



SCHUSTER PARKWAY PROMENADE CONCEPTUAL DESIGN REPORT

CITY OF TACOMA

PREPARED BY:
SvR DESIGN COMPANY
ALTA PLANNING + DESIGN
GEOENGINEERS

OCTOBER 2013



CREDITS

Technical Stakeholders

City of Tacoma Planning and
Development Services
City of Tacoma Public Works
Bicycle and Pedestrian Technical
Advisory Group

Community Stakeholders

Walk the Waterfront
Tacoma Wheelmen
Neighborhood Councils
Northend Neighborhood Residents
Downtown on the Go

Business Stakeholders

TEMCO
Chamber of Commerce
Port of Tacoma
Sperry Ocean Dock

Prepared By

SvR Design Company
Alta Planning + Design
GeoEngineers

EXECUTIVE SUMMARY

The Schuster Parkway Promenade completes a major connection in Tacoma's non-motorized network. In the coming years, the Schuster Parkway corridor will be transformed from a high-speed, automobile-dominated thoroughfare into a multimodal corridor energized by diverse user groups. Currently, the Schuster Parkway shoreline area is an active industrial waterfront abutting a steep slope to the west, bisected by the mainline Burlington Northern Santa Fe (BNSF) railroad and Schuster Parkway.

The Schuster Parkway corridor connects two waterfront areas - Ruston Way shoreline promenade/Point Defiance to the north and Thea Foss waterway esplanade to the south. Both areas have undergone significant transformation from industrial land use to attractive, urban mixed-use waterfronts. The City of Tacoma's long-term vision has been to connect these two urban waterfronts with a multiuse promenade.

Achieving greater mobility in this corridor was identified in several past planning projects beginning in the 1980's with the Dome to Defiance Report published by the City Club of Tacoma. Additionally, other planning documents identify Schuster Parkway corridor as a future non-motorized connection, including the 2011 Shoreline

Master Program and the 2010 Mobility Master Plan (MoMaP). Tacoma's MoMaP was honored by the Puget Sound Regional Council in 2011 with a VISION 2040 Award in recognition of Tacoma's innovation and commitment to sustainability in anticipation of a growing population. Tacoma's commitment to developing a connected non-motorized network was central to the receipt of this honor. By 2020, the City hopes to build 123 miles of bike lanes and boulevards, develop 42 miles of trails and install 146 blocks of sidewalks. The Schuster Parkway Promenade is an integral element of this expansion and connectivity.

The Schuster Parkway Promenade will welcome pedestrians and cyclists to this corridor with waterfront views and trails connecting to the forested hillside. The promenade will serve as a key connection between destinations including Downtown Tacoma, the historic Old Town district, Point Defiance and adjacent hillside neighborhoods.

PURPOSE OF STUDY

This study identifies the recommended multiuse promenade alignment to improve connectivity between Thea Foss waterway esplanade and Downtown Tacoma with Old Town and the Ruston Way shoreline

promenade. The study reviewed existing documentation of the corridor and identified improvements to provide an all ages and abilities non-motorized connection consistent with City of Tacoma's planning and vision.



Schuster Parkway Promenade vicinity.
Source: Shoreline Master Program Update.

This study acknowledges that the Schuster Parkway corridor is currently a mix of industrial and residential uses, park space, shoreline and greenbelt habitat, rail and arterial transportation. The promenade design must balance these uses while creating a compelling non-motorized connection. The many design options that were analyzed are detailed in Appendix A.

This study recommends creating a promenade along the Schuster Parkway corridor with at grade and elevated sections on the west side of Schuster Parkway, maintaining the existing travel lanes in the long term.

The Schuster Parkway Promenade is the primary multiuse connection through the Schuster Parkway corridor. The Schuster Parkway Promenade completes the Dome to Defiance regional non-motorized system with a separated multiuse facility from Thea Foss waterway esplanade and the Museum District via the Prairie Line Trail and existing S. 4th Street overpass to the business and residential area of Old Town in the north end of Tacoma.

ASSOCIATED PROJECTS

The following projects can be completed independently of the Schuster Parkway Promenade.



The Pacific Avenue Connection



This project connects the S. 4th Street overpass with Pacific Avenue. These improvements would be included as part of a larger future project to rebuild or reinforce the existing counterfort wall between Stadium Way and Schuster Parkway (as seen in the above photo).

The North End Connection



This project connects the Schuster Parkway Promenade with Ruston Way at Garfield Gulch. This connection can be made one of two ways depending on negotiations with BNSF: a multiuse trail between N. 30th Street and the BNSF railroad tracks or a bicycle-pedestrian bridge connecting Garfield Gulch to the Ruston Way overpass.

Hillside Connections



The historic Bayside Trails present opportunity for connections from Stadium Way and surrounding neighborhoods to the new Schuster Parkway Promenade and the waterfront.

Waterfront Connections



There are several long-term opportunities to create more waterfront access while maintaining industrial uses through partnership with BNSF, TEMCO and Sperry Ocean Dock.

TABLE OF CONTENTS

History	1
Process.....	2
Conceptual Design Framework.....	4
Schuster Parkway Promenade	5
Recommended Option: Causeway	6
Alternative: Lane Conversion	7
Intersection Improvement	8
Associated Projects.....	9
1. Pacific Avenue Connection	9
2. North End Connection	15
3. Hillside Connections	22
4. Waterfront Connections	23
Data Gaps	24
Natural Systems	25
Sequencing & Implementation	28
Next Steps	29
Appendices	

HISTORY

Since the late 1800's, the Schuster shoreline has been the site of port and industrial activity, taking advantage of the natural deep water along Schuster Parkway. The area saw frequent delivery of agricultural products by rail to be transferred to ships for international delivery. The proximity of rail to deep water made the Schuster shoreline a prime location for these uses.

In the 1970's, the construction of the Bayside Trails and Schuster Parkway created vehicular and pedestrian connections along the corridor replacing some of the underutilized historic rail lines.

In the 1980's, a vision for a connected waterfront began to take shape. Since then planning documents and public processes have continually reinforced the concept of a non-motorized connection along the Schuster Parkway corridor.



Schuster Parkway images, 1893. Source: Future of the Bayside Trails public workshop, March 31, 2011.

PROCESS

A preliminary analysis of potential trail alignments along the Schuster Parkway corridor was performed as part of the Shoreline Master Program update (SMP) and the Mobility Master Plan (MoMaP). The alignments included an overwater/waterside trail, reconfiguration of Schuster Parkway and the existing sidewalk and the enhancement of the Bayside Trails system. Other project considerations included linkages to the Stadium Way and Pacific Avenue streetscape improvements and slope stability planning.

The Future of Bayside Trails Public Workshop took place on March 31, 2011. Results of the meeting reinforced the desire to create a non-motorized connection and waterfront access along the Schuster Parkway corridor.

Planning documents and public comments confirmed three potential alignments: Waterfront Esplanade, Bayside Trail and Schuster Parkway Promenade.

During the summer and fall of 2012, staff performed site visits with stakeholder groups, including representatives from Downtown on the Go, the Bicycle Pedestrian Action Committee, the Tacoma Wheelman, Sperry Ocean Dock, TEMCO, the Port of Tacoma and BNSF railroad.

PROJECT GOAL

The Schuster Parkway corridor will be transformed from a high speed, automobile-dominated thoroughfare into a multimodal corridor energized by diverse user groups. A public promenade will provide a safe and desirable link between Thea Foss Waterway and Ruston Way for commuters and recreational users alike, providing views of Commencement Bay and natural trails through a healthy urban forest.

While the process confirmed the recommendation that the long-term vision for the Schuster Parkway corridor includes three alignments each with their own benefits, a promenade along the west side of Schuster Parkway was identified as the recommended alignment.

Benefits of the recommended Schuster Parkway Trail alignment include:

- Direct connection
- Views of the water
- Level grades (ADA)
- Medium level of permitting
- Construction access
- Existing lighting and open lines of sight (CEPTED)

On November 14, 2012 City staff presented the scope of work and project approach for the Schuster Parkway Promenade, including feasibility criteria and design considerations to the Environment and Public Works (EPW) Committee. At that meeting the EPW Committee requested that staff focus on the Schuster Parkway right-of-way as the primary alternative for connecting the Thea Foss waterway esplanade and the Ruston Way shoreline promenade with a multiuse trail. Additionally, the EPW Committee requested that staff consider a 3-7 year timeframe as a target implementation horizon.

The various trail configurations were reviewed for the Schuster Parkway Promenade are included in Appendix A.

Recommended Alignment



Three Potential Alignments



Bayside Trail



Waterfront Esplanade



Schuster Parkway Promenade



CONCEPTUAL DESIGN FRAMEWORK

Throughout its history the Schuster Parkway corridor has hosted a variety of transportation connections:

- Canoes and ships along the waterfront
- Rail along the shoreline
- Rail then the Bayside Trails along the midline of the Schuster slope
- Wagons, cars and pedestrians with potential future Stadium Way rail along the top of Schuster slope
- Vehicular travel on Schuster Parkway at the base of the slope

This design framework looks to embrace this evolutionary concept and enhance the capacity of this multimodal corridor. The Schuster Parkway Promenade contributes to the area's long history of transportation connections by adding a non-motorized connection that will improve quality of life for residents, employers and visitors.

In addition, serving as an important transportation corridor, the Schuster Parkway corridor presents great opportunities for waterfront access, improvements to public health and habitat enhancement.

This design framework is comprised multiple components, the backbone being the **Schuster Parkway Promenade** that opens the corridor for all users. From this spine four separate improvements or programs can be developed.

1. **The Pacific Ave Connection** provides a direct route from Pacific Avenue to the Dome to Defiance Link.
2. **The North End Connection** provides a direct route from the Dome to Defiance Link and Garfield Gulch to the Ruston Way shoreline promenade.
3. **Hillside Connections** include various opportunities to access the Dome to Defiance Link from the Stadium District.
4. **Waterfront Connections** include public access from the Dome to Defiance Link across BNSF rail tracks, northwest from Thea's Park and southeast from the Chinese Reconciliation Park.



Schuster Parkway Promenade vicinity.
Source: Shoreline Master Program Update.

