

MEMORANDUM

August 14, 2023

To: Bruce Hyman, Transportation Program Manager

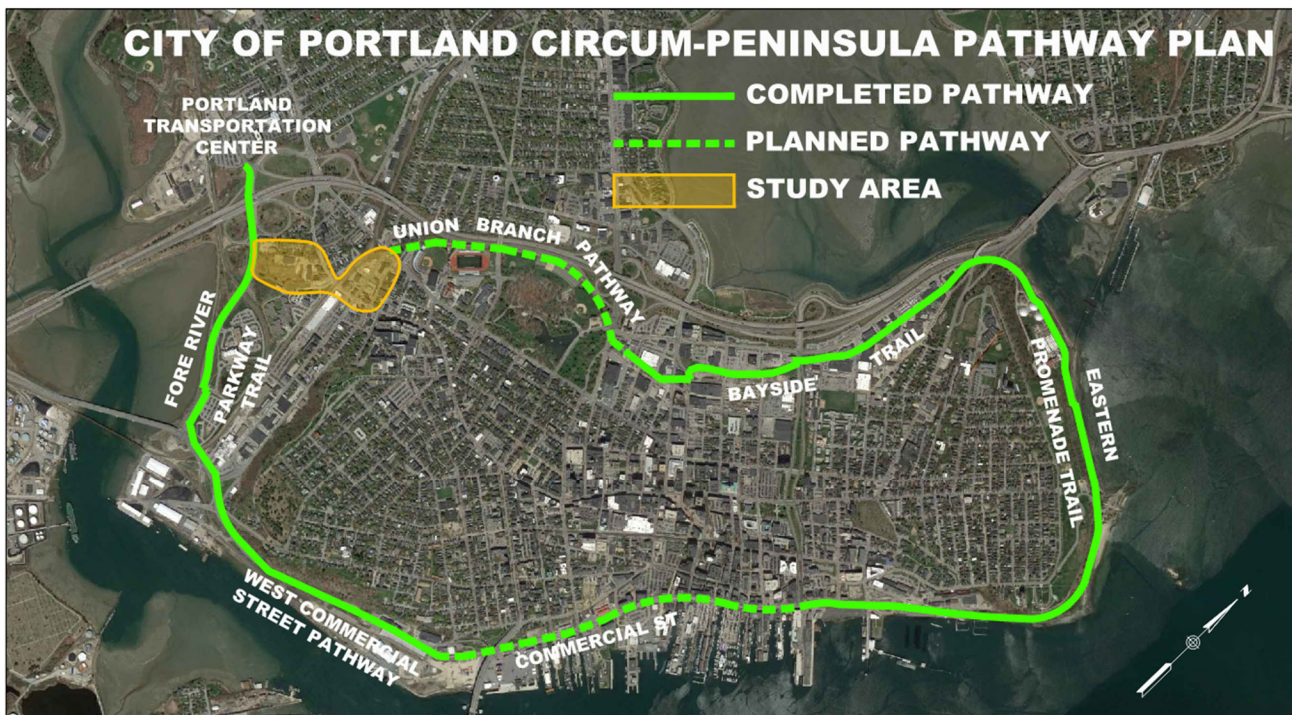
From: Tom Nosal, P.E.; John Mahoney, P.E.

Re: Evaluation of Alternatives to Connect the Union Branch Pathway to the Fore River Parkway Trail

Introduction

The City of Portland has been planning and constructing a network of multiuse pathways that, when complete, will encircle nearly the entire Peninsula (Figure 1). The City is currently designing a multiuse pathway segment along the Union Branch corridor, between State Street and Park Avenue, which will fill in a large portion of the gap in the network between the Bayside Trail and Fore River Parkway Trail. The goal of this alternatives evaluation is to determine the preferred alignment to connect the end of the Union Branch pathway at Park Avenue to the Fore River Parkway Trail connecting the St. John/Valley and Libbytown neighborhoods.

Figure 1. Circum-Peninsula Loop and Study Area



Both off-street and along-street alignments are considered. Off-street alignments are to be designed as multiuse pathways, whereas certain along-street alignments utilize either multiuse pathways or cycle tracks (also commonly known as separated bike lanes). In an along-street context, both facility types provide a high degree of separation between their users and motor vehicle traffic. The primary difference for the purposes of this effort is that cycle tracks are intended to serve people using bicycles or other wheeled devices, whereas multiuse pathways are intended to serve all modes of active transportation, including pedestrians. Cycle-tracks are typically directly adjacent to a sidewalk.

This project has considerable overlap with a separate effort between the City and MaineDOT to restore two-way vehicular traffic on Park Avenue and Congress Street between where the two streets intersect and Saint John Street (MaineDOT WIN: 26055.00). The Libbytown Safety and Accessibility Project will also construct cycle-tracks on both Park Avenue and Congress Street. All of the potential alignments will ultimately use some portion of the Congress Street cycle-track to connect the Union Branch Pathway to the Fore River Parkway Trail.

