SEGMENT 4.1 EVALUATION

This segment connects Plymouth Street to Gable Road, transitioning from residential neighborhoods in the East to park and industrial land. The lack of existing sidewalks or pathways in the majority of this segment, coupled with higher traffic speeds necessitate improved pedestrian facilities.

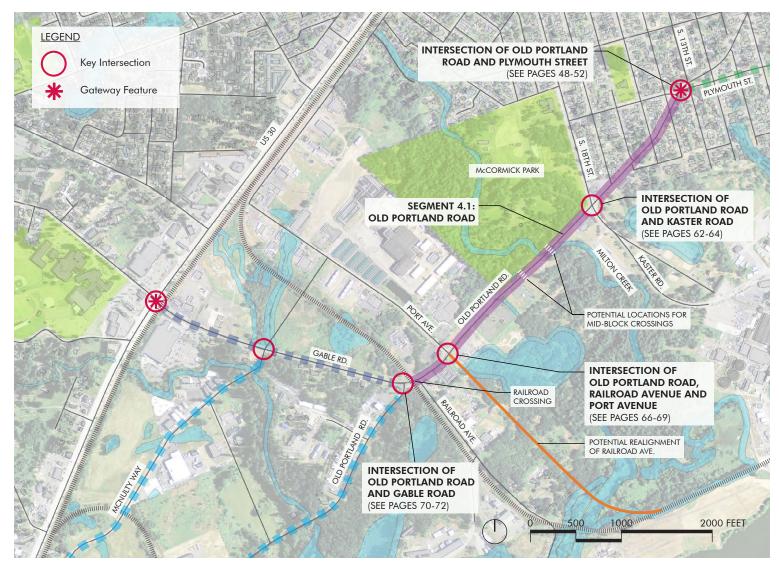
There are few intersections along a portion of this segment, posing the potential need for multiple midblock crossings for pedestrians. Lower travel speeds or separated bicycle facilities will improve safety for bicyclists.

The options for this segment show one travel lane in each direction and various ways to accommodate pedestrian and bicycle movement.

There is a railroad crossing on this segment at the intersection of Old Portland Road and Railroad Avenue. The current roadway has two travel lanes, bicycle lanes only west of Kaster Road, and drainage ditches on either side of the roadway. Speed limits are posted at 40 mph west of the Milton Creek Bridge, and 30 mph east of the bridge where the land use is primarily residential. Pedestrian facilities in this area are limited.

Development within this segment is a mixture of light industrial buildings, a public park, an institutional facility, and several single-family homes. McCormick Park borders the corridor along Old Portland Road, although there is no public vehicle access from Old Portland Road. One gated maintenance access drive does exist. There is also a pedestrian path connection into the park on the east side of the Milton Creek bridge, which has potential to become a trailhead.

The Columbia County Jail and Sheriff's Office are also located near this area and are set back 150' from the road. Several commercial businesses are located near the intersection of Old Portland Road and Gable Road.



Segment 4.1 project area

Existing Road Section

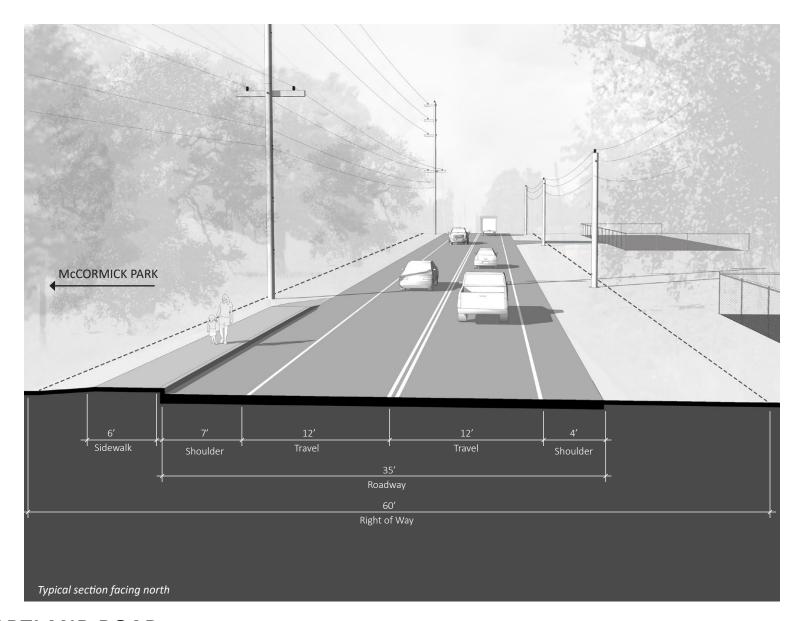
TSP classification: Minor Arterial

60' wide ROW

Approximately 4,500 linear feet

Bike lanes on portion of segment

Sidewalk on portion of segment



Road Section: Option A

Standard Minor Arterial

Option A is the standard Minor Arterial section from the St. Helens TSP. Because of the on-street bike lanes, this design targets a speed limit of 35 mph or less west of the Milton Creek Bridge, where it is currently signed at 40 mph (east of the bridge is currently signed at 30 mph).



Road Section: Option B Multi-Use Path

Option B replaces the bicycle lanes and one sidewalk with a 12' wide multi-use path for both bicyclists and pedestrians. Transitions from the multi-use path to bike facilities and sidewalks on adjacent road segments (depending on the options selected) will need to be considered.



Road Section: Option C

Two-Way Cycletrack

Option C replaces the bicycle lanes with a 12' wide raised two-way cycletrack. Transitions from the cycletrack to bike lanes on adjacent road segments and cycletrack crossings at intersections (depending on the optoins selected) will need to be considered. This general concept could also be achieved with two one-way cycletracks on either side of the road, or two buffered bicycle lanes, though having a consistent bicycle facility traversing several segments is preferred.