SCHUSTER PARKWAY PROMENADE

PROJECT FEATURES

- Provides a multiuse trail connection from S. 4th Street overpass to Old Town.
- Connects to Thea Foss waterway esplanade at the S. 4th Street intersection. Museum District connection via the Prairie Line Trail.
- Crossing improvements of S. 4th Street and Schuster Parkway.
- Trail to be built along the western slope abutting Schuster Parkway; sections of elevated trail with enhanced views to the waterfront.
- Replacement of existing roadway lighting.
- Trail design solves existing slope stability and drainage issues.
- Opportunity for a water feature at the intersection of S. 4th Street and Schuster Parkway.
- Rechannelization on N. 30th Street without loss of a vehicular lane.
- Reconstruction of sidewalk on N. 30th Street to provide for the promenade.
- Vegetation management along Schuster slope in vicinity of improvements.



North End Connection



Schuster Parkway Promenade



Pacific Avenue Connection



SCHUSTER PARKWAY PROMENADE

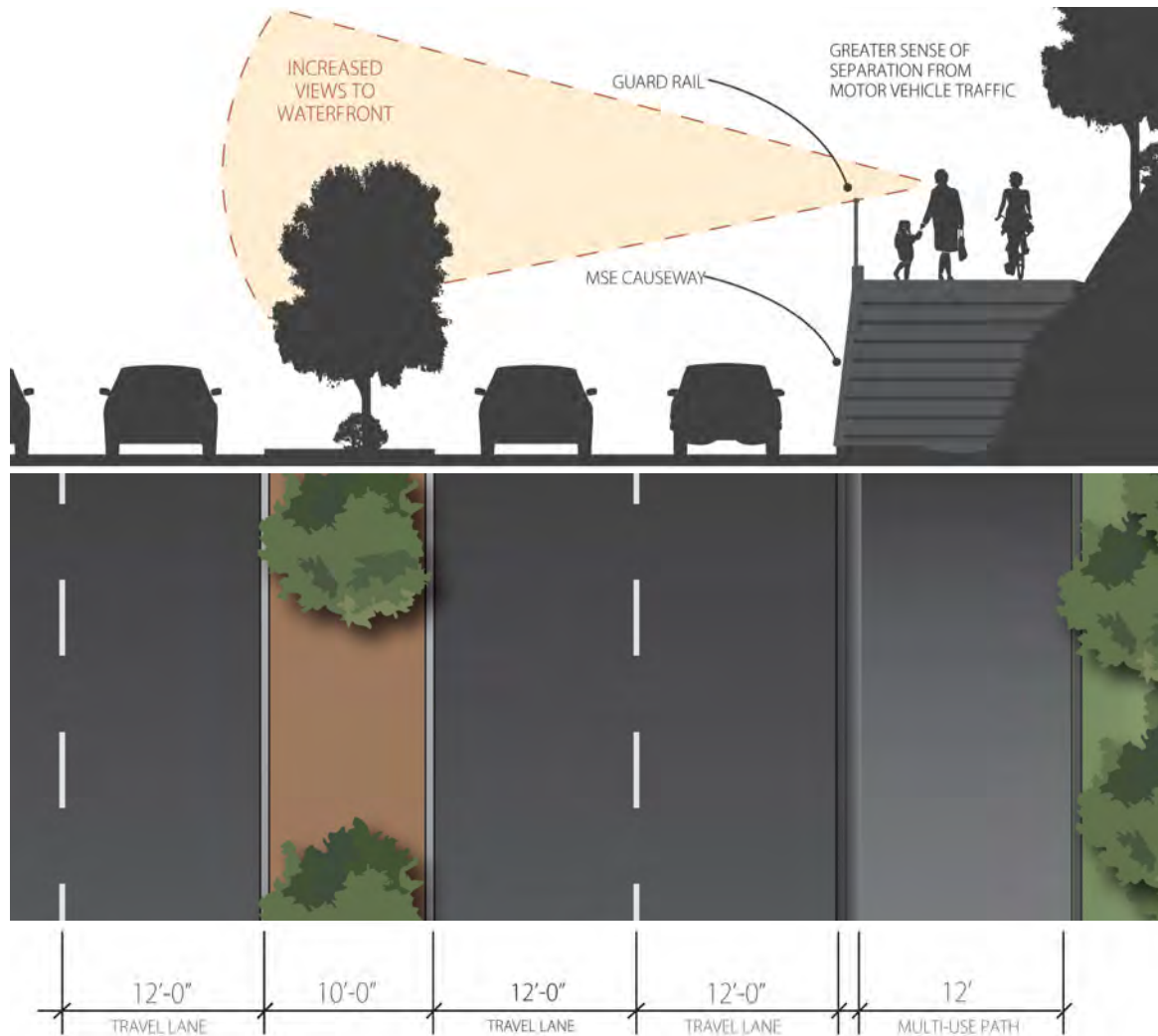


Figure 1. Elevated Causeway Section

RECOMMENDED: ELEVATED CAUSEWAY

This option maintains two southbound vehicular travel lanes while creating a twelve-foot-wide multiuse promenade along the sloped west side of Schuster Parkway. This configuration involves a variety of interventions along the corridor including widening the existing sidewalk, guiding the trail along the existing sidewalk meanders and, where the hillside is too steep abutting the roadway, constructing an elevated causeway as seen in Figure 1.

In these segments of raised trail, users would be elevated 5-7 feet above the level of Schuster Parkway traffic.

Benefits

- Maintains all vehicular travel lanes
- Waterfront views
- Greater separation from traffic
- Portions of trail follow existing sidewalk meanders at grade
- Trail design solves existing slope stability and drainage issues

Drawbacks

- Higher capital cost
- May take longer to fund

SCHUSTER PARKWAY PROMENADE

ALTERNATIVE: LANE CONVERSION

An alternative to maintaining both southbound travel lanes on Schuster Parkway is to replace one lane with the promenade for a portion of the alignment as seen in Figure 2. The Fehr & Peers traffic analysis of a lane conversion recommended replacing one southbound lane as northbound PM demand is greater than the southbound AM demand. This approach would still require structural improvements at the N. 30th on-ramp to Schuster Parkway heading toward downtown.

Benefits

- Less retaining structures and site disturbance
- Less mitigation
- Lower capital cost

Drawbacks

- Trail must be elevated in certain sections due to site constraints
- Loss of continuous vertical separation
- Loss of waterfront view access
- Potential vehicular delays during the AM peak rush hour
- Future trail upgrade would close the trail during construction



Figure 2. Lane Conversion Section

SCHUSTER PARKWAY PROMENADE

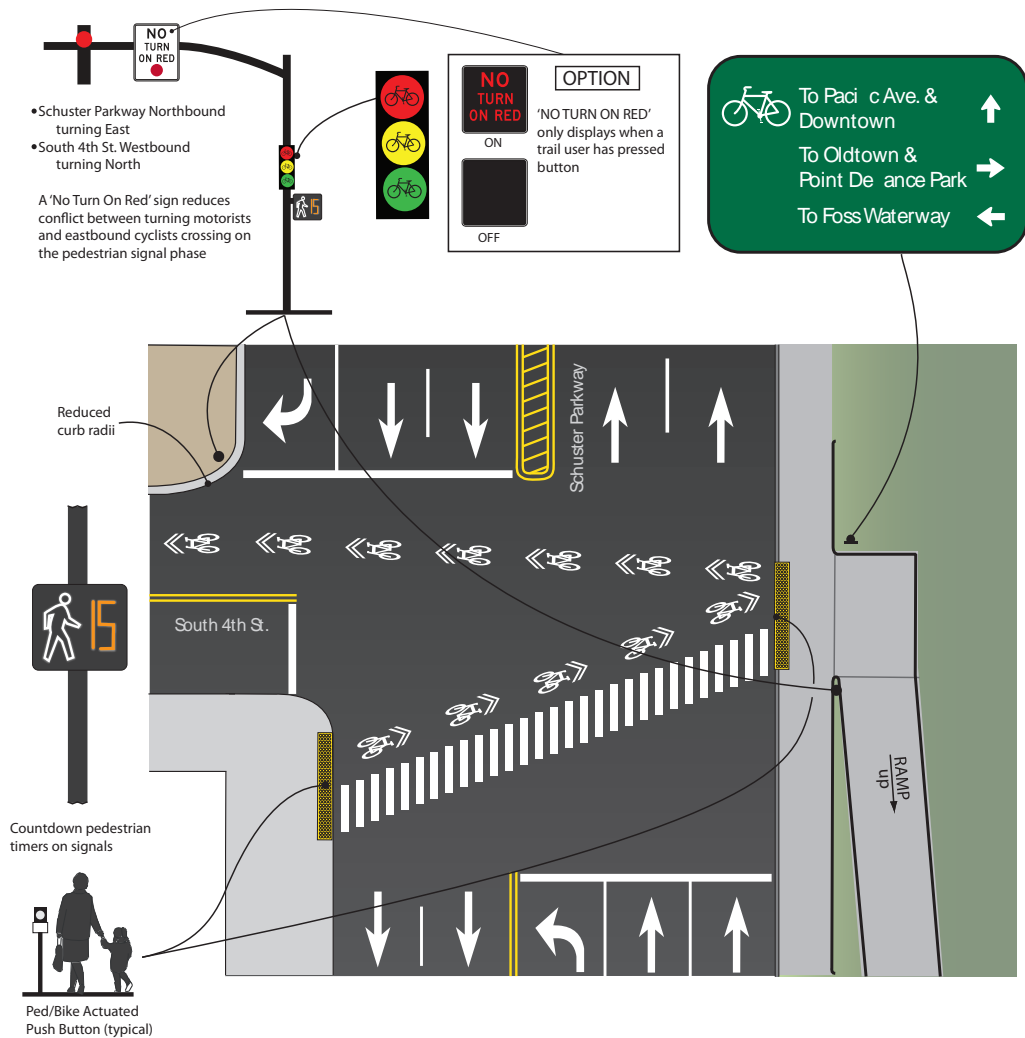


Figure 3. Schuster Parkway at South 4th Street - Intersection Improvements

INTERSECTION IMPROVEMENT

The existing condition of the S. 4th Street and Schuster Parkway intersection does not include curb ramps and landings that meet current ADA guidelines (as seen in the photo below). Minimal intersection improvements would include upgrading the ramps and landings to current standards and creating additional width at the landings and ramps to better accommodate the connection to the Thea Foss waterway esplanade.

The improvements on the south side of the intersection include a retaining wall, drainage improvements and wetland mitigation.

The recommended improvements to the intersection include a crosswalk countdown, bicycle push button and bicycle signal. This work would be completed in conjunction with building the Schuster Parkway Promenade.



Existing Conditions at S. 4th St. & Schuster.