Potential Alignments

The alignments under consideration are presented in Figure 2. The associated representative cross sections are provided in Appendix A. As noted above, the preferred alignment will ultimately use some portion of the cycle-track on Congress Street. The alignments can be considered to span two segments: the first, between the Union Branch in the vicinity of Park Avenue and Congress Street, will be spanned by either the Rail Right-of-Way alignment or via the Valley Street alignment; the second, spanning Congress Street to the Fore River Parkway, will be spanned by Frederic Street, Westfield Street, or either County Way alternatives. The potential alignments are summarized below in Table 1.

Figure 2. Alternative Alignments

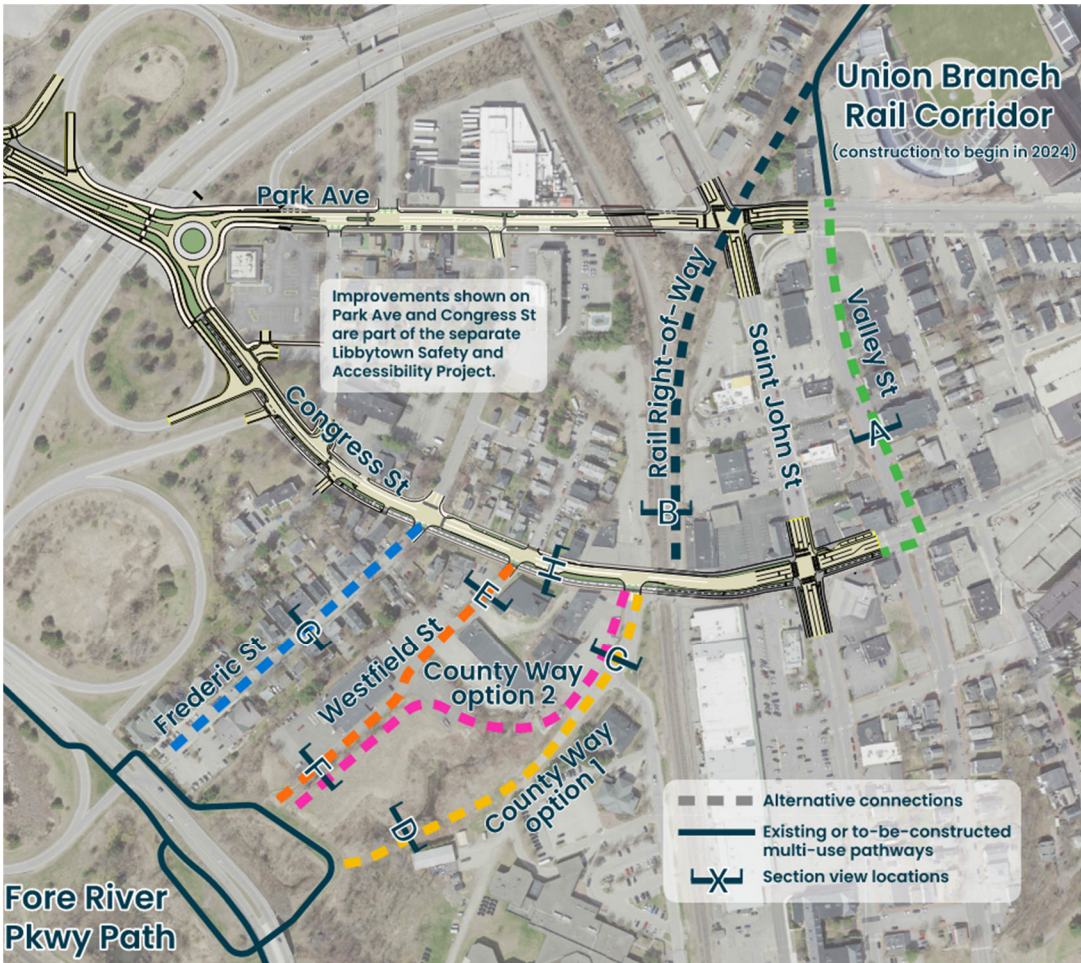


Table 1. Summary of Potential Alignments

Union Branch to Congress St	Valley Street (Section A)	Along-street cycle-track adjacent to existing sidewalk. Crossings at Park Avenue and Congress Street would be required.
	Rail Right-of-Way (Section B)	City owns trestle bridge over Park Avenue, but would need to negotiate/acquire rights to install pathway on what is currently CSX property (CSX owns the land between southern end of the bridge and Congress Street). Grade separated crossing of Park Avenue but a crossing of Congress Street is required.
Congress St to Fore River Parkway Trail	County Way Option 1 (Sections C and D)	Along-street multiuse pathway runs parallel to County Way before hugging boundary of City-owned parcel to meet Fore River Parkway Trail. Section of retaining wall likely needed to avoid wetlands impacts; may not be possible to avoid impacts altogether. (See Appendix for property lines and wetlands).
	County Way Option 2 (Sections C and F)	Crosses into City-owned parcel north of wetlands; more likely to avoid impacts and less likely to require retaining wall, though grading may impact environmentally sensitive soils. Second half of alignment runs parallel to western boundary of City-owned parcel; would require filling existing drainage ditch or benching embankment for pathway.
	Westfield Street (Sections E and F)	Along-street multiuse pathway along first half would require some grading impacts to private property at corner of Congress and Westfield Streets. Second half follows same alignment as County Way Option 2.
	Frederic Street (Section G)	Frederic Street ties into the Fore River Parkway Trail at an existing crosswalk enhanced with Rectangular Rapid Flashing Beacons (RRFB). Two alternatives considered: constrained cycle track and shared street with traffic calming.