Intersection Evaluation

The intersection of Old Portland Road and Kaster Road is currently signalized; however, the signal is not consistent with current standards. Therefore, modifications to the intersection would require a full upgrade of the traffic signal as well as reconstruction of the intersection to meet ADA requirements.



Existing conditions (image: Google Earth)

INTERSECTION: OLD PORTLAND ROAD & KASTER ROAD

Option A

Upgrade Traffic Signal

- Upgrades the traffic signal to current standards
- Reduces the footprint of the intersection
- Provides signalized pedestrian crosswalks
- Meets traffic signal warrants



INTERSECTION: OLD PORTLAND ROAD & KASTER ROAD

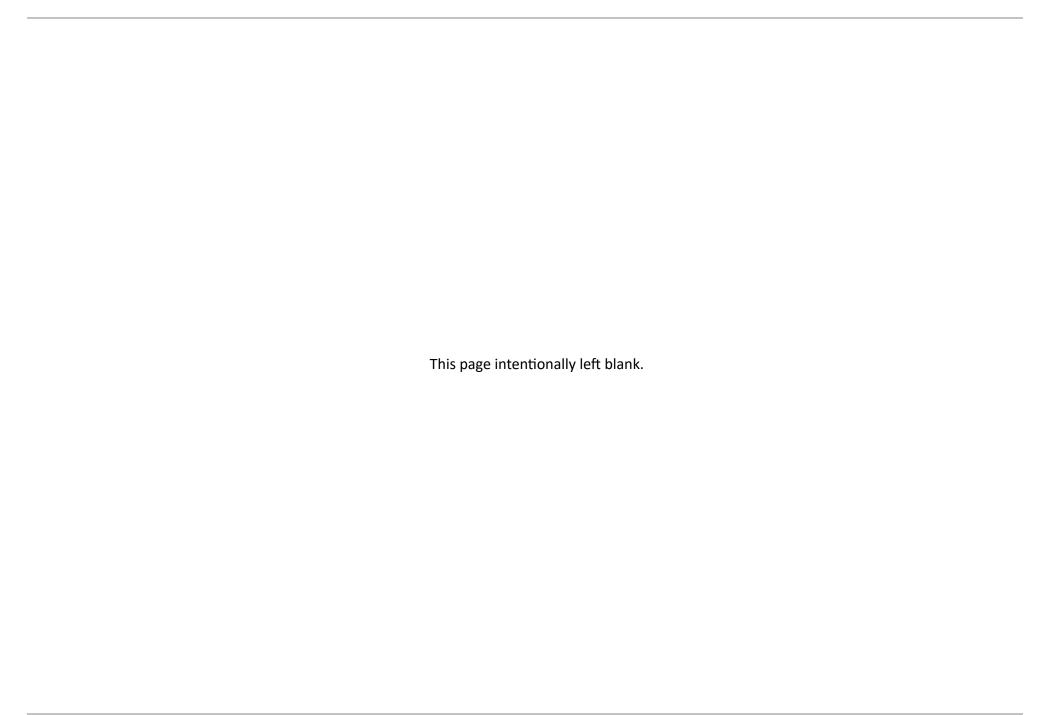
Option B

Four-Leg Roundabout

- Provides a four-legged roundabout in place of the traffic signal
- The center island of the roundabout could be used for an art feature
- Roundabout provides designated pedestrian crossings
- Roundabout reduces travel speeds relative to a signalized intersection



INTERSECTION: OLD PORTLAND ROAD & KASTER ROAD



Intersection Evaluation

The intersection of Old Portland Road and Railroad Avenue is located adjacent to an existing spur line railroad track that serves the industrial properties to the south. The intersection is also closely spaced with other intersections along the corridor and has a history of safety and operational issues. The following design options were developed for further consideration.

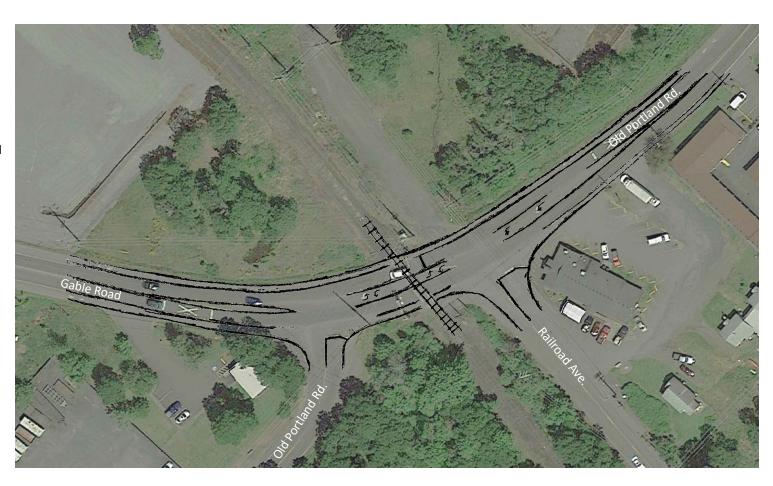


Existing conditions (image: Google Earth)

Option A

Two-Way Left Turn Lane

- Provides a continuous two-way leftturn lane along Old Portland Road through the Old Portland Road/ Railroad Avenue intersection.
- The two-way left-turn lane facilitates the ability for northbound motorists to complete two-stage left-turns from Railroad Avenue to Old Portland Road.
- May not require widening along Old Portland Road due to current roadway width.
- May require reconstruction of adjacent rail crossing to current standards
- ODOT Rail unlikely to permit this option without relocation of Old Portland Road given the potential to trap a vehicle in the left-turn lane



