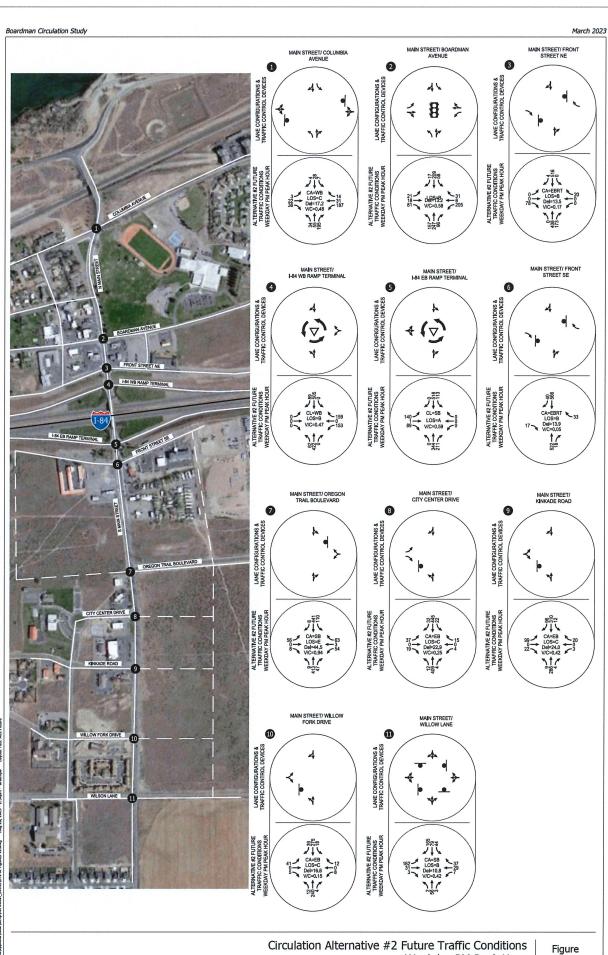
Table 6 - Circulation Alternative #2 Summary and Evaluation

### Circulation Alternative #2 includes single lane roundabouts at the two I-84 EB and WB ramp terminals and converts the N Main Street/NE Front Street intersections to limited access rationale for this alternative is to better manage the close spacing of the two Front Street intersections and address the long-term operations at the I-84 ramp terminals without a widening of Main Street over I-84. right-in/right-out through medians on Main Street. To accommodate anticipated re-routing of traffic volumes, the N Main Street/Boardman Avenue intersection would be signalized (when warranted). The Circulation Alternative #2



Category	Evaluation Criteria		Scoring Key	Score	Comments
	Addresses the identified	+1	Fully addresses the identified operation, capacity, and queuing concerns		Roundabouts at the I-84 ramp terminals will provide improved long-term capacity (see the following Figure 4)
	operational deficiencies at the Front Street, WB ramp terminal, and EB ramp	0	Only partially addresses the identified operations, capacity, and queuing concerns	#	and address northbound and southbound left-turn movement without a widening of the Main Street overpass. The limited acress restrictions at the two Front Street
Transportation	terminals	-1	Does not fundamentally address the major operations, capacity, and queueing concerns		intersections will improve operations along the Main Street corridor.
	Improves walking and biking	+1	Improves walking and biking to existing and future destinations along Main Street	‡	Pedestrian and bicycle movements along Main Street will improve with fewer turning movement interactions at the two Front Street intersections a signalized crossings at
	along Main Street	0	Does not improve walking or biking to existing or future destination along Main Street relative to existing conditions.		Boardman Avenue, and pedestrian crossing accommodations at the I-84 ramp terminal roundabouts.
Land Use/ Economic	Minimizes right-of-way imparts	1+	Alternative provides for long-term growth in the study area with minimal ROW and/or circulation impacts	c	Likely to be no right-of-way impacts to private properties as the roundabouts can likely be constructed within existing ODOT right-of-way Houseng a median alone N Main Street
Development		0	Alternative precludes long-term growth or has significant ROW and/or circulation impacts	,	will have access impacts to adjacent retail establishments along Main Street and Front Street.
	Moves in the direction of	+1	Improves or moves in the direction meeting of ODOT's access spacing guidelines		While the alternative does not close the two Front Street intersections, the limited access right-in/right-out
Access Spacing	ODOT access spacing requirements	0	Does not meet, improve, or move in the direction of meeting ODOT's access spacing guidelines relative to existing conditions.	Ŧ	configuration will minimize turning movements near the two ramp terminals and improve the safety and operations along the Main Street corridor.
		+1	Low construction costs		
Cost	Cost relative to other concepts	0	Moderate construction costs	-1	This concept has a planning level cost estimate of annowimately \$10M.
		-1	Substantial construction costs		
molemontation	Constructs hills.	+1	Project can be constructed with relative ease and/or can maintain existing traffic during construction.	c	Construction of the roundabouts is likely to require some
	Autopon	0	Construction of improvements will be a physical challenge and/or will require detours during construction.	,	detours and/or temporary lanes to maintain traffic flow.
				+5	Total Score
			THE REAL PROPERTY AND PERSONS ASSESSMENT OF THE PERSONS ASSESSMENT OF		The state of the s