Alignment Criteria and Evaluation

To evaluate the potential alternatives, the project team developed a set of qualitative criteria organized into four categories: **Connectivity, Multimodal Function & Safety, User Experience, and Constructability/Implementation**. Descriptions of the criteria and measures referenced in developing each evaluation are presented in Table 2.

Evaluations of each potential alignment are also presented in Table 2 and key points are summarized below.

Union Branch to Congress Street

Valley Street

- Provides good continuity from the westerly terminus of the Union Branch Path at Park Avenue and access to Maine Medical Center/St. John-Valley neighborhood, and ability for pathway users to continue along Valley Street south of Congress Street.
- Proposed cross section provides good separation between motor vehicles and pathway users, and reducing this one-way section of Valley Street from two lanes to one should help calm traffic and improve safety for all users. Cross-section proposes retaining one side of on-street parking (of the current two sides of parking).
- Relatively steep grades along Congress St and the southern end of Valley Street would make this alternative challenging for users with limited mobility and increase effort for all users.
- While a cycle track can provide safe, comfortable accommodation for cyclists, this facility would put a substantial portion of the circum-Peninsula loop along-street as opposed to fully off-street and would require crossings at Park Avenue, Congress Street and Saint John Street.

Railroad Right-of-Way

- This alignment would allow the pathway to remain fully separated from motor vehicle traffic to Congress Street, eliminate grade crossings of Park Avenue and Saint John Street, and subject pathway users to much less elevation change.
- While certain portions might feel relatively isolated, the increased connectivity and creation of an additional 'outlet' for the Union Branch could heighten perceived safety of this portion of the pathway in general.
- Re-use of the trestle bridge across Park Avenue would create a unique, interesting experience for pathway users.
- Re-use of the trestle bridge would require an engineering evaluation of the bridge's condition and could introduce significant costs depending on the level of rehabilitation needed.
- The City does not own the railroad corridor between the southern end of the trestle bridge and Congress Street and the timing and possibility of obtaining rights to construct a pathway are highly uncertain and likely make this a mid-to-longer term option.

County Way Options 1 and 2

- Both County Way options would provide a reasonably direct, intuitive connection that is primarily off-street between Congress Street and the Fore River Parkway Trail.
- Option 2 provides a somewhat more direct connection between the businesses on Westfield Street and the pathway.
- Both options may impact wetlands and require associated permitting/mitigation. Option 1 is likely to require a retaining wall to avoid or reduce impacts.
- Based on Environmental Site Assessments prepared on behalf of the City in 2022, contaminated material has been relocated to the County Way parcel and this location was historically used as a dump; pathway construction may require special permitting and soil storage/disposal considerations
- The City may have future plans for redevelopment of portions of the County Way parcel, which could impact how a pathway connection could ultimately be routed and could affect the user experience in terms of grades, aesthetics, driveway crossings, and other factors.

Westfield Street

- The northern section of right-of-way nearest Congress Street is more constrained, though a multiuse pathway with physical separation/buffer appears feasible; there may be grading impacts to a parking lot at the corner of Westfield Street and Congress Street.
- Though the southern portion of this alignment is the same as County Way Option 2, this alignment may avoid some of the complexity of using the County Way parcel.

Frederic Street

- Due to constrained conditions, a cycle track on Frederic Street would offer minimal separation from motor vehicle traffic (though traffic is light as it is a dead-end street), would require removal of on-street parking from one side and result in a 22' wide 'yield street' for two-way traffic and one side of on-street parking.
- A shared street option – with no separated bikeway or pathway - with traffic calming would represent a gap in the off-street circum-Peninsula loop, though it may be suitable for most pathway users.
- Lowest-cost option, easiest to implement and maintain.