Option B

Re-Align & Two-Way Left-Turn Lane

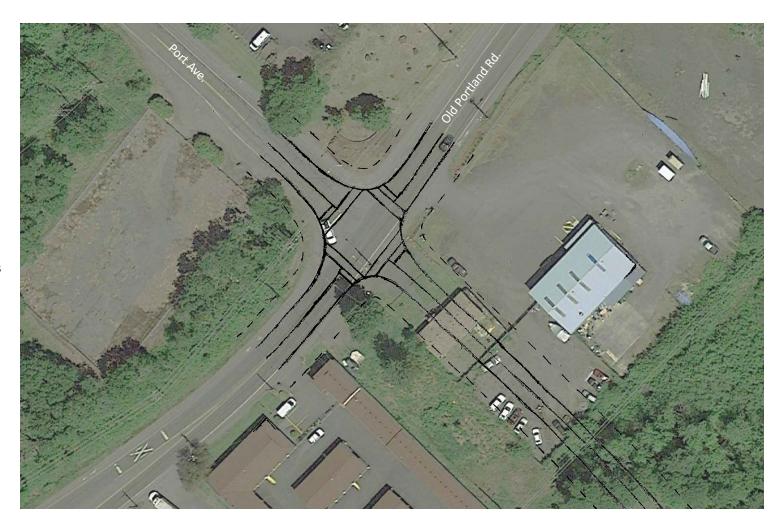
- Re-aligns Railroad Avenue across from Port Avenue.
- Consolidates the Railroad Avenue and Port Avenue intersections into one intersection and relieves current issues with closely-spaced intersections along Old Portland Road.
- Provides a continuous two-way leftturn lane along Old Portland Road through the Old Portland Road/Railroad Avenue-Port Avenue intersection.
- The two-way left-turn lane provides the ability for northbound and southbound motorists to complete two-stage leftturns from Railroad Avenue and Port Avenue to Old Portland Road.
- Will require widening along Old Portland Road due to current roadway width.



Option C

Re-Align & Traffic Signal

- Re-aligns Railroad Avenue across from Port Avenue.
- Consolidates the Railroad Avenue and Port Avenue intersections into one intersection and relieves current issues with closely-spaced intersections along Old Portland Road.
- Provides a traffic signal at the new Old Portland Road/Railroad Avenue-Port Avenue intersection.
- Does not require widening along old Portland Road.
- Traffic volumes meet signal warrants under horizon year projections.



Intersection Evaluation

Several options for improving this intersection were identified and narrowed to the following two options for evaluation.

Both options performed well in the evaluation. Based on further review and discussion with the project management team, Option B is the preferred long-term alternative.

The City should monitor changes in traffic and travel performance after improvements to the US 30/Millard Road intersection are implemented and/or other measures are successful in encourage more drivers to use Old Portland Road to access the Riverfront area.

At the point that increased potential traffic on Old Portland Road warrants investment in additional improvements to this intersection, Option A may be evaluated further.



Existing conditions (image: Google Earth)

INTERSECTION: OLD PORTLAND ROAD & GABLE ROAD

Option A

Re-Align Gable Road with Signal

- Realigns Gable Road to create a 'T' intersection with Old Portland Road.
- Emphasizes Old Portland Road as the through-route.
- The intersection is moved to the southwest to increase the separation from the rail crossing and to reduce the potential for westbound rightturn queues that extend beyond spur line track.
- The intersection is signalized with turn pockets.
- May require traffic signal interconnect to railroad crossing which may trigger the need for rail crossing improvements.

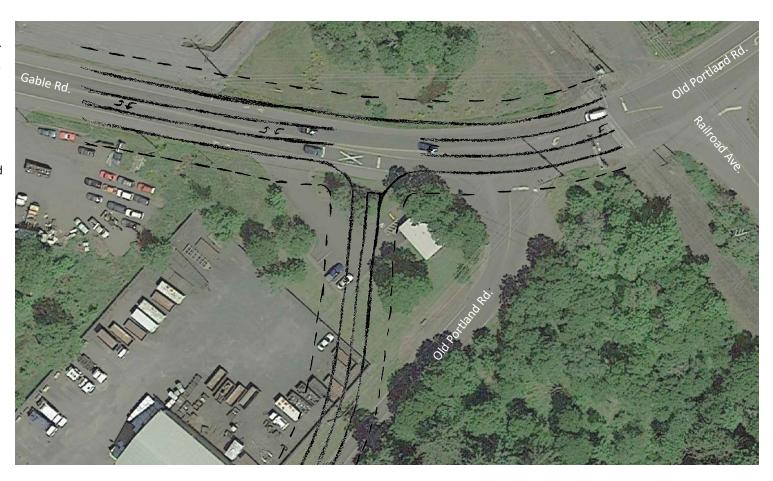


INTERSECTION: OLD PORTLAND ROAD & GABLE ROAD

Option B

Re-Align Old Portland Road

- Realigns Old Portland Road to create a 'T' with Gable Road further to the west.
- Emphasizes Gable Road as the throughroute.
- The intersection is moved to The intersection is moved to the northwest to increase the separation from the rail crossing and to reduce potential for westbound left-turn queues that extend beyond the spur line track.
- The intersection is unsignalized; however, Gable Road is widened to provide a two-way left-turn lane through the intersection.
- The two-way left-turn lane will allow northbound motorists along Old Portland Road to complete two-stage left-turns onto Gable Road.



INTERSECTION: OLD PORTLAND ROAD & GABLE ROAD

Evaluation Summary Table

Rating System: Poor Moderate Good • 0 • **Economy and Business Support Transportation Safety and Mobility Connectivity & Streetscape Aesthetics** Consistency with Previous Planning Improved pedestrian/bicycle safety and accessibility Supports businesses and business districts Through-movement and mobility Supports customers, employees, and others by providing access Improved ped/bike connectivity Street designs catered to needs particular segments Sustainable Design Strategies Improved street appearance Relative Cost effectiveness Emergency Vehicle accommodations Safety • • • • Option A • • • • • Road Section Options • • • • • • • Option B • • • Option C • • • lacksquare