The accommodation of roundabouts at the L84 EB and WB ramp terminals will require realignment of the respective offramps. Additional design efforts would need to explore the rample and respective offramps.
 Additional design efforts would need to explore the size of the roundabouts and their ability to accommodate oversized freight movements.



Circulation Alternative #2 Future Traffic Conditions Weekday PM Peak Hour City of Boardman, Oregon

Figure 4

### Preferred Circulation Alternative Evaluation

As documented in the previous section, Circulation Alternative #1 and #2 both meet many of the important multimodal circulation and access spacing evaluation criteria. However, when reviewing the detailed intersection operations of Circulation Alternative #1 at the I-84 ramp terminals, the lack of a NB/SB left-turn lane (which can only be achieved with a widening or complete rebuild of the Main Street I-84 overpass structure) will significantly limit the long-term capacity and operational efficiency of the ramp terminal intersections as well as the Main Street corridor. For this reason, Circulation Alternative #1 was determined to not fundamentally address the long-term needs of the Main Street corridor. Despite the higher cost and constructability challenges of the roundabout treatments, Circulation Alternative #2 was further evaluated from a geometric, access management, and freight accommodations perspective.

### Refined Geometric Layouts

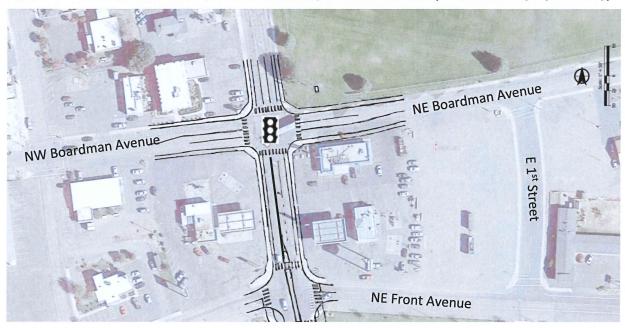
Refined geometric layouts of various components of Circulation Alternative #2 were prepared taking into consideration known right-of-way constraints, forecast traffic demands, the vehicle/truck types associated with the I-84 Main Street interchange, and multimodal considerations. The refined components of Circulation Alternative #2 are summarized and illustrated in the following sections of this report.

### Main Street/Boardman Avenue

Figure 5 illustrates a refined layout of the Main Street/Boardman Avenue intersection as a widened signalized intersection. Specific improvements associated with this project would include:

- Installation of a traffic signal and the removal of the existing rectangular rapid flashing beacon (RRFB) on the north leg of the intersection.
- Widening of NE Boardman Avenue to accommodate a three-lane section. This widening would include removal of the head-in parking along the north side of the C&D Drive-in.
- Reallocation of the NW Boardman Avenue travel lanes to accommodate a three-lane section. This would include the partial removal of the on-street parking along the north curb line between Main Street and W 1<sup>st</sup> Street.
- Installation of a raised median on Main Street from the Boardman Avenue intersection to terminate near the I-84 WB Ramp Terminal intersection. The raised median would modify Front Avenue and all commercial driveways in this section to right-in/right-out movements.

Figure 5 – Refined Sketch Level Layout of Main Street/Boardman Avenue (for illustrative purposes only)



### **Signalized Queuing Conditions**

As noted in either Figure 3 or Figure 4, future signalization of the Main Street/Boardman Avenue intersection under a simple permissive phasing configuration will allow the intersection to operate at LOS B conditions with a V/C ratio of 0.58 during the weekday PM peak hour. This phasing set up will also result in 95<sup>th</sup> percentile queues that can be accommodated within the defined lane storage areas as summarized in *Appendix F or G*.