Table 2 Alignment Criteria and Evaluation

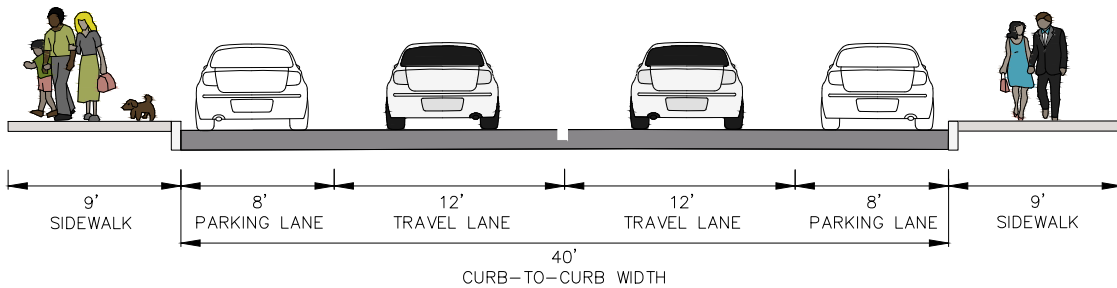
			Union Branch to Congress St		Congress St to Fore River Parkway Trail			
EVALUATION CRITERIA	DESCRIPTION	MEASURES	VALLEY STREET	RAILROAD RIGHT-OF- WAY	COUNTY WAY OPTION 1	COUNTY WAY OPTION 2	WESTFIELD STREET	FREDERIC STREET
Connectivity								
Multimodal connections to community destinations	Provide direct links for pathway users to residential areas, services, recreational space, and other points of interest	> Neighborhoods and multi-family developments > Shopping, restaurants, and service areas > Recreational space connections	High	Medium	Medium	High	High	High
Multimodal Function & Safety								
Separation of trail users from vehicular traffic	Provide higher degree of separation from roadways and travel lanes	> Runs off-street > Buffer type if on-street > Number of adjacent lanes/volume of adjacent traffic	High	High	High	High	High	Low
Street crossings	Minimizes street crossings, particularly of high-stress roadways and intersections	> Observed high vehicular traffic and/or speeds > Number of lanes to cross > Visibility	Low	High	High	High	Medium	Medium
Universal accessibility for all ages, abilities, and user types	ADA-Compliant and provides least challenging slopes plus opportunity for accessible amenities and connections	> ADA / PROWAG compliance > steep/long grades > Space for resting, accessible parking	Medium	High	High	High	High	High
User Experience								
Perceived level of safety	Maintains visibility and connection to surrounding areas	> Isolated segments without connectivity/permeability > Immediate land use (people-oriented vs industrial/automobile oriented)	High	Medium	Medium	Medium	Medium	High
Perceived level of comfort	Provides amenities or design features that increase comfort and buffer users from traffic noise and visuals	> Shade access > Protection from wind > Opportunity for landscaping, aesthetically pleasing buffer elements	High	High	High	High	Medium	Medium
Navigation	Creates an intuitive, easy to use trail experience	> Easy to follow route > Direct route from Union Branch Pathway to Fore River Parkway Pathway > Intuitive access points between pathway and adjacent streets/facilities	Medium	High	High	Medium	Medium	High
Constructability/Implementation								
Property impacts	Minimizes the need for acquisition of private property, difficult coordination with landowners	> Type of property / features > Level of impact to property > Length of time for property acquisition and permitting	High	Low	Medium	Medium	Medium	High
Structural / topography considerations	Minimizes need for new structures (retaining walls, ramps, bridges), modifications to existing structures	> Grade separated crossings (bridge) > Need for retaining walls and/or ramps > Topography	High	Medium	Low	Low	Medium	High
Relative Constructability/Cost of implementation	Reduces costs, permitting challenges relative to other alternatives	> Relative cost/level-of-effort based on engineering judgement	Medium	Medium	Medium	Medium	Medium	High
Ease of maintenance (after construction)	Municipality has adequate access and pathway features are simple to maintain	> Access for larger equipment > Vegetation control > Ease / feasibility of snow removal	High	High	Medium	Medium	High	Medium*
Complements other City Goals/Projects	Complete's circum-Peninsula loop and strengthens Libbytown Accessibility Project. Compatible with future uses of City property	> Evaluate relationship to other City projects and goals	Medium	High	Medium	Medium	Medium	Medium

Note that alternatives within each subsegment are generally ranked relative to each other; i.e. alternatives scored “High” best meet the criteria, “Medium” meet the criteria roughly equally, and “Low” do not meet the criteria as well as others.
*Medium rating is associated with Section G1 due to added complexity of maintaining separate cycle-track; rating would be "Good" for Section G2, which utilizes traffic calming measures.

