

# TECHNICAL MEMORANDUM

---

February 24, 2026

Project# 31998

To: City of Tualatin City Council

From: Marc Butorac, PE, PTOE, PMP; Amy Griffiths, PE

CC: Mike McCarthy, PE; Abby McFetridge, EI; City of Tualatin

RE: Tualatin-Sherwood Road Rail Crossing Study – Summary of Alternatives

---

The purpose of this memorandum is to provide the City Council with an initial high-level understanding of the potential alternative scenarios, solution sets, and alternatives within each solution set that will likely be explored during the Tualatin-Sherwood Road Rail Crossing Study. It should be noted that the technical analyses and public engagement process may identify other alternative opportunities and constraints as the project moves forward over the next 12 months. *Thus, this memorandum is intended to provide an initial 10,000-foot view of the potential solutions to address the operational and safety concerns at the existing rail crossing and signalized intersection and to provide opportunities to support further redevelopment as envisioned in the City's Core Opportunity and Reinvestment Area Plan.*

Table 1 and Table 2 below identify the potential grade-separated and at-grade alternative scenarios and solution sets likely to be studied, respectively. These tables also document some of the key viability considerations to be assessed under alternatives within each set. Appendix A through Appendix E provide visual representations of each solution set. *It should be noted that these are conceptual renderings intended only to provide a contextual understanding of potential alternative solution sets. The renderings have not been fully engineered, evaluated, nor prioritized by the project team, and are subject to change throughout the course of the project.*

**Table 1. Potential Grade-Separated Alternative Solutions Sets Likely to be Studied and Key Viability Considerations**

Alternative Solution Sets	Sub Alternatives	Key Viability Considerations
Rail Under Tualatin-Sherwood Road <i>Shown in Appendix A</i>	N/A	<ul style="list-style-type: none"> <li>- Requires significant excavation and dewatering (much deeper and higher volume excavation required than Road Under Rail)</li> <li>- High construction complexity</li> <li>- Rail operations likely to be disrupted</li> <li>- Long term maintenance costs related to drainage</li> <li>- Increased utility conflicts and risk</li> <li>- Business and property access significantly impacted during construction</li> <li>- Increased schedule and cost risk due to extensive railroad coordination</li> <li>- Existing railroad grade descends from the south and west at 1.1% grade, prohibiting any depression of track at current grade crossing, existing grade crossings would limit ability to extend grades outward along track alignment</li> <li>- Lowering the rail line in trench below flood elevation is risky and costly to provide for dewatering</li> <li>- Limited rail right of way width and closely located building outside of the right-of-way does not provide for space for shoo-fly arrangement of tracks during construction</li> <li>- Accommodation of below grade Tri-Met WES passenger station is complicated</li> <li>- Long-term maintenance cost of tracks is increased due to limited access in trench</li> </ul>
Rail Over Tualatin-Sherwood Road <i>Shown in Appendix B</i>	N/A	<ul style="list-style-type: none"> <li>- Requires elevated rail structure with long approach grades</li> <li>- Difficult to comply with standards for roadway grades without significant impacts to other nearby streets (Nyberg Street and Tualatin Road) and rail crossings (Portland &amp; Western grade-separated crossing north of Tualatin Road)</li> <li>- Increased visual impacts to surrounding area</li> <li>- Limited opportunities to maintain rail operations</li> <li>- Increased schedule and cost risk due to extensive railroad coordination</li> <li>- Limited rail right-of-way width and closely located building outside of the right-of-way does not provide for space for shoefly arrangement of tracks during construction</li> <li>- Accommodation of an elevated Tri-Met WES passenger station is costly</li> <li>- Long term maintenance cost of tracks is increased due to limited access on structure</li> <li>- Railroads do not prefer to assume the added maintenance and inspection of elevated rail structures, particularly of such length</li> <li>- Structural capacity required for railroad loading increases cost of elevated rail structures</li> <li>- Sound propagation from train operations on elevated structure may require additional remediation actions</li> </ul>