ASSOCIATED PROJECTS

1. PACIFIC AVENUE CONNECTION

Project Features:

- Creates a promenade connection from the S. 4th Avenue intersection to Pacific Avenue.
- The Pacific Ave. Connection to be completed in coordination with the long-term need to reinforce or rebuild the existing Stadium Way counterfort wall and/or future Sound Transit improvements on Stadium Way.
- Reconfiguration of street frontage in front of Old City Hall.
- Opportunity to control erosion at the base of the slope.
- Removal of invasive species.
- Project includes replacement of existing roadway lighting.
- Pacific Ave. Connection alternatives are dependent on future Stadium Way wall rebuild or reinforcement. A wall reinforcement would only allow the connection to be made above the existing wall, however a rebuilt Stadium Way wall offers a choice of promenade design options.



PACIFIC AVENUE CONNECTION

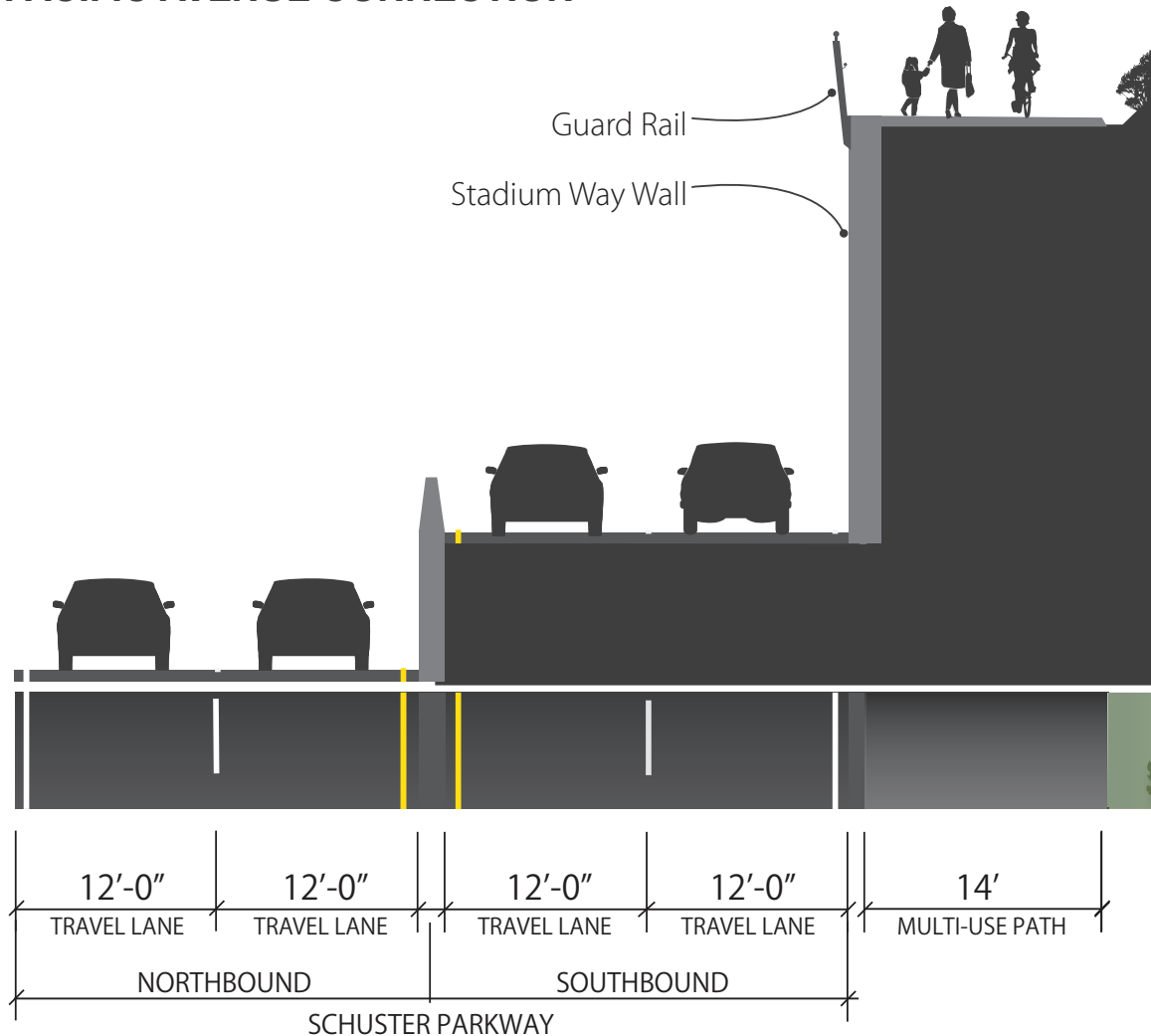


Figure 4. Pacific Avenue Connection - Section of Promenade Above Existing Stadium Way Wall

ALTERNATIVE 1: TRAIL BUILT ABOVE EXISTING STADIUM WAY WALL

The existing Stadium Way retaining wall has recently been resurfaced. The wall will require replacement or reinforcing in the future. Any future wall engineering will take into consideration the Schuster Parkway Promenade, Pacific Avenue Connection.

Heading north toward Old Town from Pacific Avenue, the trail would slope up toward the top of the existing retaining wall at less than 5% slope. The trail would continue along the top of the wall (see Figure 4) and descend toward the intersection of S. 4th Street and Schuster Parkway, also at less than 5% slope. Initial analysis indicates the trail at the S. 4th Street intersection would remain elevated requiring a ramp to connect to the intersection. This segment of the trail between S. 4th Street and the existing wall would either be pile-supported or constructed with a retaining structure.

Benefits

- May not require reconstruction of existing wall
- Expansive views

Drawbacks

- Requires slight climb heading north

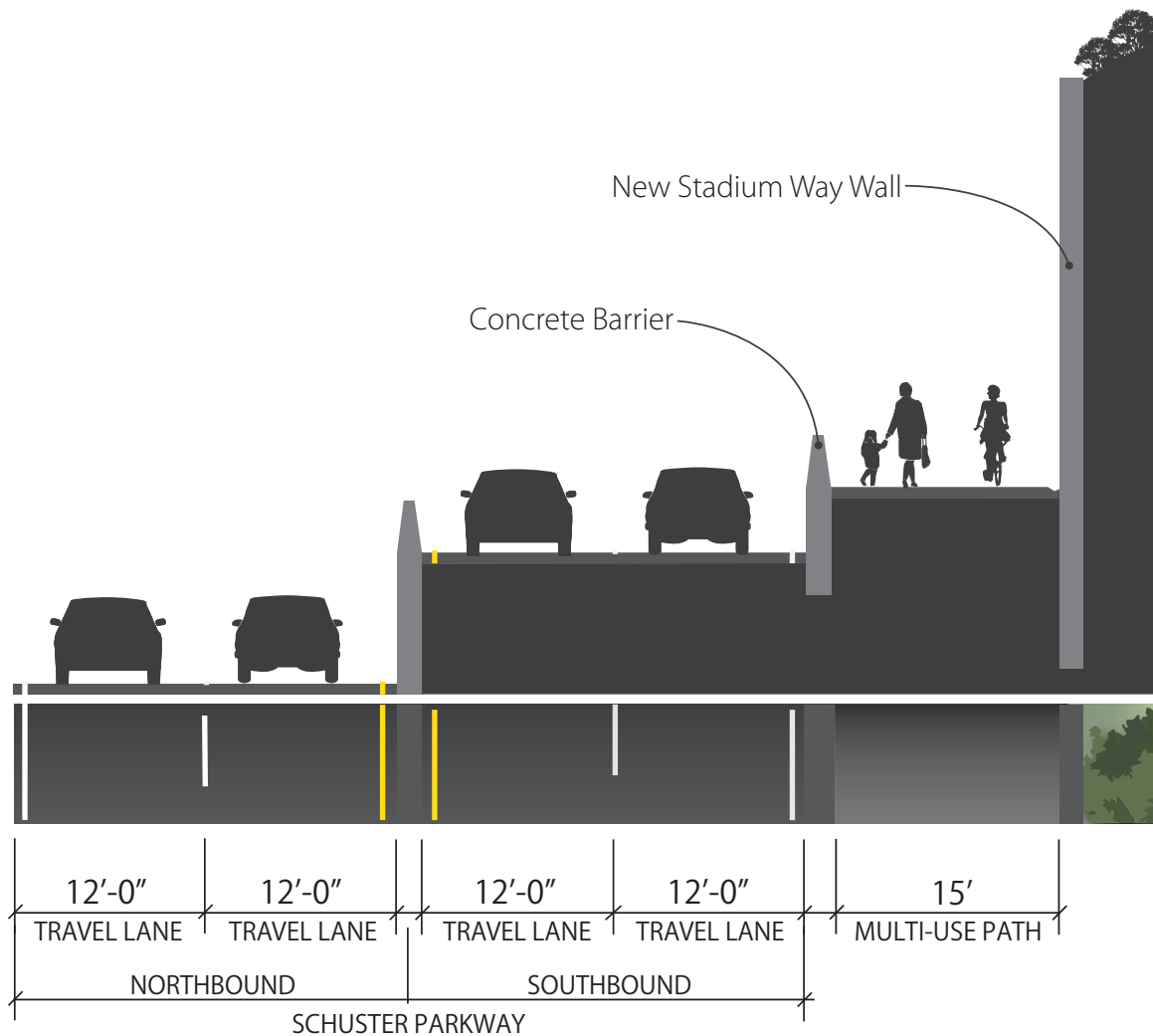
PACIFIC AVENUE CONNECTION



Schuster Parkway under Interstate 705, cyclists approaching Stadium Way Wall.



PACIFIC AVENUE CONNECTION



ALTERNATIVE 2: TRAIL INTEGRATED INTO STADIUM WAY WALL

This alternative places the trail between the existing travel lanes and a new retaining wall. From Pacific Avenue to the north end of the existing wall, the trail could either be at grade or slightly elevated above Schuster Parkway (see Figure 5). From the end of the wall to S. 4th Street, the trail would be elevated, similar to the causeway in the Schuster Parkway Promenade. As the elevated trail approaches the intersection of S. 4th Street and Schuster Parkway, a switchback ramp will connect users to the intersection of S. 4th Street and Schuster.