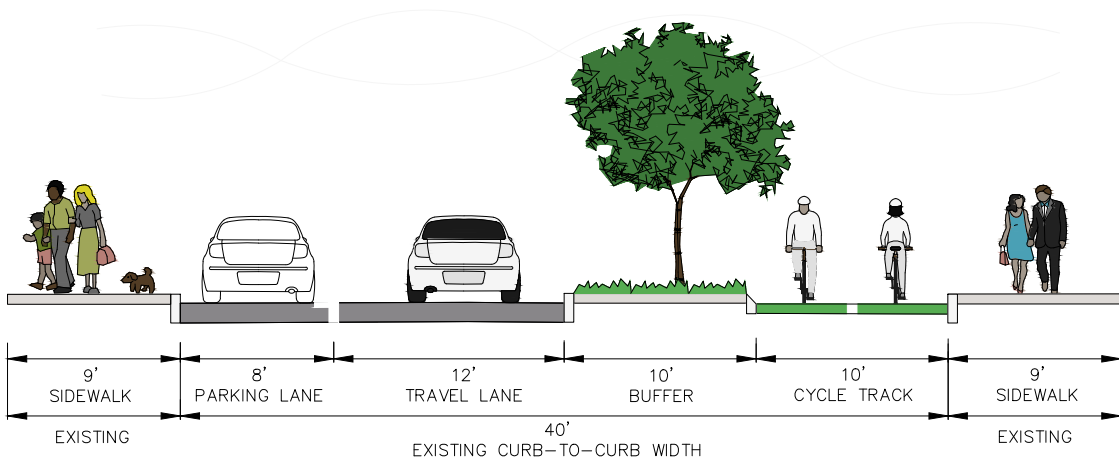
Recommendations

- Union Branch to Congress Street: Construct Valley Street alignment in near-term in order to close gap in pathway network and provide access to MMC, Valley Street neighborhood, but continue to pursue alignment along railroad right-of-way to provide safer, more direct connection for pathway users.
- Congress Street to Fore River Parkway Trail: TBD based on discussion with project team.