### I-84/EB & WB Ramp Terminals

Figure 6 illustrates three potential configurations for roundabout treatments at the I-84 EB and WB ramp terminal intersections. It is noted that the refined layout configurations were prepared at a scaled proof-of-concept level. While still a sketch, the following characteristics were included in each layout:

- Maximizing the spacing between the roundabouts and the Main Street overpass structure while also still maintaining spacing and viable geometrics at the north and south Front Street intersections. It is recognized that further refinement of the design would be needed to identify potential impacts to the overpass structure.
- Inscribed circle diameter of 140 feet which is typically the minimum size needed to support the turning movement requirements for a WB-67 truck. The wheel paths for this design vehicle are also shown in Figure 5.
- Pedestrian and bicycle accommodations.

A high-level assessment of each roundabout concept is outlined below.

### **Traditional Single Lane Roundabout**

This configuration includes a traditional single-lane roundabout that would incorporate right-in/right-out access to Front Street.

- With access restrictions to Front Street, the design would accommodate all circulation movements, providing an efficient u-turn maneuver for specific movements exiting both north and south Front Street.
- At a sketch level layout, the design would need additional refinement to determine the ability to not impact the I-84 overpass structure.

### **Tear-Drop Single Lane Roundabout**

This configuration is like the traditional shaped roundabout but includes a tear-drop shaped circulating island that would restrict full internal circulating movements.

- Tear-drop shape circulating island would eliminate the u-turn movement demand that would be generated by the access restrictions to north and south Front Street. This would be particularly problematic for S Front Street where there is a near-term parallel local street network.
- At a sketch level layout, the design would not result in a smaller roundabout or provide the ability to locate the roundabouts further away from the I-84 overpass bridge structure.

### 5-Legged Single-Lane Roundabout

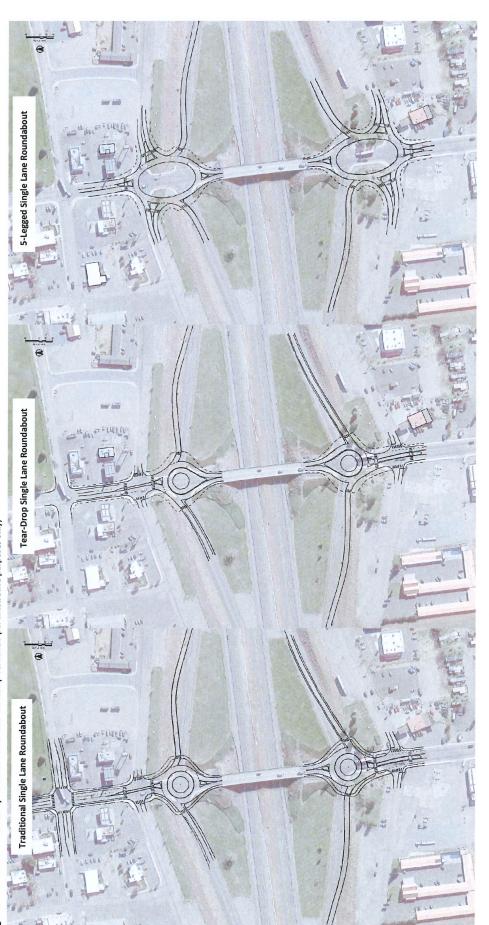
This single-lane roundabout configuration incorporates Front Street movements resulting in a 5-legged design.

 As shown, incorporating Front Street into the roundabout design would necessitate a much larger oval shaped roundabout footprint.

- The incorporation of Front Street movements into the roundabout is inconsistent with Oregon and Federal Highway Administration (FHWA) local access and hierarchy practices involving direct local street access at an interchange ramp terminal.
- There are likely more constructability challenges associated with the larger footprint.

Following the three roundabout concept sketches shown in Figure 6, Figures 7 and 8 provide a detailed image of the traditional single lane roundabout with the signalized configuration of the Main Street/Boardman Avenue intersection.