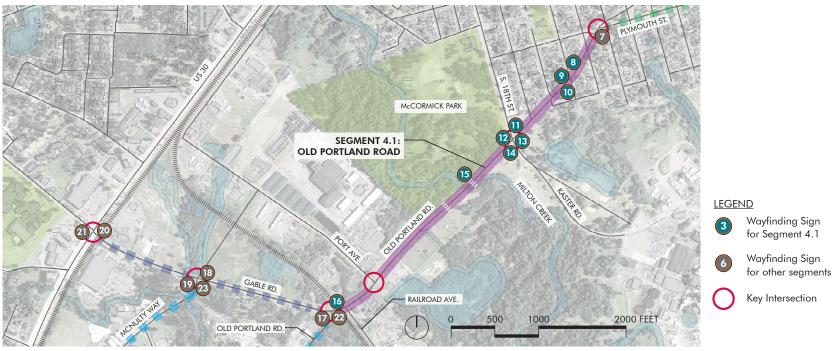
Evaluation Summary Table

Rating System:

Poor	M	loderate	:	Good
0	•	•	•	

		Econo	my and B	Business Su _l	pport	Tra	nsportatio	n Safety	and Mo	bility	Connecti	vity & Stre	etscape Ae	esthetics
		Consistency with Previous Planning	Supports businesses and business districts	Supports customers, employees, and others by providing access	Relative Cost effectiveness	Improved connectivity & access	Improved pedestrian/bicycle safety and accessibility	Through-movement and mobility	Safety	Emergency Vehicle accommodations	Improved street appearance	Improved ped/bike connectivity	Street designs catered to needs of particular segments	Sustainable Design Strategies
Old Portland Road/ Kaster Road	Option A	•	•	•	•	•	•		•	•	•	•	•	0
Old P Road	Option B	•	•	•	•	•				•	•	•	•	•
br Tr	Option A	•	•	•	•	0	0	•	0	•	•	•	•	0
Old Portland Road/Port Avenue	Option B	•	•		•	0				•	•	•	•	•
Old Rc	Option C	•	•	•	•	0	•			•	•	•	•	0
rtland Gable ad	Option A	•	•	•	•	•	•	•	•	•	•	•	•	0
Old Portland Road/ Gable Road	Option B	•	•	•	•	•	•	•	•	•	•	•	•	O

Wayfinding Recommendations



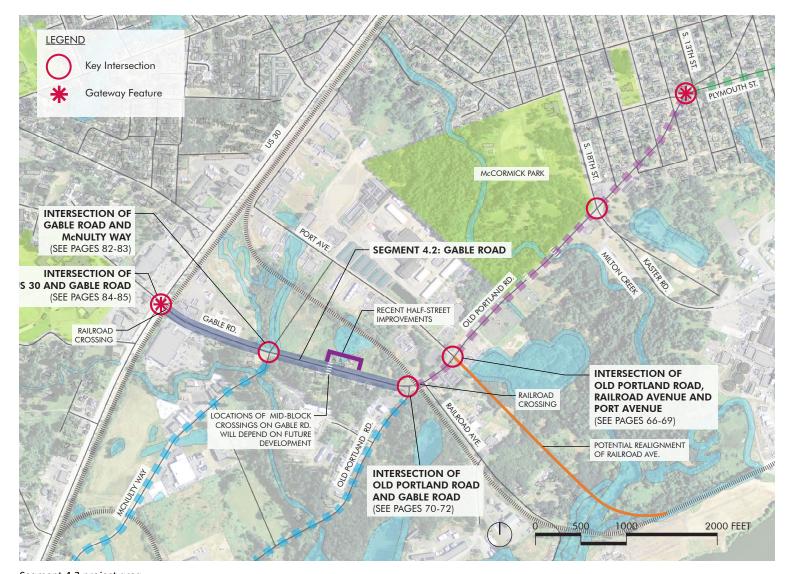
Wayfinding locations for Segment 4.1

Wayfi	inding Recommendat	ions: Segment 4.1	(See Appendix 2 for full table including destinations)				
ID#	Mode Type	Sign Type	Installation Street	Intersecting Street	Sign Facing		
8	Bicycle/Pedestrian	On-Street Directional	Old Portland Road	South 15th Street	North		
9	Bicycle/Pedestrian	On-Street Directional	South 15th Street	Old Portland Road	North		
10	Bicycle/Pedestrian	On-Street Directional	Old Portland Road	South 15th Street	West		
11	Bicycle/Pedestrian	On-Street Directional	Old Portland Road	South 18th Street/Kaster Road	East		
12	Bicycle/Pedestrian	On-Street Directional	South 18th Street	Old Portland Road	North		
13	Bicycle/Pedestrian	On-Street Directional	Kaster Road	Old Portland Road	South		
14	Bicycle/Pedestrian	On-Street Directional	Old Portland Road	South 18th Street/Kaster Road	West		
15	Bicycle/Pedestrian	Trailhead Kiosk	Old Portland Road	N/A	South		
16	Bicycle	On-Street Confirmation	Old Portland Road	Gable Road	East		

SEGMENT 4.2 EVALUATION

This segment provides connections from Highway 30 to Old Portland Road. It is a major access point for commercial land uses near the highway and entryway to the City of St. Helens.

Similar to Segment 4.1, the lack of adequate pedestrian facilities (except near US 30), bicycle lanes without buffers or other separation from vehicle traffic, and higher travel speeds on the eastern portion of this segment all necessitate improved pedestrian and bicycle facilities.