Benefits

- Elevated trail separated from traffic
- Trail would more closely match slope of road

Drawbacks

- Requires wall rebuild
- New wall would need to be set back into hillside to allow for width of trail

Figure 5. Pacific Avenue Connection - Section of Promenade Integrated into New Stadium Way Wall

PACIFIC AVENUE CONNECTION



Existing Stadium Way Wall.



This page intentionally left blank.



2. NORTH END CONNECTION

Project Features:

- Creates a promenade connection from the Dome to Defiance Link to the Ruston Way shoreline promenade.
- Two Alternatives:
 - Trail between N. 30th St. & BNSF tracks includes a new wall adjacent to N. 30th St.
 - Pedestrian-bicycle bridge along Ruston Way overpass to connect to Ruston Way shoreline promenade.
- Both create a direct connection to Ruston Way shoreline promenade from the Stadium District and Garfield Gulch.
- Both cross Ruston Way at McCarver St. using existing signal with upgrades.
- Both require BNSF easement.
- Erosion/slope stabilization.
- Lighting.



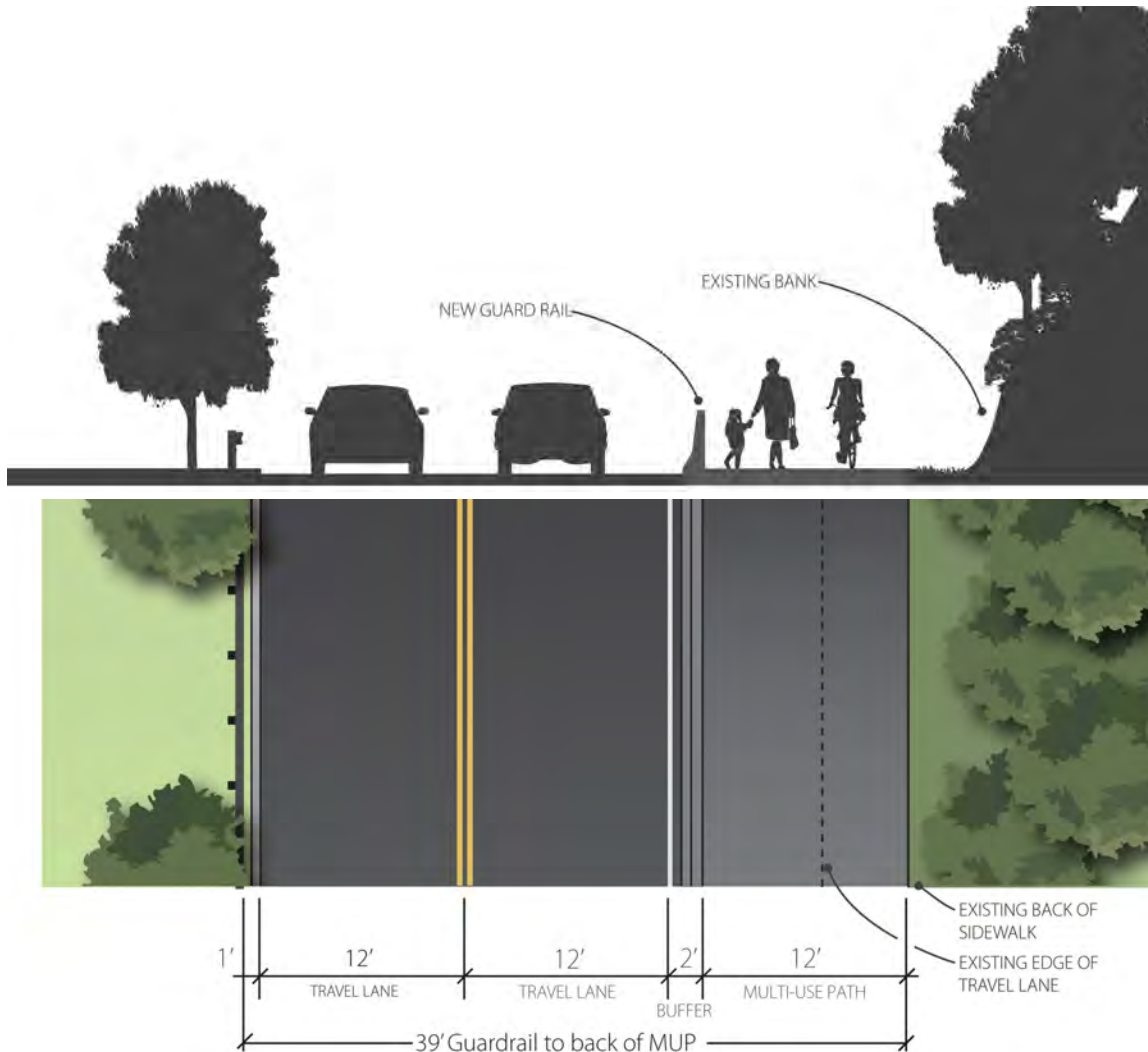


Figure 6. NE 30th Street Leaving Old Town Looking Southeast - Road Diet

SCHUSTER PARKWAY PROMENADE: N. 30TH STREET ROAD DIET

This option would remove the existing curb and sidewalk along N. 30th Street, relocate street lights and install a twelve-foot-wide separated multiuse trail. A guardrail, barrier or delineators would separate the trail and vehicular traffic. Travel lanes would be narrowed to twelve feet wide in each direction. This connection would be installed with the Schuster Parkway Promenade.

This approach assumes thirty nine feet from the guardrail to existing hillside at tightest location.

Benefits

- Direct route to Old Town businesses and neighborhood
- Utilizes existing crossing at McCarver St. and Ruston Way
- Lower capital cost

Drawbacks

- Does not directly connect to Ruston shoreline promenade
- Multiuse facility does not continue though Old Town

NORTH END CONNECTION



Schuster Parkway, Existing Approach to Garfield Gulch and Ruston Way Overpass.



NORTH END CONNECTION

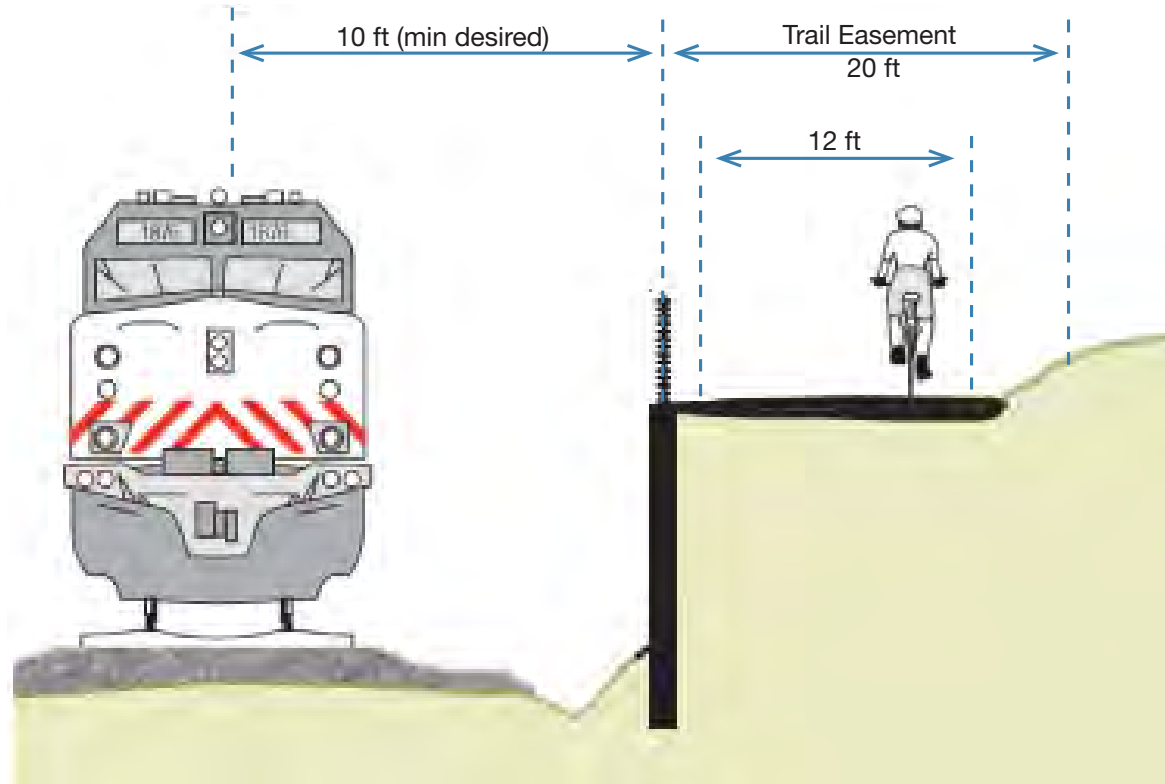


Figure 9. Minimum RWT Setback - Constrained sections depending on situation (Image modified from *Rails with Trails: Lessons Learned*, 2002).



ALTERNATIVE 1: TRAIL BETWEEN N. 30TH STREET & BNSF TRACKS

This alternative creates a two-step at-grade trail crossing of N. 30th Street at Garfield Gulch (see Figure 10). The twelve-foot-wide trail would then parallel the BNSF tracks.

The trail would continue along the west side of the BNSF tracks. This option proposes new retaining wall and wall rebuild to allow for a twelve-foot-wide trail and separation between rail and trail. The trail would continue along the BNSF tracks intersecting with McCarver Street. The trail would then cross the tracks at grade in the City right-of-way and connect to the Ruston Way shoreline promenade.

BNSF easement and wetland mitigation would be required.

Benefits

- At grade
- Lower capital cost

Drawbacks

- Requires wetland mitigation
- Requires BNSF easement
- Requires at grade crossing of railroad tracks at McCarver St.

NORTH END CONNECTION



Existing Conditions at site of proposed two-step crossing of N. 30th St.