Figure 6 – Refined Sketch Level Layout of the I-84 EB and WB Ramp Terminals (for illustrative purposes only)



Portland, Oregon

Figure 7 – Refined Circulation Alternative #2 Sketch-Level Layout (for illustrative purposes only)

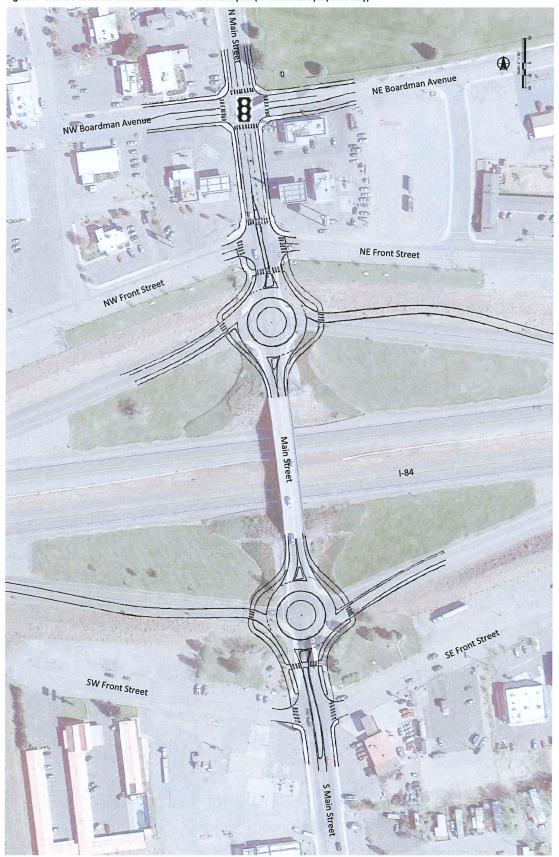
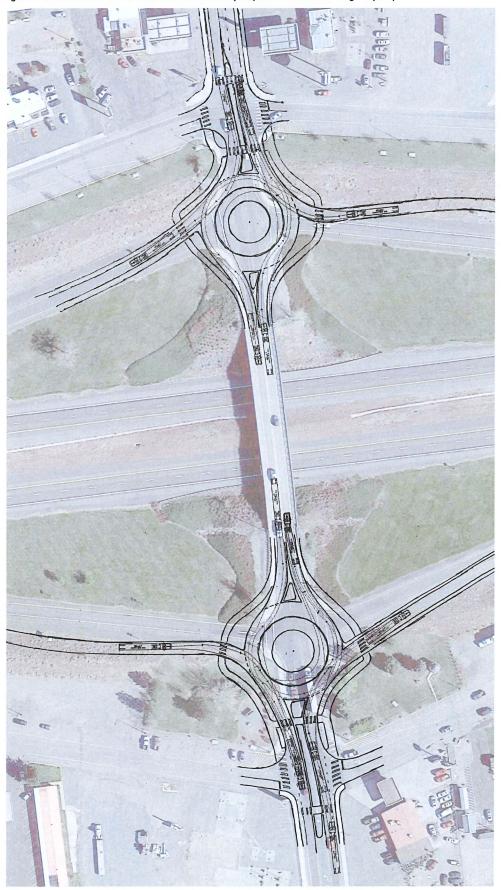


Figure 8 – Refined Circulation Alternative #2 Sketch-Level Layout (with WB-67 Truck Turning Template)



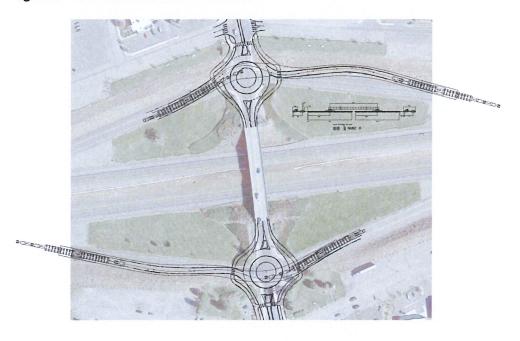
### Truck Turning Evaluation

Recognizing that roundabouts have traditionally been a source of concern from truck drivers and businesses that operate large fleets of trucks (such as many of the businesses in the POM), a truck turning analysis was performed using the preliminary roundabout sketch shown in Figure 7. Based on discussions with City and ODOT officials, a WB-67 truck is the most common large vehicle that frequents businesses served by the Main Street corridor. Using this design vehicle, turning movement paths were added to the sketch layout using AutoTurn software as illustrated in Figure 8. As shown, this large design vehicle can reasonably maneuver through the roundabout. It should be noted that since this is just an illustrative sketch, some of the approaching roadway layouts would likely need to be adjusted to better meet some of the tighter turning movements. This can be accomplished in a future design phase.

From an oversized load perspective, planning projects typically include an assessment of oversized loads, particularly when they involve major interchange terminals. Based on feedback from ODOT, the OXBO\_MEGA transport vehicle is the largest truck that has frequented this segment of I-84 in recent years.