Segment 4.2 project area

Existing Road Section

TSP classification: Minor Arterial

80' wide ROW

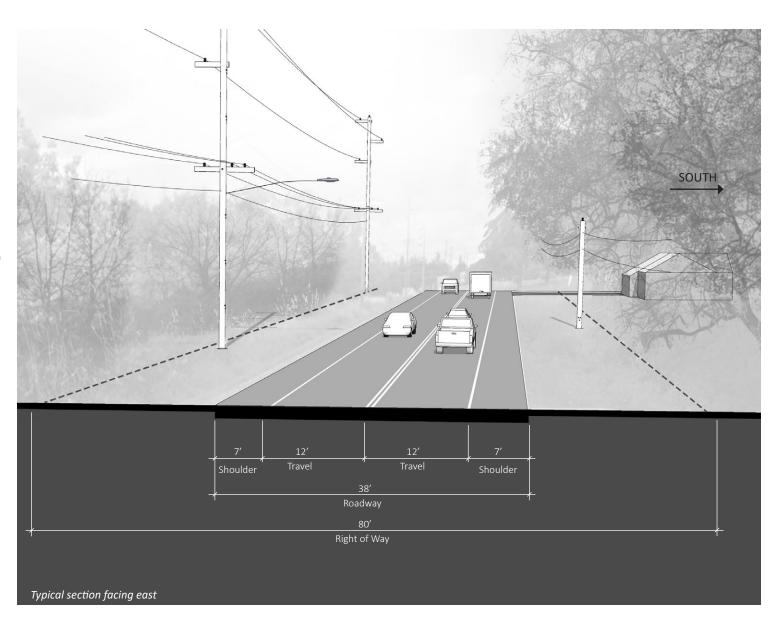
Approximately 2,900 linear feet

Bike lanes on both sides

Sidewalks only near US 30

Similar to Old Portland Road, the current roadway has two travel lanes and bicycle lanes on both sides, along with drainage ditches on either side of the roadway, and has a 40 mph speed limit, except in the vicinity of US 30 where the speed limit is 30 mph.

Much of this segment is characterized by industrial land uses, along with an area of concentrated retail near the intersection with US 30 and smaller collection of commercial and other uses near the intersection of Gable and Old Portland Roads.



Road Section: Option A

Standard Minor Arterial with Median

This section is similar to Option A in Segment 4.1, with the addition of a 14' wide planted median.

Because of the on-street bike lanes, this design targets a speed limit of 35 mph or less. Currently Gable Road is signed at 40 mph.

The planted median provides a location for turn pockets, a 2-way left turn lane, and for a pedestrian refuge at mid-block crossings, as needed.

Implementation of the median and turn pockets would require anticipation of the location of future development along the road. In addition, local emergency service providers may have issues related to their ability to pass motorists if needed in the event of an emergency.



Road Section: Option B

Multi-Use Path with Median

This section is similar to Option B in Segment 4.1, with the addition of a 14' wide planted median.

Option B replaces the bicycle lanes and one sidewalk with a 12' wide multi-use path for both bicyclists and pedestrians. Transitions from the multi-use path to bike lanes and sidewalks on adjacent road segments will need to be considered.

The planted median provides a location for turn pockets, a 2-way left turn lane, and for a pedestrian refuge at mid-block crossings, as needed.

Implementation of the median and turn pockets would require anticipation of the location of future development along the road. In addition, local emergency service providers may have issues related to their ability to pass motorists if needed in the event of an emergency.



Road Section: Option C

Two-Way Cycletrack with Median

This section is similar to Option C in Segment 4.1, with the addition of a 14' wide planted median.

Option C replaces the bicycle lanes with a 12' wide raised two-way cycletrack. Transitions from the cycletrack to bike facilities on adjacent road segments and cycletrack crossings at intersections need to be considered. This general concept could also be achieved with two one-way cycletracks or two buffered bicycle lanes.

The planted median provides a location for turn pockets, a 2-way left turn lane, and for a pedestrian refuge at mid-block crossings, as needed.

Implementation of the median and turn pockets would require anticipation of the location of future development along the road. In addition, local emergency service providers may have issues related to their ability to pass motorists if needed in the event of an emergency.



Intersection Evaluation

The intersection of McNulty Way and Gable Road currently provides single-lane approaches with shared turn movements for all legs of the intersection. McNulty Way is stop-controlled. Few gaps are available for left-turning vehicles on both McNulty Way and Gable Road.

The St. Helens TSP shows a future extension of McNulty Way to Port Avenue, creating a 4-legged intersection in the future. A traffic signal is not expected to be warranted within the planning horizon.

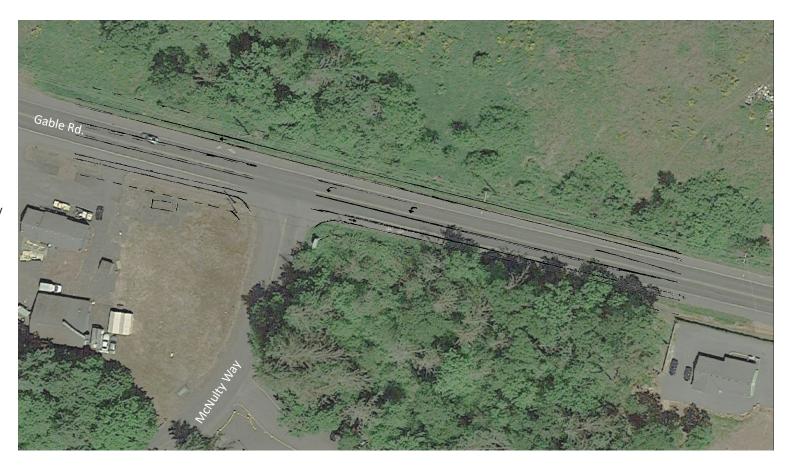


Existing conditions (image: Google Earth)

Potential Intersection

The addition of a westbound left-turn lane provides separation of stopped left-turning vehicles waiting for a gap and westbound through vehicles. The two-way left-turn lane to the west will allow northbound motorists along McNulty Way to complete two-stage left-turns onto Gable Road.

Though the proposed intersection provides acceptable operations for the horizon year, separate left- and right-turn lanes could be provided on McNulty Way beyond the horizon year and/or when a connection to Port Avenue is made.



INTERSECTION: GABLE ROAD & MCNULTY WAY

Intersection Evaluation

The intersection of US 30 and Gable Road currently serves as an entrance to the east and west areas of the City. It is located along a statewide highway, adjacent to several major retail/commercial centers, and within close proximity to St Helens High School. It is also located adjacent to a heavy rail line, which makes modification of the intersection challenging and very expensive.