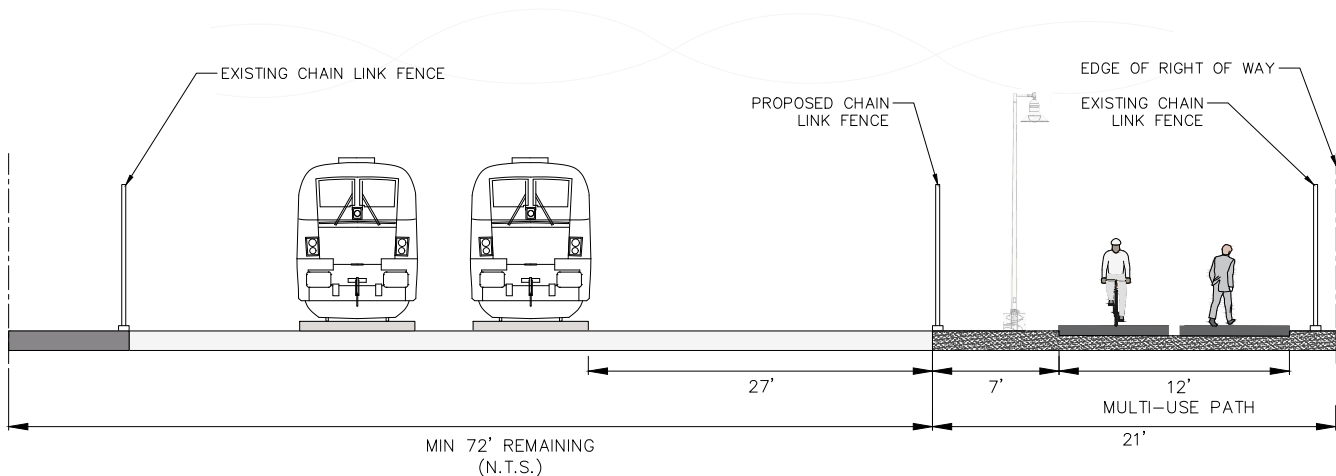
Appendix A: Cross-sections



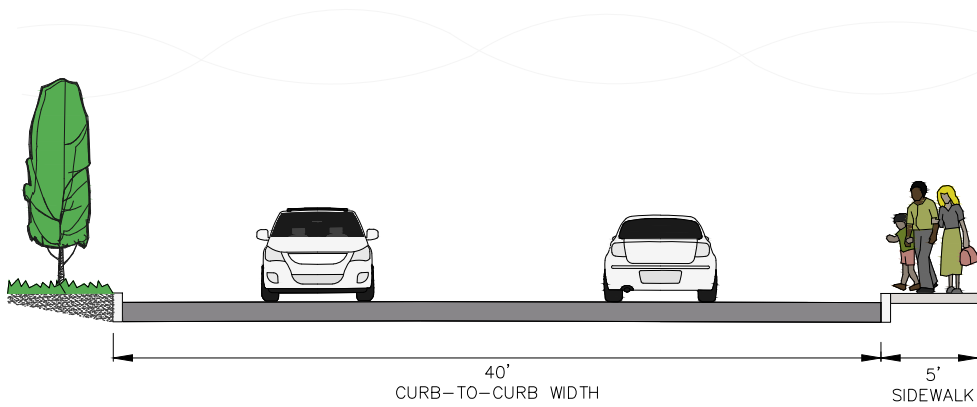
VALLEY STREET EXISTING CONDITIONS



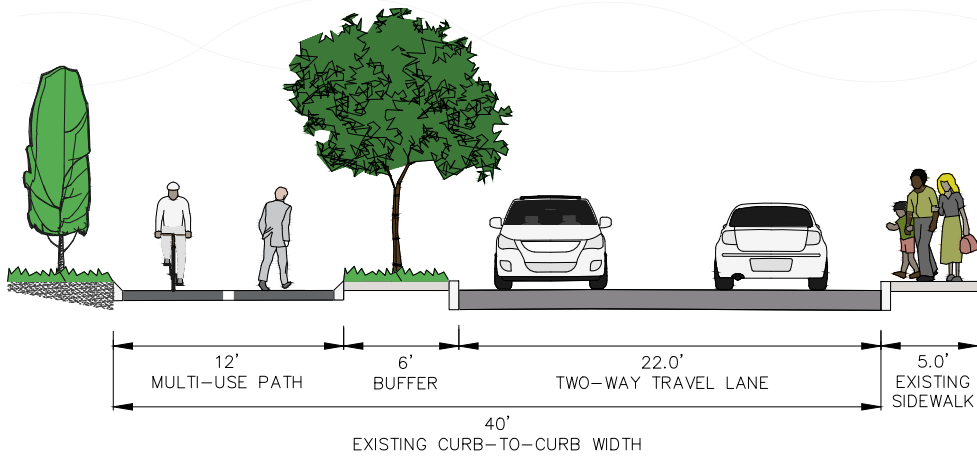
SECTION A: VALLEY STREET



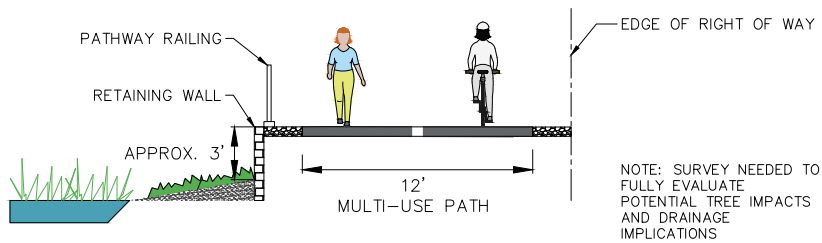
SECTION B: RAIL RIGHT-OF-WAY



COUNTY WAY NORTHERN SEGMENT EXISTING CONDITIONS