To conceptually illustrate the circulation challenges associated with this design vehicle, a custom trailer was created in AutoTurn and applied to the sketch interchange layout shown in Figure 9. As shown, special care would need to be taken in future design stages to ensure a vehicle trailer and load of this magnitude could be accommodated through one of the roundabout treatments.





Although the turn exhibits illustrate special care would need to undertaken in a future design phase, it should be noted that Port of Morrow officials have established routes in place for all high, wide, and heavy loads that are generated through the port terminals. Exhibit 6 illustrates how the POM has historically and plans to continue to handle loads of this magnitude. As shown, all oversized loads could be oriented to the US 730 access via Lewis and Clark Drive depending upon the load and terminal. These routes do not rely upon the I-84/Main Street interchange due to internal bridge load constraints on multiple roadway facilities within POM.

Exhibit 4 – High Wide and Heavy Travel Path Options for the Port of Morrow (Source: POM)



### **COORDINATION WITH 2009 IAMP**

The 2009 IAMP remains a key planning document for addressing long-term transportation infrastructure improvements along the Main Street corridor. Through this reevaluation process, three changes are recommended:

- The N Main Street/Boardman Avenue intersection:
  - Signalize the intersection when warranted. Warrants will most likely be met if/when the N Main Street/N Front Street intersection is restricted to right-in/right-out movements (see N Main Street/I-84 Westbound Ramp Terminal improvements below) or from new development along the Boardman Avenue corridor.
  - Widen the east and west Boardman Avenue approaches to include separate leftturn and shared through/right-turn lanes. This widening will require coordination with adjacent properties to remove some head-in parking and modify the location of access driveways. There is also a strip of on-street parking along the north side of NW Boardman Avenue that will have to be removed.
- N Main Street/I-84 Westbound Ramp Terminal intersection:
  - Modify the long-term mitigation plan to include the potential for a single-lane roundabout at the intersection.
  - Modify the westbound offramp to meet the approach deflection angles needed with a roundabout.
  - Modify the N Main Street/N Front Street intersection to right-in/right-out access through the construction of a raised median. This median would need to be modified if/when a roundabout is installed at the I-84 westbound ramp terminal intersection.
- S Main Street/I-84 Eastbound Ramp Terminal intersection:
  - Construct a single-lane roundabout at the intersection.
  - Modify the eastbound offramp to better meet the unique geometric configuration of the roundabout.
  - Modify the S Main Street/S Front Street intersection to right-in/right-out access to meet the unique geometric configuration of the adjacent roundabout. This median would need to be modified if/when a roundabout is installed at the I-84 westbound ramp terminal intersection.

All other previously identified Local Connectivity Plan and multi-modal improvements in the 2009 IAMP are still valid. A complete list of combined projects is summarized in Table 7 below.

### Table 7 – Main Street Transportation Improvement Plan

Project Near/Medium-Term Improvement	Trigger(s) for Improvement	Planning Level Cost	Potential Funding Source
Local Circulation Improvements  1. Construct north-south collector street connecting SE Front Street to Oregon Trail Boulevard.			
Construct westerly extension of Oregon Trail Boulevard (collector street) from S Main Street to Faler Road SW.			
Construct north-south collector street connecting SW Front Street to the Oregon Trail Boulevard extension.	New private development		- PDF
<ol> <li>Construct north-south collector street connecting Oregon Tra Boulevard to Wilson Lane SE. Such a connection would also include east-west connections back to S Main Street at Kinkade Road and Willow Fork Drive.</li> </ol>	ail		
Widen S Main Street to full Arterial standards from just north of Oregon Trail Boulevard to Wilson Lane	Private development frontage improvements,     When funding becomes available	\$5M	- City funds - PDF
Medium range actions from access management plan	- Increase in crashes - Recurring public complaint - Property (re)development	N/A	- PDF
Project Long-Term Improvement	Trigger(s) for Improvement	Planning Level Cost	Potential Funding Source
Signalize the N Main Street/Boardman Avenue intersection and widen the Boardman Avenue approaches to include separate lef turn and shared through/right-turn lanes.	- LOS drops below standards, and - When the intersection meets traffic signal warrants.	\$750k	- City funds - PDF
Construct a single lane roundabout at the N Main Street/I-84 Westbound Ramp Terminal	- Increase in crashes - V/C ratio drops below mobility target - Vehicle queues on offramp regularly back up to I-84 mainline	\$5M	- STIP
Construct a single lane roundabout at the S Main Street/I-84 Eastbound Ramp Terminal	Increase in crashes     V/C ratio drops below mobility target     Vehicle queues on offramp regularly back up to I-84 mainline	\$5M	- STIP
Convert the N Front Street and S Front Street intersections at Main Street to right-in/right-out configurations through temporary median treatments or as part of the long-term roundabout treatments at the I-84 Ramp Terminal Intersections.	- Increase in crashes - Construction of I-84 Ramp Terminal Roundabouts	\$50-\$100k	- City funds - PDF
Long range actions from access management plan	- Increase in crashes - Recurring public complaint - Property (re)development	N/A	- PDF