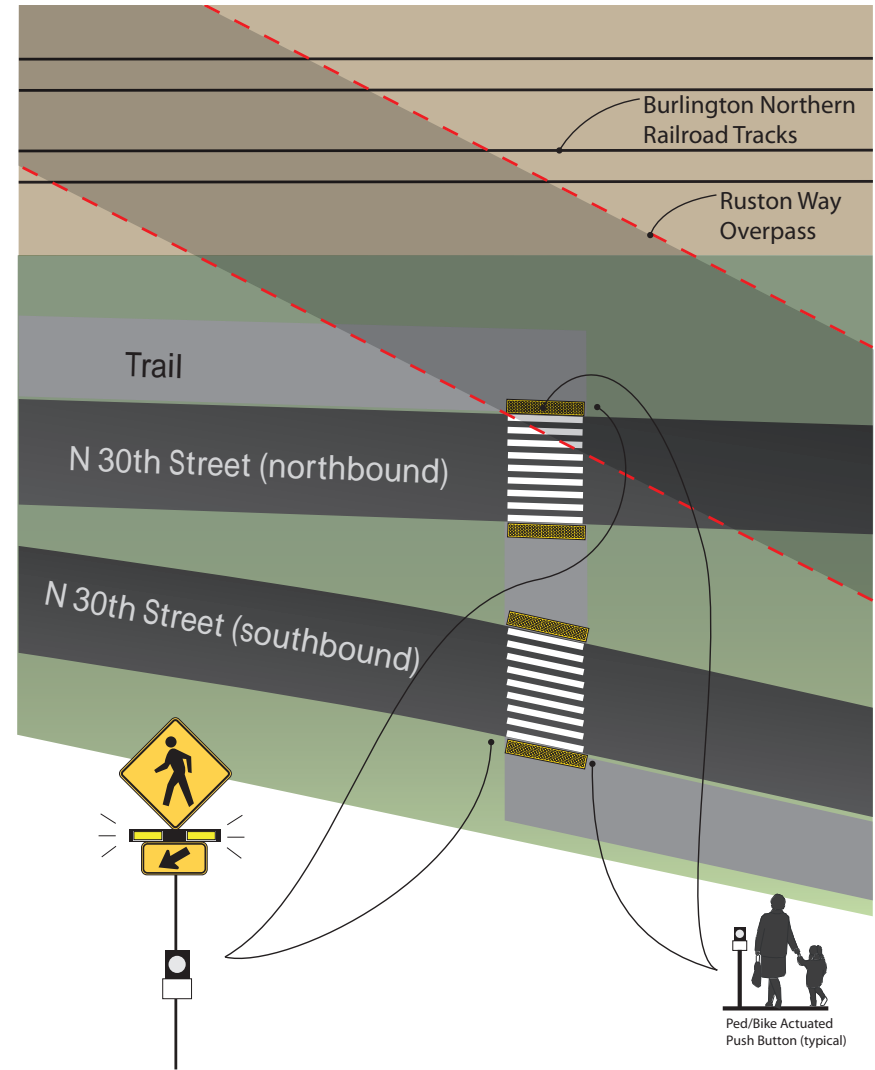
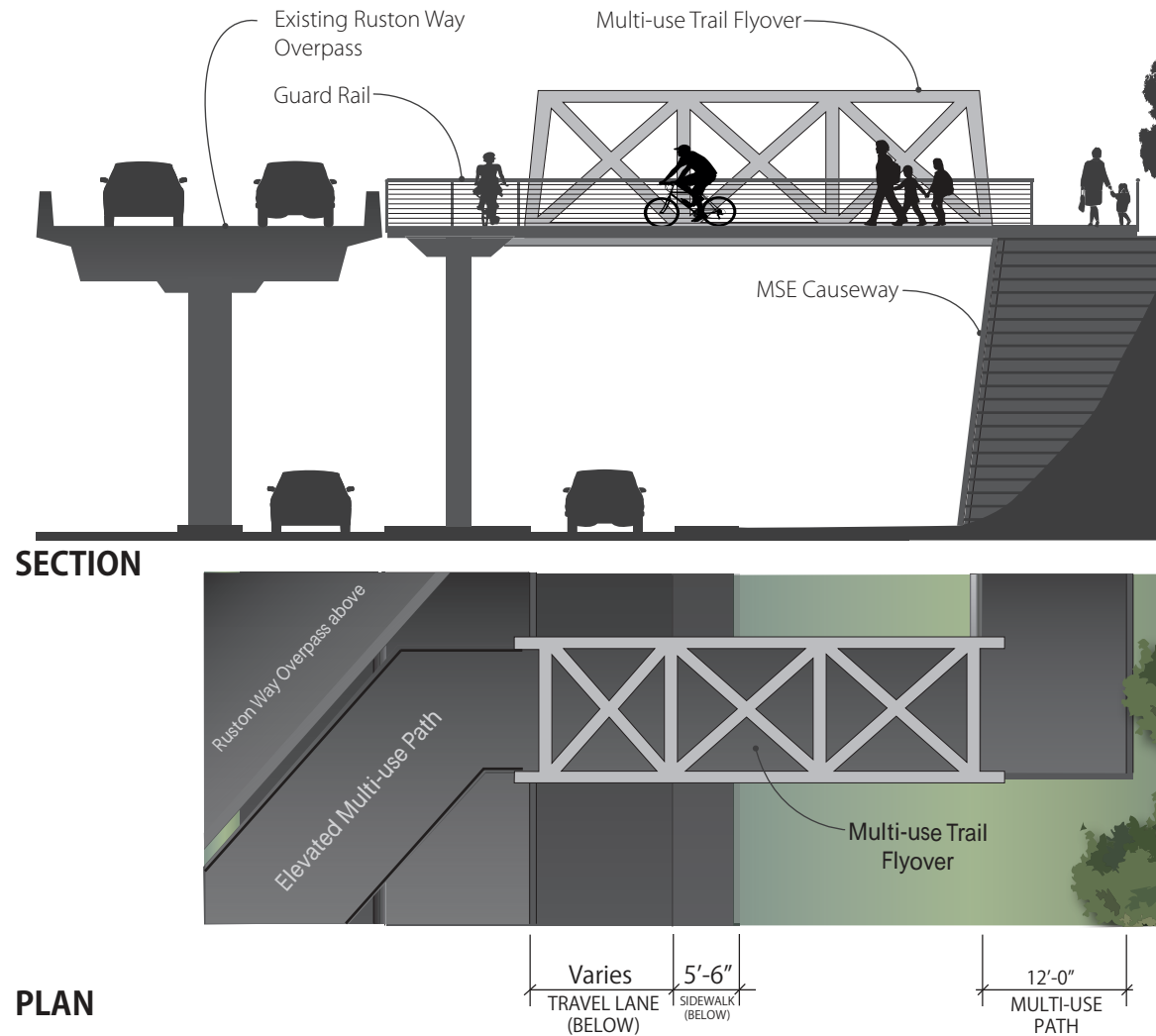


Figure 10: Plan of two-step trail crossing of N. 30th St. at Garfield Gulch

NORTH END CONNECTION



ALTERNATIVE 2: PEDESTRIAN-BICYCLE BRIDGE ALONG RUSTON WAY OVERPASS

This alternative would construct a pedestrian-bicycle bridge parallel to the Ruston Way overpass. The multiuse trail would ramp to overpass height in the Garfield Gulch open space (see Figure 8). Then the bridge perpendicularly crosses above the southbound lane of N. 30th Street and continues parallel the Ruston Way overpass with similar piling support spacing. The crossing envelope of the bicycle-pedestrian bridge would match the existing BNSF easement.

At the northwest terminus of the overpass, the trail continues to the intersection of McCarver and Ruston Way. This trail configuration would require some loss of parking and reconfiguration of the access drive to Sperry Ocean dock and the Chinese Reconciliation Park.

See next page for Benefits and Drawbacks of this alternative.

Figure 7. Pedestrian-Bike Bridge Along Ruston Way Overpass - Plan & Section

NORTH END CONNECTION: ALTERNATIVE 2

Benefits

- Grade-separated crossing of railroad tracks
- Expansive views of Commencement Bay
- Direct connection Ruston Way shoreline promenade

Drawbacks

- Higher capital cost
- Requires BNSF easement
- Impacts portion of Garfield Gulch open space
- Requires reconfiguration of parking and access drive south of Ruston Way overpass



Trail-Rail Overcrossing, San Luis Obispo, CA

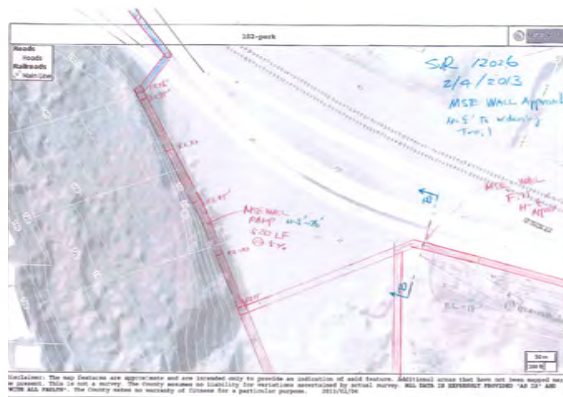
Pedestrian-Bicycle Bridge Examples



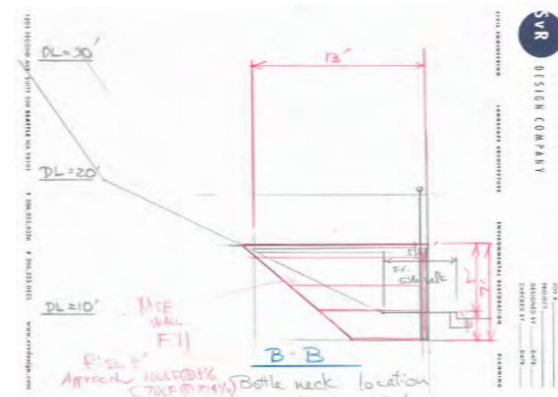
Bridge Over Union Pacific Tracks, Portland, OR

Engineering Sketches of Ramped Trail Approach Connecting to Ruston Way Overpass

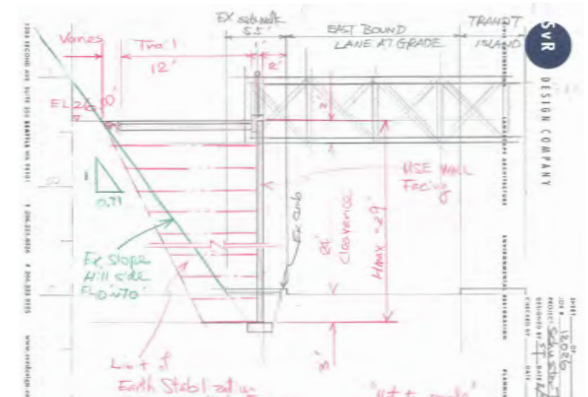
Engineering sketches can be found in larger format in Appendix C.



Plan of ramped trail approach built into Garfield Gulch hillside.