The safety and operational issues at the intersection are well documented; however, there are few options to improve overall conditions and to bring the intersection to standard. Consistent with the City's Transportation System Plan, the proposed intersection design includes the addition of a separate right-turn lane at the westbound approach.

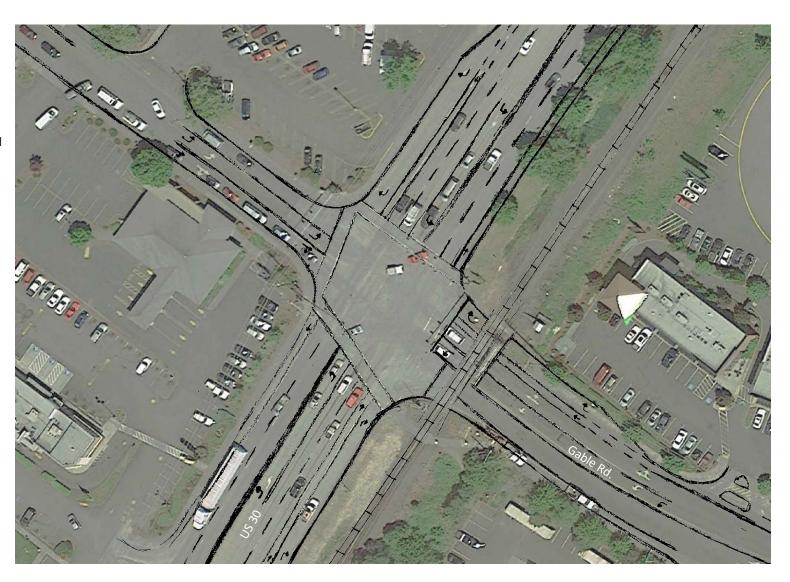


Existing conditions (image: Google Earth)

INTERSECTION: GABLE ROAD & US 30

Potential Intersection

The proposed intersection design is expected to improve conditions but is not expected to fully address the operational issues. Therefore, an alternative mobility standard that evaluates the intersection over the course of an hour (or two hours as opposed to the peak 15-minutes) is also being considered. The standard could remain at v/c = 0.85 or could increase to v/c = 1.0 to allow for higher levels of congestion.



INTERSECTION: GABLE ROAD & US 30

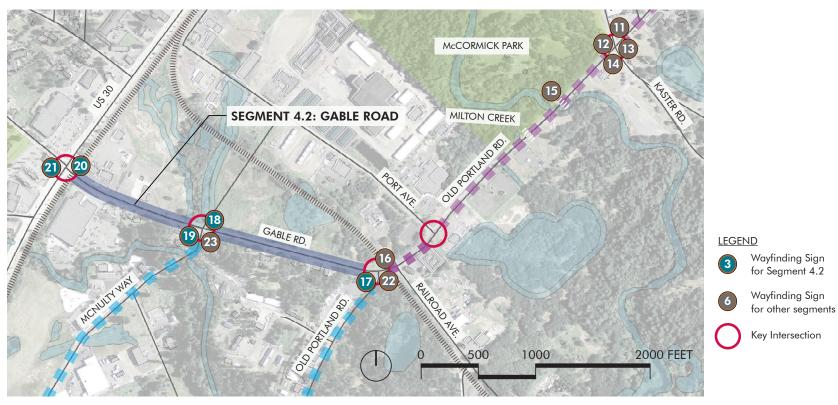
Evaluation Summary Table

Rating System:

Poor	N	Good		
0	O	•	•	•

		Economy and Business Support			pport Transportation Safety and Mobility			ility	Connectivity & Streetscape Aesthetics					
		Consistency with Previous Planning	Supports businesses and business districts	Supports customers, employees, and others by providing access	Relative Cost effectiveness	Improved connectivity & access	Improved pedestrian/bicycle safety and accessibility	Through-movement and mobility	Safety	Emergency Vehicle accommodations	Improved street appearance	Improved ped/bike connectivity	Street designs catered to needs of particular segments	Sustainable Design Strategies
ion	Option A	•	•	•	•	•	•	•	•	•	•	•	•	•
Road Section Options	Option B	•	•	•	•	•	•	•	•	•	•	•	•	•
Roa	Option C	•	•	•	•	•	•		•	•	•	•	•	•
Gable Road/ McNulty Way	Proposed Intersection	•	•	•	•	•	•	•	•	•	•	•	•	0
Gable Road/ US 30	Proposed Intersection	•	•	•	•	•	•	•	•	•	•	•	•	0

Wayfinding Recommendations



Wayfinding locations for Segment 4.2

Wayfi	inding Recommendat	tions: Segment 4.2	(See Appendix 2 for full table including destinations)					
		a			Sign			
ID#	Mode Type	Sign Type	Installation Street	Intersecting Street	Facing			
17	Bicycle	On-Street Confirmation	Gable Road	Old Portland Road	West			
18	Bicycle/Pedestrian	On-Street Directional	Gable Road	McNulty Way/Milton Way	East			
19	Bicycle/Pedestrian	On-Street Directional	Gable Road	McNulty Way/Milton Way	West			
20	Bicycle/Pedestrian	On-Street Directional	Gable Road	Highway 30	East			
21	Bicycle/Pedestrian	On-Street Directional	Gable Road	Highway 30	West			