### HATTENHAUER DISTRIBUTING CO.

PO Box 1397, 201 West 1<sup>st</sup> Street, The Dalles, OR 97058 Ph. (541) 296-3515 Fax (541) 296-0040

April 10, 2024

VIA E-MAIL (mclanec@cityofboardman.com)

Carla McLane
Planning Official
City of Boardman
200 City Center Circle
PO Box 229
Boardman, OR 97818

RE: OPPOSITION TO PROPOSED

MEDIAN BARRIER CUTTING OFF NORTH-BOUND TRAFFIC ALONG N MAIN STREET FROM ACCESSING OUR PLACE OF

BUSINESS

### Dear Carla:

As you know, since the early 1980s, my family has owned and operated the gas station and convenience store located at 100 Main St. N. in Boardman. We recently learned the City intends to make roadway changes that will negatively impact the current use of our business location, as we serve the motoring public in regards to both domestic and transient traffic. Traffic using I-84 exit 164 is our main customer base for fuel sales and ancillary convenience store sales. I believe the motoring public appreciates us being there for their needs, including refueling, cold drinks, hot food, and available restrooms. The proposed changes to the roadway will drastically deter, if not eliminate, any I-84 traffic from the ability to reach our location. For that reason, we strongly encourage the City to explore other options than what is currently being considered.

Currently, our business has several access points from traffic from I-84 exit 164: an approximately 100' open driveway on Front St; an approximately 40' curbed driveway on Main St.; and an approximately 140' open driveway on Boardman Ave. With the proposed road changes, the first two access points will be eliminated and the third severely hampered by forcing a left turn across a double yellow line and two lanes of traffic. While we are not traffic or civil engineers, we do have a good sense of business, built up over 60 years and 3 generations of knowledge. We feel the City's proposed traffic changes will be detrimental to our business and the many people that count on us.

In addition to the above, we currently have commercial truck fuel business and off-street short-term parking on our property as well. If the City's proposed traffic changes are implemented, this facet of our business will likely be eliminated as well.

Our Boardman operation currently has 23 employees, all of whom are residents of Boardman. With the anticipated decline of our business resulting from these traffic changes, many of these positions could be eliminated.

Our company currently has a fuel contract and supply agreement with Sinclair Oil Corp. In that contract are specific minimum annual gallonage requirements for the Boardman location. Any shortfall on annual gallons can trigger a shortfall penalty. A major disruption to traffic patterns accessing our place of business could definitely have a drastic impact on these gallon requirements. This amount could be significant and in the 10's of thousands of dollars.

As you may know, our Boardman facility recently underwent site improvements, which amounted to just shy of an \$1,000,000 investment in the community. Additionally, we had hoped to remodel and expand the existing convenience store to better serve the community and the motoring public that travels along I-84. If these traffic changes are implemented, we will need to rethink such future investments in Boardman. If it is your desire to push us out of business I would like to negotiate the dollar amount I feel would be just compensation.

Considering the above, in order to facilitate a productive conversation that preserves our current business operations, yet still allows the City to modernize the traffic pattern in the area, we propose the City preserve a 40' access driveway from N Main St. to our property. Our property has approximately 200' of frontage along N. Main St., so I believe this can be accomplished. As I previously mentioned in our phone call, my dislike for the changes along Boardman Ave., it was stated that west Boardman Ave. is not a busy or a growing part of town and traffic is light and expected to be so in the future. So I find this contrary to your position that there will be a stacking issue for northbound trafic queuing in the left turn lane at the proposed stop light at the intersection of Boardman Ave. and N Main St.

Should you have any questions, please do not hesitate to contact me.

Sincerely

Alex Hattenhauer

A Hotelum

CEO