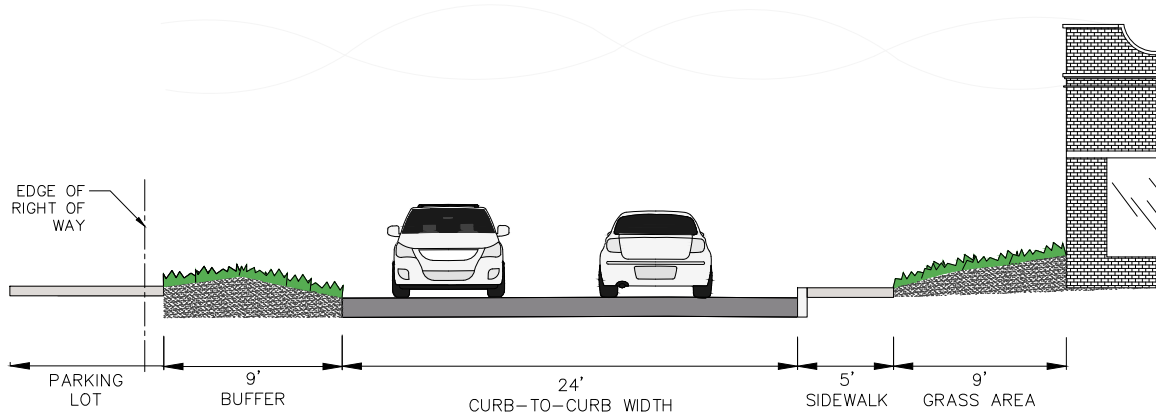


SECTION C: COUNTY WAY NORTHERN SEGMENT

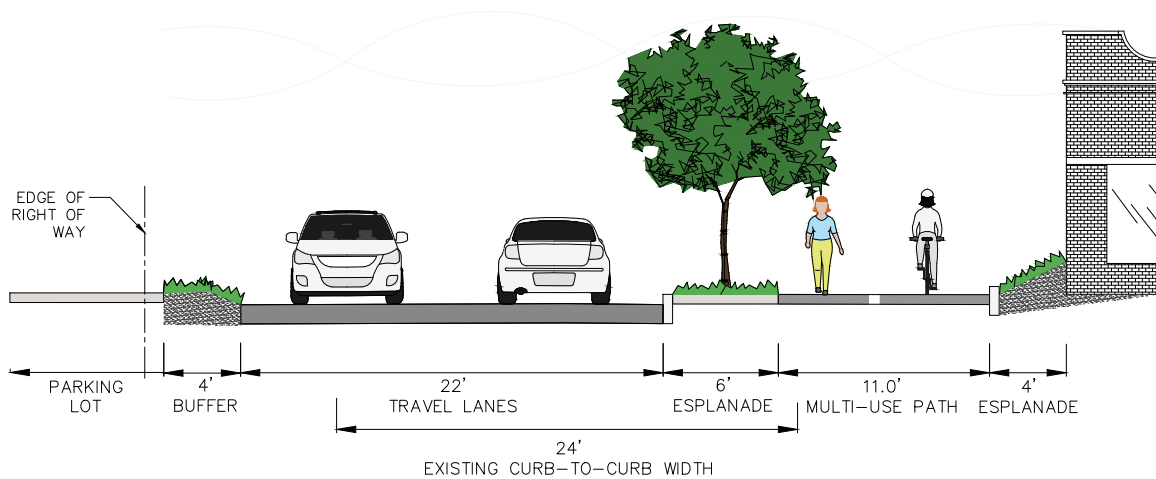


SECTION D: COUNTY WAY OPTION 1

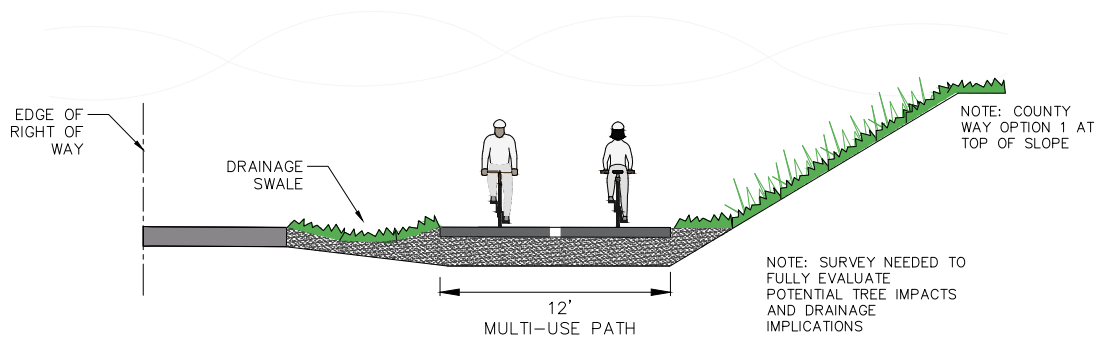
SCALE 1" : 10' 9



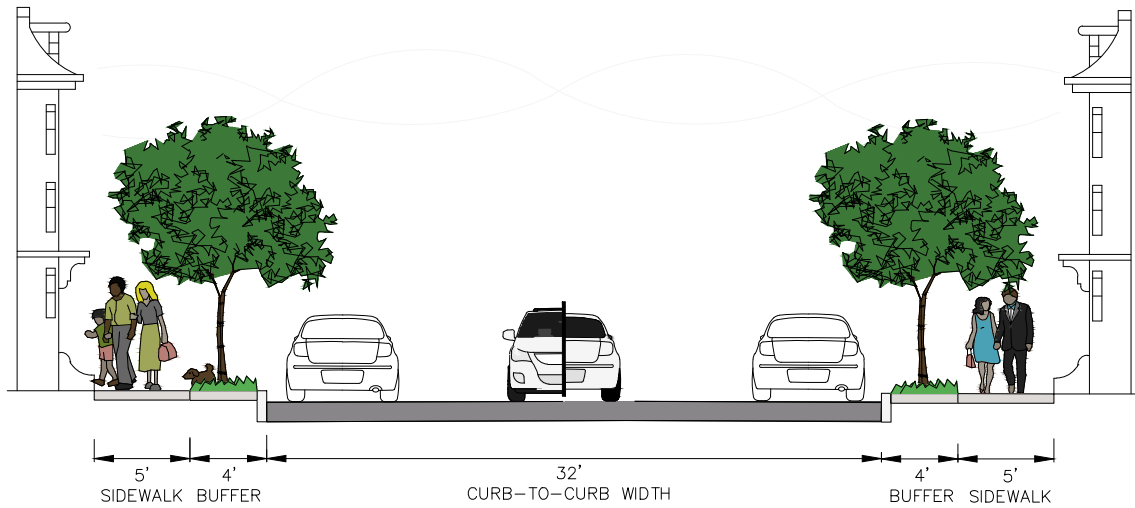
WESTFIELD STREET EXISTING CONDITIONS



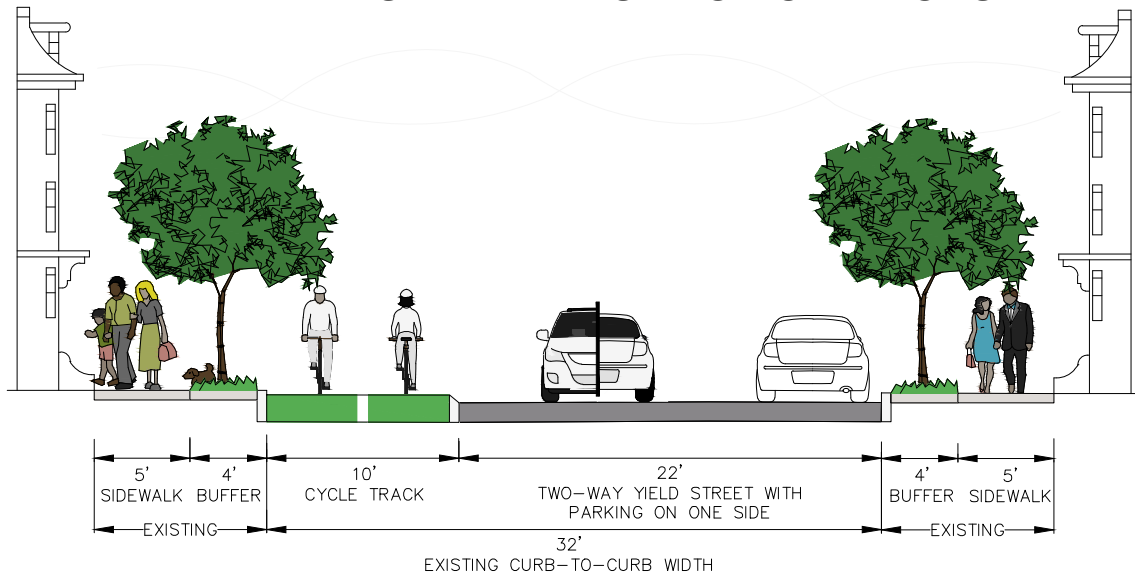