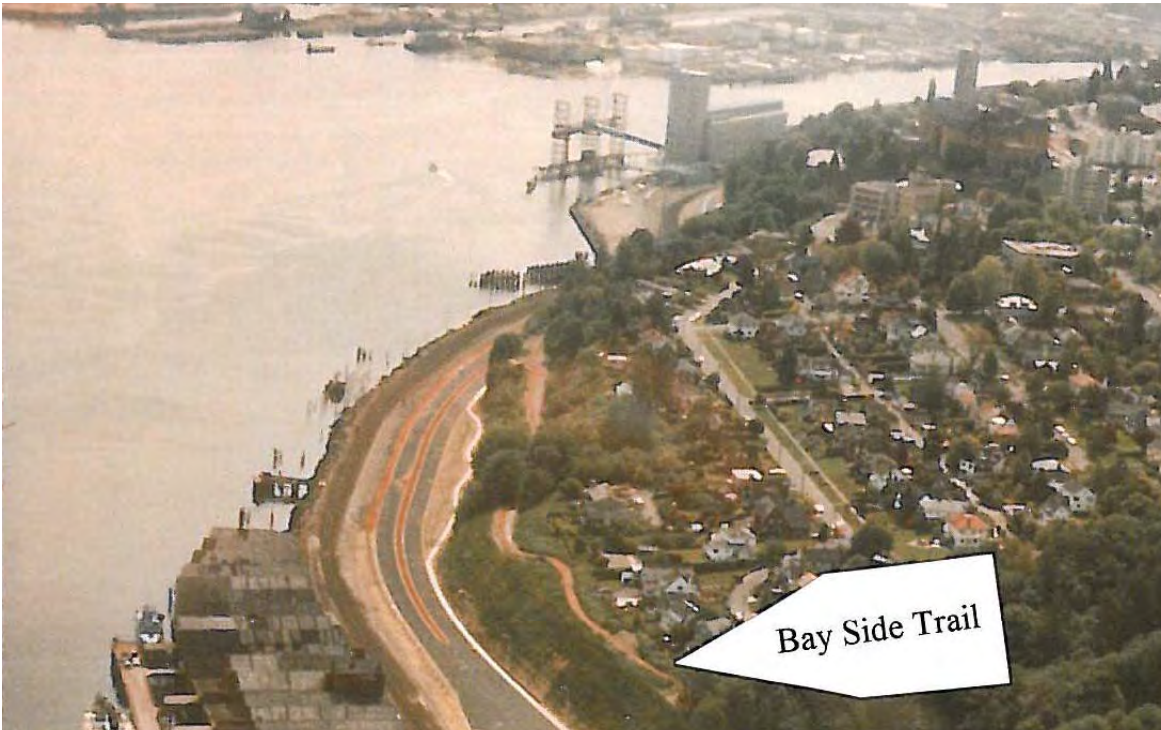
Section of ramped trail approach built into Garfield Gulch hillside.



Section of pedestrian-bicycle bridge connecting to Ruston overpass at the top of ramped approach.



View from Schuster Slope. Tacoma, WA.



Schuster Parkway & Bayside Trail, 1975. Source:Future of the Bayside Trails workshop, March 31, 2011.

3. HILLSIDE CONNECTIONS

The remnants of the Bayside Trails provide opportunities to connect from the Schuster Parkway Promenade to Stadium Way and adjacent upland neighborhoods. During the public outreach, connections down to Schuster Parkway were identified as a desired improvement.

The trails developed in the 1970s became overgrown and degraded due to a lack of maintenance. Management of the area by City of Tacoma, Environmental Services presents an opportunity to plan and implement drainage improvements, permanent erosion control, trail upgrades and vegetation management. These improvements offer a safe and inviting habitat-rich environment, improving the quality of life for neighbors and visitors.

The improved Bayside Trails will provide opportunities for walking and running loops and connections to the waterfront and Schuster Parkway Promenade for both commuting and recreation.

4. WATERFRONT CONNECTIONS

While the Schuster Parkway Promenade, Pacific Avenue Connection and North End Connection will provide visual access to the water, opportunities for physical access to the waterfront should remain as a priority in planning documents and capital improvement plans.

Along the Schuster Parkway corridor, there are opportunities to provide waterfront access at Sperry Ocean Dock, Thea's Park/TEMCO and through new overpasses to areas of existing pilings and beaches on the water-side of the BNSF railroad tracks. These waterfront connections can be completed while protecting existing rail, industrial uses and operations. Other cities in the northwest including Seattle, WA and Bellingham, WA have built trails that balance these uses (see photos to the right).



Interurban Trail, Overwater Section: Taylor Dock. Bellingham, WA.



Elliot Bay Trail. Seattle, WA.





DATA GAPS

Several major projects have been completed in the Schuster Parkway corridor area in the past one hundred years or more. Available information from these past efforts will assist with planning as they inform design decisions; however data gaps exist, which are critical to moving the Schuster Parkway Promenade design forward. These data gaps are detailed below.

Wetland/Stream

- Wetland delineation and stream classification needed

Geotechnical

- Field work is required in order to confirm wall types and costs for elevated trail
- A review of the condition of slopes above proposed trail needed

Survey

- LIDAR is available for portions of the alignment; survey needed
- Storm drain inventory and existing condition analysis needed
- BNSF and City of Tacoma right-of-way to be confirmed

Traffic

While the recommended approach for this project does not eliminate vehicular lanes, obtaining existing real traffic data would inform conversion of a travel lane for the short or long-term. This traffic data would also inform temporary traffic control during construction.

- Average daily traffic
- 24-hr hourly volume
- Origin and destination for N. 30th/Schuster Parkway, Pacific Avenue/705 and S. 4th Avenue.

Urban Forestry

- Tree inventory: Identify hazard trees, legacy trees and exceptional trees along the slope in coordination with geotechnical investigation.

NATURAL SYSTEMS

WETLAND

Existing Conditions

Currently there are seventeen (17) seeps/wetland features near the base of Schuster slope with four (4) surface drainages (non-fish-bearing streams) from up-slope. Nine (9) clogged/inadequate culverts convey flow from the base of Schuster slope into underground stormwater systems. Six (6) locations with drainage problems resulted in water on the existing sidewalk (dry season site visit, see photo at lower right).

File Review

General studies were completed in 2000 and 2005. These did not include formal wetland delineations. Note: City code, U.S. Army Corps of Engineers (USACE) wetland regulations have changed since these studies were completed.

Mitigation/Permitting Process Considerations

This report assumes USACE would take jurisdiction of wetland/streams because of drainage to Puget Sound/Commencement Bay. Federal nexus triggers other federal compliance/permitting requirements anticipated include: NEPA, Cultural Resources Study, Coastal Zone Management Consistency, Water Quality

Certification, Endangered Species Act: No Effect Biological Evaluation.

Mitigation design would be completed according to ratios and requirements in City of Tacoma code and Ecology/USACE/EPA guidance. Current city code (Title 13.11.340) specifies mitigation ratios ranging from 1.5:1 to 3:1 for in-kind replacement (depending on wetland category) and higher for other types of mitigation. Ecology mitigation ratios are consistent with City of Tacoma code.

Wetland/Stream Data Gaps

Wetland and stream delineations are needed. These systems may have seasonal characteristics (wet season vs. dry season). Work in these areas must be coordinated with other critical areas studies and reflect current trail design. Current reconnaissance did not include ingress and egress to upper hillside.

Next Steps

Complete a formal wetland delineation, assessment and reporting. Mitigation planning, design, and permitting and ultimately, mitigation construction.





GEOTECHNICAL

File Review

Previous geotechnical studies include reports completed in the early 1970s by Dames & Moore for the Bayside Drive project, a 2001 report by GeoEngineers for Schuster slope and geological reports completed by GeoDesign for the 2010/11 Stadium Way project.

NW End of Schuster Corridor

These reports found that near Old Town the slopes and neighborhoods above Schuster Parkway are mapped as comprising glacially consolidated materials and recessional outwash. Fill is mapped in the flat, low areas at the toes of steep slopes along the northwest end of the Schuster Parkway corridor.

Based on these findings, it appears that retaining structures in the northwest end of the corridor are built on fill materials.

SE End of Schuster Corridor

Toward downtown, the southeastern end of the corridor, there is an area of fill which coincides with the existing concrete wall.

Data Gaps

In the northwestern section of Schuster corridor borings are required to analyze and design retaining and overpass structures. Some of the borings may occur on BNSF property and will require easements.

The central segment of the Schuster corridor will require periodic borings to identify quality of underlying soils.

In the southeastern section of Schuster Parkway corridor additional borings may be required in the vicinity of the existing Stadium Way counterfort wall. A separate geotechnical engineering study is required to design the pile-supported trail segment above the wall.

Next Steps

Complete additional geotechnical field work to support structural analysis and confirmation of types of retaining structures.

URBAN FORESTRY

Vegetated bluffs throughout the Puget Sound region have been actively managed to provide recreation, public access and habitat as a community asset. The Urban Forest Element of the City of Tacoma's Comprehensive Plan identifies the views of Commencement Bay and Mt. Rainier from Stadium Way and Schuster slope as scenic views. The City's Shoreline Master Program recognizes views as a form of public access that should be preserved and enhanced in concert with revegetation and improvement of tree canopy.

The coordinated, implemented vision of the Schuster Parkway Promenade offers the unique opportunity to preserve and enhance public access to scenic views and boost the health of a large recreational forest with vegetation management strategies. Schuster slope with its views and waterfront connections within walking distance of the downtown of a major U.S. city holds exceptional potential as a key community asset.

The City of Tacoma and its residents recognize and actively advocate for their urban forests as an integral element of a healthy community. The City's Green Vision 2030 and Strategic Urban Forestry Management Plan (SUFMP) identify open

space objectives and aim to grow citywide tree canopy cover to 30% by 2030. The struggling urban forest along Schuster slope presents an opportunity to balance the preservation of public access to scenic views with revegetation, enhancing canopy cover, habitat and overall forest health and safety.

Through the removal of invasive species and the establishment of native species, a healthy urban forest offers benefits that include reducing stormwater runoff and costs associated with stormwater management, boosting property values, improving municipal health and protecting water quality, as detailed in Tacoma's 2010 SUFMP. The Schuster slope urban forest could also provide important recreational and communiting opportunities to nearby residents.

Vegetation management and erosion control on Schuster slope can occur as a project separate from the construction of the Schuster Parkway Promenade. Ideally, the vegetation management and erosion control will be coordinated with the proposed Schuster Parkway Promenade improvements. Environmental Services is now the lead for managing and developing plans of the Schuster slope area.