SEGMENT 5 EVALUATION

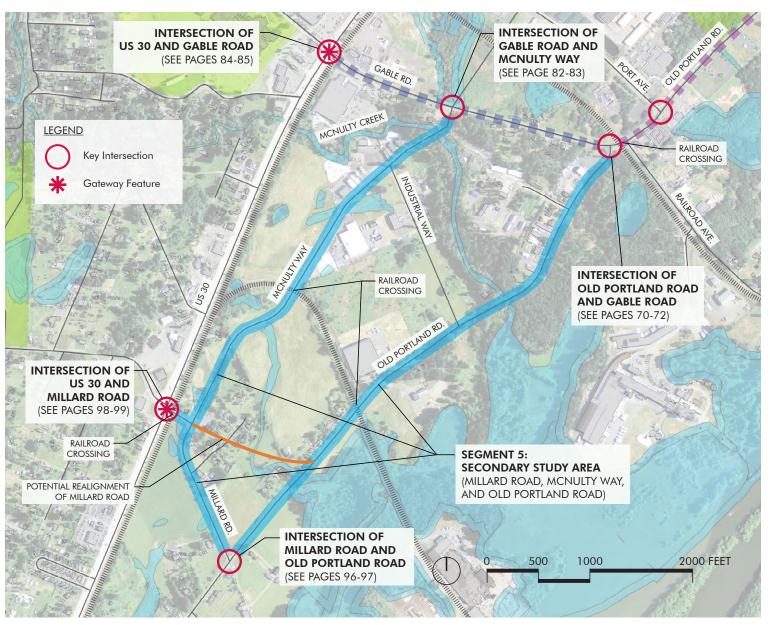
Segment 5 is a secondary area of this analysis; alternatives for this portion of the study area have not been evaluated. It is a possible secondary route to the Riverfront District from US 30, either along McNulty Way or Millard/Old Portland Road. Use of this route would relieve congestion at the US 30/ Gable Road intersection.

The three sections of road in this corridor segment each consist of two travel lanes. There are two railroad crossings: one on McNulty Way, and the other on Old Portland Road. McNulty Way has dedicated bike lanes, which are accessible along a majority of the street. It is also the most developed street and portions of it include curb-tight sidewalks or concrete curbs.

Stormwater runoff on McNulty Way is captured by catch basins located along both sides of the street where there are curbs and then conveyed into a storm drainage system. On the rest of McNulty Way, and all of Millard Road and Old Portland Road, stormwater is captured in ditches, some of which is conveyed to stormwater ponds.

On the northern end of McNulty Way and Old Portland Road adjacent development is a mix of single-story commercial and light industrial buildings. At the southern end of McNulty Way and Old Portland Road, and along Millard Road, residential homes of various sizes and characteristics populate the area.

SEGMENT 5: SECONDARY STUDY AREA



Segment 5 project area

Existing Road Conditions

TSP classification: Minor Arterial

Approximately. 60' wide ROW, minimum 52'

Approximately 5,600 Linear Feet

No bike lanes

No sidewalks

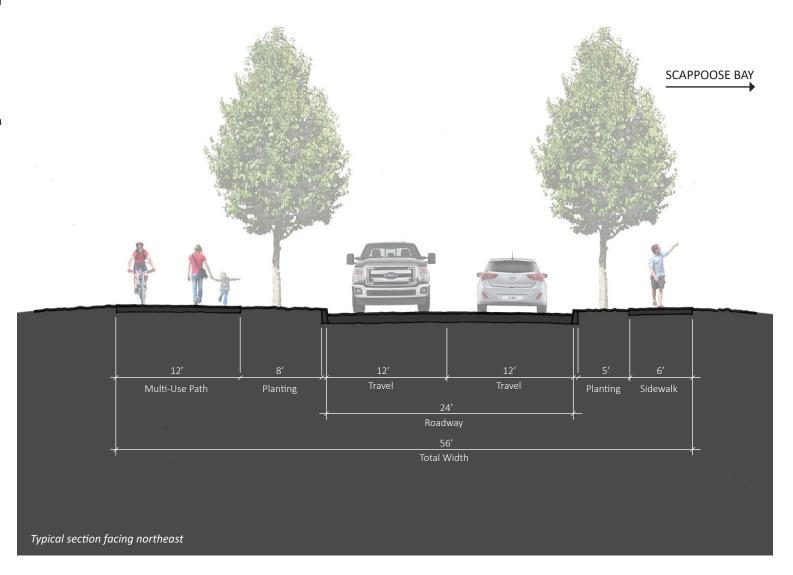


(Image: Google Streetview)

Potential Road Section

The TSP identifies a shared-use path on the south side of Old Portland Road, (classified as a Minor Arterial) through this area. However, for this study, the shared use path is proposed to be realigned to the north side, depending on which cross-section is recommended for Segment 4.1.

This proposed section is the same as Option B for Old Portland Road in Segment 4.1.



Existing Road Conditions

TSP classification: Collector Street

60' to 90' wide ROW

Approximately 4,100 Linear Feet

Bike lanes are incomplete

Sidewalks are incomplete

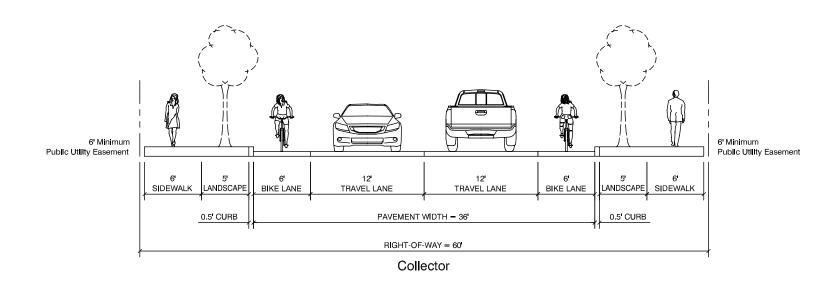


(Image: Google Streetview)

SEGMENT 5: MCNULTY WAY

Potential Road Section

McNulty Way is classified as a Collector street and the standard TSP cross-section is recommended.