Alternative Solution Sets	Sub Alternatives	Key Viability Considerations
Tualatin-Sherwood Road Under Rail <i>Shown in Appendix C</i>	Lower Boones Ferry Road; Intersection Lowered Under Rail	<ul style="list-style-type: none"> <li>- Deep roadway excavation likely triggers pump station and long-term drainage needs</li> <li>- High risk of utility conflicts and relocations</li> <li>- Longer construction durations; including a lengthy closure when both Lower Boones Ferry and Tualatin Sherwood Road would need to be closed</li> <li>- Temporary walls required to stage construction within the right-of-way may not be practical from a cost and business operation impact</li> <li>- Railroad may require a shoefly to maintain operations during construction of permanent railroad bridge</li> </ul>
	Keep Boones Ferry Road at Existing Grade; Create New Northerly Connection via Nyberg Street	<ul style="list-style-type: none"> <li>- A temporary bridge may be required across Tualatin Lake</li> <li>- Increased right-of-way impacts during construction</li> <li>- Short-term closure on Boones Ferry Road is necessary to construct new bridge over Tualatin-Sherwood Road</li> <li>- High likelihood of utility conflicts and risk</li> <li>- Railroad may require a shoefly to maintain operations during construction of permanent railroad bridge</li> <li>- Improved north-south and east-west connectivity needed during construction</li> </ul>
	Keep Boones Ferry Road at Existing Grade; Create New Southerly Connection via Warm Springs Street	<ul style="list-style-type: none"> <li>- Increased right-of-way impacts during construction</li> <li>- Short-term closure on Boones Ferry is necessary to construct new bridge over roadway and rail line.</li> <li>- High likelihood of utility conflicts and risk</li> <li>- Railroad may require a shoefly to maintain operations during construction of permanent railroad bridge</li> <li>- Improved north-south and east-west connectivity</li> </ul>
Tualatin-Sherwood Road Over Rail <i>Shown in Appendix D</i>	Raise Boones Ferry Road; Intersection Raised Over Rail	<ul style="list-style-type: none"> <li>- Decreased impacts to railroad</li> <li>- Permanent visual impact to surrounding area: roadway will need to be raised by approximately 30 feet</li> <li>- Difficult to stage construction in public right-of-way due to tall temporary walls</li> <li>- Opportunity to keep Boones Ferry Road or Tualatin-Sherwood Road (one at a time) open for most of construction</li> </ul>
	Keep Boones Ferry Road at Existing Grade; Create New Northerly Connection via Nyberg Street	<ul style="list-style-type: none"> <li>- Decreased impacts to railroad</li> <li>- Temporary bridge may be required across Tualatin Lake</li> <li>- Increased right-of-way impacts during construction and permanently</li> <li>- Longer and taller multi-span bridge required to clear both Boones Ferry Road and railroad</li> <li>- Improved north-south and east-west connectivity</li> </ul>
	Keep Boones Ferry Road at Existing Grade; Create New Southerly Connection via Warm Springs Street	<ul style="list-style-type: none"> <li>- Decreased impacts to railroad</li> <li>- Increased right-of-way impacts during construction and permanently</li> <li>- Longer and taller multi-span bridge required to clear both Boones Ferry Road and railroad</li> <li>- Improved north-south and east-west connectivity</li> </ul>

**Table 2. Potential At-Grade Alternative Solutions Sets Likely to be Studied and Key Viability Considerations**

Alternative Solution Sets	Key Viability Considerations
Tualatin-Sherwood Road Widening & Intelligent Transportation Systems (ITS) <i>Shown in Appendix E</i>	<ul style="list-style-type: none"> <li>- Minimal right-of-way impacts</li> <li>- Does not address the operational and safety concerns at the existing rail crossing</li> <li>- Potential to enhance intersection operations and multimodal safety</li> <li>- Increased coordination and approvals from the railroad and ODOT rail</li> </ul>
No Build	<ul style="list-style-type: none"> <li>- Does not address the operational and safety concerns at the existing rail crossing or Boones Ferry/Tualatin-Sherwood Road intersection</li> </ul>

# Appendix A - Grade Separated Alternatives

Rail  
Under  
Road



# Appendix B - Grade Separated Alternatives

Rail  
Over  
Road



# Appendix C - Grade Separated Alternatives

## Road Under Rail

- Lower Boones Ferry & Intersection
- Boones Ferry at grade; create new northly connection via Nyberg St
- Boones Ferry at grade; create new southerly connection via Warm Springs St



# Appendix D - Grade Separated Alternatives

## Road Over Rail

- Raise Boones Ferry & Intersection
- Boones Ferry at grade; create new northly connection via Nyberg St
- Boones Ferry at grade; create new southerly connection via Warm Springs St



# Appendix D - Grade Separated Alternatives

## Road Over Rail

- Raise Boones Ferry & Intersection
- Boones Ferry at grade; create new northly connection via Nyberg St
- Boones Ferry at grade; Tualatin-Sherwood Road ramps to/from east



# Appendix E - At-Grade Alternatives

- Roadway Widening
- Intelligent Transportation Systems (e.g., Upstream Train Warning)