SECTION E: WESTFIELD STREET



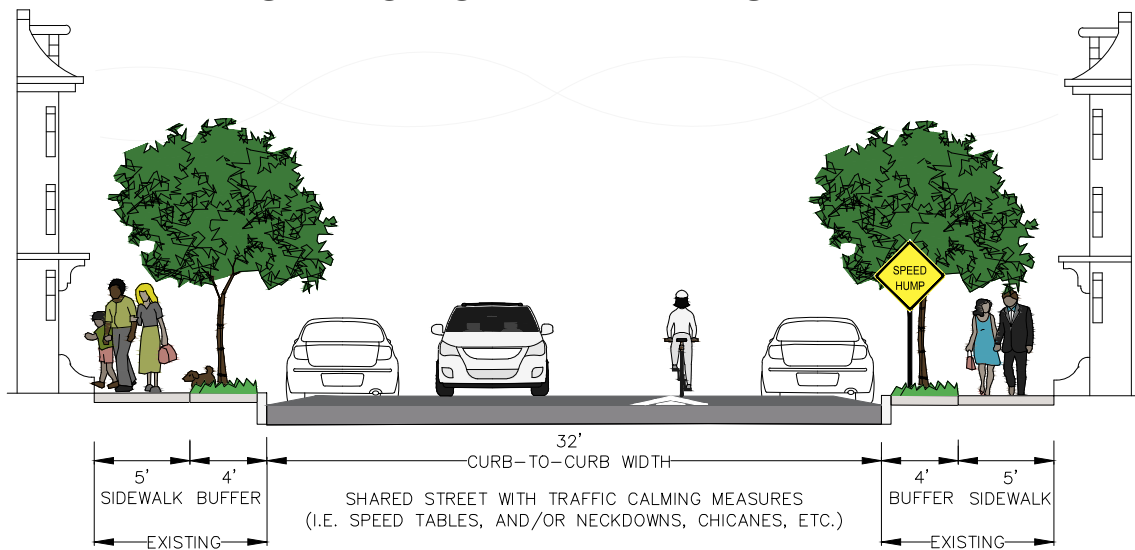
SECTION F: WESTFIELD STREET/ COUNTY WAY OPTION 2



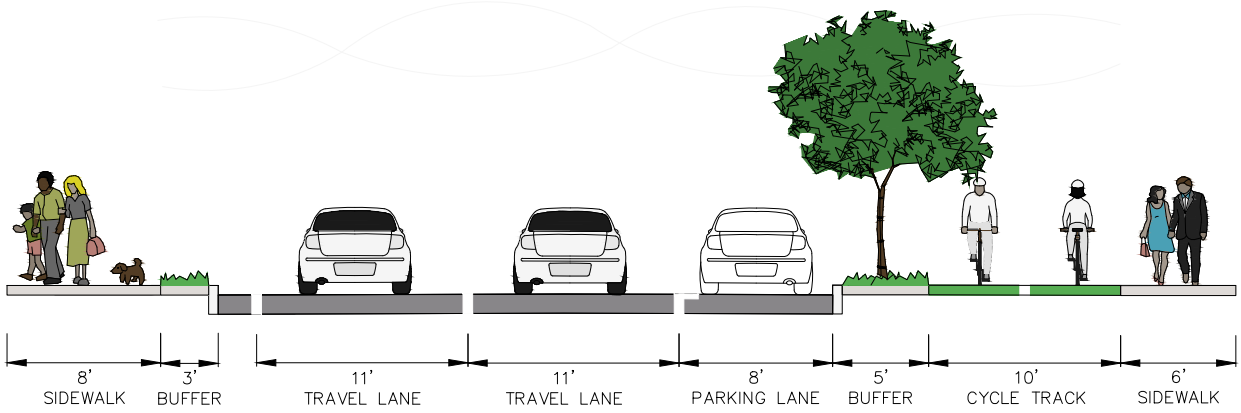
FREDERIC STREET EXISTING CONDITIONS



SECTION G1: FREDERIC STREET



SECTION G2: FREDERIC STREET ALTERNATIVE



SECTION H: CONGRESS STREET (44')