Images from Schuster Slope. Tacoma, WA.

SEQUENCING & IMPLEMENTATION

PHASED IMPLEMENTATION

Project 1: Schuster Parkway Promenade

Connecting the Thea Foss waterfront and Old Town as the initial move in the Schuster Parkway Promenade project will provide a connection from Tacoma's north end to the Museum District via Thea Foss for all ages and abilities. This connection will open up commuting and recreational options and facilities that were only previously available to a small percentage of the population.

Project 2: Pacific Avenue Connection

Once the Schuster Parkway Promenade is established, this project would be coordinated with the replacement of the Stadium Way retaining wall. The current condition of this segment is a sidewalk adjacent to the southbound travel lane. This project would provide a non-motorized facility for all ages and abilities connecting to Pacific Avenue.

Project 3: North End Connection

This project would connect from the Schuster Parkway Promenade at Garfield Gulch directly to the Ruston Way shoreline promenade. This connection would include coordination and easements with BNSF and wetland delineation and mitigation.

Future Projects:

Bayside Trail Connections:

Providing the renovation of the Bayside Trails, this project provides access between the Schuster Parkway Promenade and adjacent upland neighborhoods.

Waterfront Connections:

Several long-term opportunities exist to provide more public waterfront access while maintaining industrial uses through partnership with BNSF, TEMCO and Sperry Ocean Dock. For example, overpass connections from the Schuster Parkway Promenade could land on the shoreline in the vicinity of an existing grouping of pilings. This report recommends maintaining a shoreline walkway option in long-term planning documents. These waterfront connections when successfully achieved provide waterfront access and enjoyment for generations to come.

FUNDING

These projects are currently unfunded, however they are listed in many planning documents and prioritization frameworks.

Funding will be included in future capital budgets and supplemented by grant dollars, ratepayer fees and existing program budgets.



NEXT STEPS

The next steps for moving the vision for the Schuster Parkway Promenade forward starts with filling in data gaps. This would include completing wetland delineation, vegetation management plan, obtaining traffic counts and obtaining survey and geotechnical investigations.

Preliminary engineering would inform these studies and build upon the information gained. A preliminary engineering package would include initial grading, alignment, stormwater, lighting, paving, structural and landscape restoration plans.

It is anticipated that portions of this vision will be funded with federal dollars. To accept federal dollars for a portion of a project, projects are required to meet federal permit and funding requirements for the entire project. Consultation with WSDOT permitting staff early in the project development is recommended. This will identify and confirm the required studies, reports and NEPA documentation required for the project. Section 106 consultation with the tribes will occur as part of these first steps.



Lincoln Park. West Seattle, WA.



APPENDIX A

TRAIL CONFIGURATIONS STUDY

City of Tacoma
Schuster Parkway Trail
Configuration Options

Legend
In Concept Report
Eliminate from Consideration
Not Considered, but Technically Feasible

Dome to Defiance Link

Option	Site / Option	Location	Improvement	Description	note
3-1	3- 1	South 4th St. to Garfield Gulch	Multituse trail along east side of Schuster Parkway - Maintain 4 travel lanes	Place trail between the existing Schuster Parkway and BNSF railroad track.	This option would require relocation of critical railroad equipment, easement from BNSF, elimination of vegetated buffer, and structural solutions. The trail would be separated from the potential hillside connections and views of the water would be blocked by trains.
3-2	3- 2	South 4th St. to Garfield Gulch	Multituse trail west side of Schuster Parkway - Maintain 4 travel lanes	Place trail along west hillside (Schuster slope). Sections of trail can be placed at grade where the existing sidewalk meanders away from Schuster. In areas adjacent to the hillside, trail must be elevated by structures.	This option maintains existing traffic flows while providing views to the waterfront with sections of elevated trail and potential hillside connections. This option is recommended in the concept report. See Concept Report, pages 5-6.
3-3	3- 3	South 4th St. to Garfield Gulch	Multituse trail on the west side of Schuster Parkway - Eliminate one lane	Eliminate the southbound (heading toward downtown) travel lane from S. 4th St. to Garfield Gulch.	This option would still require structural solutions at the Schuster to N. 30th on-ramp. The sections of trail built on the existing roadway would be less expensive than elevated sections, however the trail would have less separation from the roadway. This option is included in the concept report. See Concept Report, page 7.
3-4	3- 4	South 4th St. to Garfield Gulch	Multituse trail east side of Schuster - Eliminate one lane	Eliminate the northbound travel lane from S. 4th St. to Garfield Gulch.	This option would provide traffic impacts similar to option 3-3 (Fehr and Peers memorandum), however 3-3 provides better connections and public input supports the alignment on the west side of Schuster.

Pacific Avenue Connection

Option	Site / Option	Location	Improvement	Description	note
1- 1	1- 1	Schuster Parkway between Pacific and South 4th Street	Thea Foss Route	This option is proposes taking no action to improve the non-motorized connection between South 4th and Pacific. The current condition (narrow sidewalk adjacent to roadway) would remain in the future.	This "no action" option may be acceptable for a short period of time. However, the long term plans should include trail improvements between Pacific and 4th to be coordinated with the Stadium Way counterfort wall replacement, reinforcement or reconstruction.
1-2	1- 2	Schuster Parkway between Pacific and South 4th Street	Road diet on Schuster Parkway	Widen existing sidewalk to roadway side by implementing road diet.	While a road diet is possible for a portion of this section, there is a restriction point between the existing counterfort wall and the elevated structure of Schuster which does not allow a road diet.
1- 3	1- 3	Schuster Parkway between Pacific and South 4th Street	Route above the existing counterfort retaining wall	Coordinated with future reinforcement or replacement of existing counterfort wall, route trail on top of the existing wall. Trail will be extended to S. 4th St and require a switch-back ramp near the intersection of S. 4th St. and Schuster Parkway. The trail will connect to Pacific Ave. in front of the Old City Hall.	This option is recommended in the concept report. See Concept Report, pages 10-11.
1- 4	1- 4	Schuster Parkway between Pacific and South 4th Street	Reconstruction of counterfort retaining wall, portions of trail at grade and portions elevated.	When the counterfort wall is reconstructed, widen existing sidewalk area by setting back the wall 17 foot to southwest. Trail will be at grade at Pacific Ave and slightly raised from wall north to S. 4th St. matching the at grade crossing at the S. 4th St. and Schuster Parkway intersection.	This option is recommended in the concept report. See Concept Report, pages 12-13.
1- 5	1- 5	Schuster Parkway between Pacific and South 4th Street	Reconfiguration of the existing wall with ramp at intersection of S 4th Street	When the counterfort wall is reconstructed, replace in kind and route trail on top of wall similar to Option 1-3.	This option is recommended in the concept report. See Concept Report, pages 12-13.
1- 6	1- 6	Schuster Parkway between Pacific and South 4th Street	Connect South 4th to Stadium Way	Grade a trail to the top of the existing or new wall and then connect trail to Stadium Way.	Grading a multituse trail up to Stadium Way into the hillside would require significant structural solutions and is undesirable from a sustained grade standpoint.



APPENDIX A

TRAIL CONFIGURATIONS STUDY (CONTINUED)

North End Connection					
Option	Site / Option	Location	Improvement	Description	note
2-1	2- 1	Garfield Gulch to Ruston Way	One Way N. 30th with multiuse trail.	Eliminate N. 30th vehicular on-ramp to Schuster towards downtown. Southbound vehicular traffic from Old Town to be diverted to McCarver St. and the Ruston Way overpass.	While this option is technically feasible and would have very low relative cost, eliminating this vehicular movement was considered a "non-starter" from initial discussions with Old Town residents. This option would require a traffic analysis if deemed worthy of further discussion.
2-2	2- 2	Garfield Gulch to Ruston Way	One Way Ruston Way overpass with multiuse trail	Eliminate southbound lane on Ruston Way overpass. All southbound traffic routed through Old Town on to McCarver and N. 30th.	While this option is technically feasible, having trail users cross the southbound N. 30th on-ramp to Schuster would require a grade seperated structure. Also eliminating this vehicular movement was considered a "non-starter" due to assumed impacts to southbound travel times and impact to the Old Town business district from cut-through traffic.
2-3	2- 3	Garfield Gulch to Ruston Way	Two Way N. 30th with multiuse trail.	Roadway width varies on N. 30th. This option would re-allocate space in the right of way to allow two lanes of vehicular traffic and a multiuse trail.	This option would calm traffic while still allowing two lanes. This option is recommended in the concept report. See Concept Report, pages 6-7 & 16.
2-4	2- 4	Garfield Gulch to Ruston Way	Elevated multiuse trail on south side of the Ruston Way overpass	This option includes a ramp system in Garfield Gulch to connect to a grade-separated crossing of N. 30th and the BNSF railroad tracks. This option would reconfigure the at grade parking south of Ruston Way near the end of the overpass and the access drive to Sperry and the Chinese Reconciliation Park.	This option is included in the concept report. See Concept Report, pages 20-21. The vertical and horizontal envelope of the elevated crossing over the BNSF tracks would match the vertical and adjacent to the existing horizontally. This option requires a BNSF easement.
2-5	2- 5	Garfield Gulch to Ruston Way	Elevated multiuse trail on north side of the Ruston Way overpass	This option includes crossing Schuster Parkway east of the Ruston Way overpass either at grade or an elevated crossing. The ramp would then parallel the existing Ruston overpass on the north side.	This option would land the trail on the shoreline area and impact the Chinese Reconciliation Park. This option requires a BNSF easement.
2-6	2- 6	Garfield Gulch to Ruston Way	N. 30th - Widening sidewalk into hillside	This option would keep the existing curb alignment on N. 30th and cut the trail into the hillside to the south.	This option works well through the Garfield Gulch section, however closer to Old Town it would require obtaining property from the existing townhouses.
2-7	2- 7	Garfield Gulch to Ruston Way	One Way N. 30th with multiuse trail.	Eliminate N. 30th vehicular on-ramp from Schuster Parkway towards Old Town . Northbound vehicular traffic from downtown and beyond to Old Town to be diverted over the Ruston Way overpass to McCarver St.	While this option is technically feasible and would have very low relative cost. However, eliminating this vehicular movement was considered a "non-starter" from initial discussions with Old Town residents. This option would require a traffic analysis if deemed worthy of further discussion.