Typical section

SEGMENT 5: MCNULTY WAY

Existing Road Conditions

TSP classification: Minor Arterial 40' wide ROW, wider at US. 30 Approximately 1,700 Linear feet

No bike lanes No sidewalks

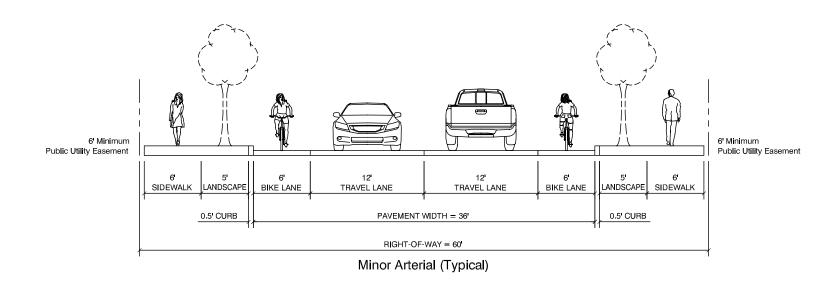


(Image: Google Streetview)

SEGMENT 5: MILLARD ROAD

Potential Road Section

Millard Road is classified as a Minor Arterial and the standard TSP cross-section is recommended.



Typical section

SEGMENT 5: MILLARD ROAD

Intersection Evaluation

The intersection of Old Portland Road and Millard Road currently provides single-lane approaches with share turn movements for all legs of the intersection. Millard Road is stop-controlled. The existing intersection's skewed angle makes truck turns difficult for the westbound right-turn movement.



Existing conditions (image: Google Earth)

INTERSECTION: MILLARD ROAD & OLD PORTLAND ROAD

Potential Intersection

The intersection of Old Portland Road and Millard Road is being considered for a re-alignment to improve sight conditions and safety. A broader re-alignment of the roadway which brings Millard to the east was identified in the TSP and is also under consideration.

Additional pavement in the northwest corner of the intersection will help accommodate large truck turning movements from Old Portland Road to Millard Road.

Wayfinding signage at both Old Portland Road and McNulty Way (from Millard and US 30) would direct people towards Gable Road, the Riverfront and the Downtown area to the north.



INTERSECTION: MILLARD ROAD & OLD PORTLAND ROAD

Intersection Evaluation

The intersection of US 30 and Millard Road is currently side-street stop-controlled. Two through lanes, left-, and right-turn lanes are provided along US 30 and shared left-and-through lanes and right-turn lanes are provided on Millard Road. A railroad crossing is present on the east leg.



Existing conditions (image: Google Maps)

INTERSECTION: MILLARD ROAD & US 30

Potential Intersection

The Oregon Department of Transportation (ODOT) is currently planning to install a traffic signal at the intersection of US 30 and Millard Road. The traffic signal will improve existing traffic operations and safety at the intersection as well as at the intersection of US 30 and Gable Road.

Some traffic from the intersection of US 30 and Gable Road is expected to redistribute to Millard Road via Old Portland Road and McNulty Way. However, based on an evaluation of ODOT's current plans, the intersection is expected to experience capacity limitations in the long-term future; therefore, the proposed intersection design includes separate left, through, and right-turn lanes at the eastbound and westbound approaches.



INTERSECTION: MILLARD ROAD & US 30

Evaluation Summary Table

Old Portland / Millard Road

US 30/ Millard Road Proposed

Proposed

Intersection

Intersection

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					Po	oor	Mode	rate	(Good				
						0 (•)	•	•				
		Econo	my and Bu	ısiness Sup _l	port	Tran	sportation	n Safety (and Mob	oility	Connec	tivity & Stre	eetscape Ae	sthetics
		Consistency with Previous Planning	Supports businesses and business districts	Supports customers, employees, and others by providing access	Relative Cost effectiveness	Improved connectivity & access	Improved pedestrian/bicycle safety and accessibility	Through-movement and mobility	Safety	Emergency Vehicle accommodations	Improved street appearance	Improved ped/bike connectivity	Street designs catered to needs of particular segments	Sustainable Design Strategies
Road	Old Portland Road	•	•	•	•	•	•	•	•	•	•	•	•	•
Proposed Road Section	Millard Road		•		•	•	•	•	•	•	•	•	•	•
Prop. S	McNulty Way	•	•	•	•	•	•	•	•	•	•	•	•	•

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Rating System:

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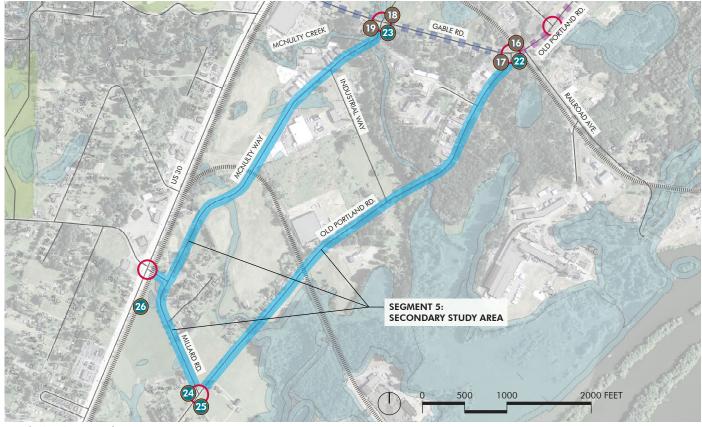
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SEGMENT 5: SECONDARY STUDY AREA

Wayfinding Recommendations



Wayfinding locations for Segment 5

Wayfi	inding Recommendat	ions: Segment 5	(See Appendix 2 for full ta	ble including destinations)	
					Sign
ID#	Mode Type	Sign Type	Installation Street	Intersecting Street	Facing
22	Vehicle	Vehicular Directional	Old Portland Road	Gable Road/Old Portland Road	South
23	Vehicle	Vehicular Directional	McNulty Way	Gable Road	South
24	Vehicle	Vehicular Directional	Millard Road	Old Portland Road	North
25	Vehicle	Vehicular Directional	Old Portland Road	Millard Road	South
26	Vehicle	Vehicular Directional	Highway 30	Millard Road	South

SEGMENT 5: SECONDARY STUDY AREA

LEGEND

Wayfinding Sign for Segment 5

Wayfinding Sign for other segments

Key Intersection