APPENDIX B

REFERENCE DOCUMENTS

Open Space Management Plan for Stadium Way - Schuster Parkway. Kathy Van Pelt, Michael Dalin, Kevin McFarland. 2002

Bayside Trails final Memo, Bayside Trail Feasibility Study. Dean Apostol, MIG Inc. February 2012

Bayside Trails Map, Future of Bayside Trails City of Tacoma, Community and Economic Development.

City of Tacoma Public Access Alternatives Plan DRAFT. ESA Adolphson. April 2011

Draft Scope of Work for the Schuster Corridor Multi-use Trail. City of Tacoma.

Future of the Bayside Trails Public Workshop. March 2011

Future of the Bayside Trails Public Workshop, Summary City of Tacoma. March 2011

Geologic Engineering Services Bayside Trail at Garfield Park. Stephen Helvey GeoEngine ers. November 2011

Geotechnical Reconnaissance Stadium Way Reconstruction - Work Element 1. GeoDesign. September 2010

Geotechnical Reconnaissance Stadium Way Reconstruction - Work Element 2.

Geotechnical Reconnaissance Stadium Way Reconstruction - Work Element 3.

Green Vision 2030, Strategic Plan Interim Update. Metro Parks Tacoma. February 2012

Map of Schuster Parkway Public Access Alternatives. City of Tacoma.

Master Program for Shoreline Development. City of Tacoma. August 1976

Mobility Master Plan - Pedestrian and Bicycle Guidelines.

New Life for Bayside Trails. John Larson. April 2011

Pierce County Regional Trails Plan DRAFT. MIG. August 2009

Schuster Parkway Slope/Bayside Trails Open Space-Proposed Short Term Management Action. June 2011

Schuster Parkway Trail Project Summary. Fehr & Peers.

Schuster Trails Corridor Project - Memorandum. Fehr & Peers. September 2012

Shoreline Trails Plan. City of Tacoma. December 1989

Strategic Parks and Services Program. Metro Parks Tacoma. August 2006

Strategic Urban Forest Management Plan . Neighborhood Business District.

Street Improvement Stadium Way Plans. City of Tacoma Public Works. 2010 Drawing/Plan

Tacoma Chinese Reconciliation Park. JA Brennen/Joe Wai Architects. 2008 Drawing/Plan

Tacoma City Council Memorandum. Martha Anderson. May 2012

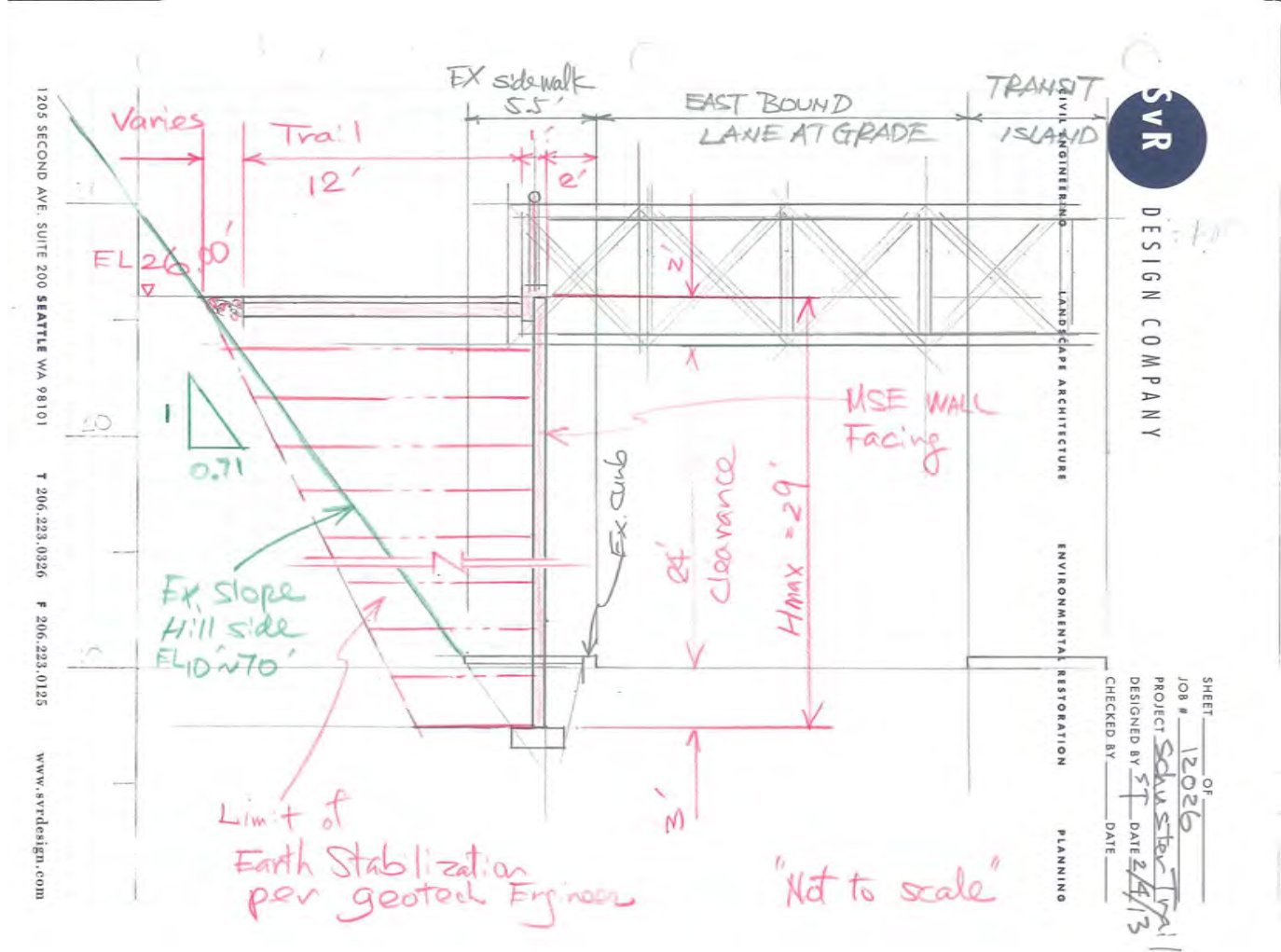
Tacoma Waterfront Land Analysis DRAFT Report. BSA Associates. November 2008

Proposed Update of the Shoreline Master Program - Public Testimony City of Tacoma - Public Comment. June 2011

APPENDIX C

PRELIMINARY SKETCHES

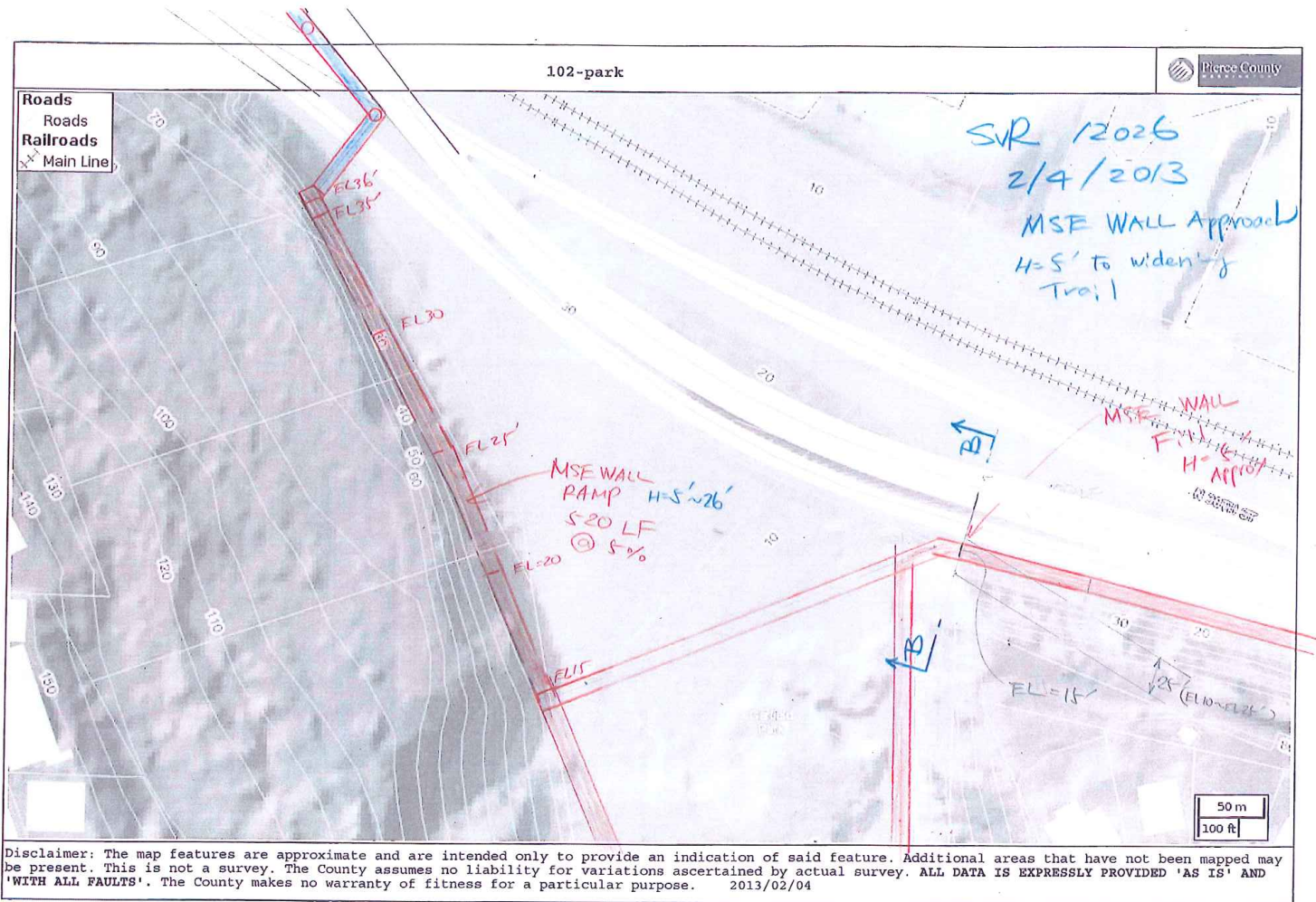
NORTH END CONNECTION ALTERNATIVE: PEDESTRIAN-BICYCLE BRIDGE



APPENDIX C

PRELIMINARY SKETCHES

NORTH END CONNECTION ALTERNATIVE: PEDESTRIAN-BICYCLE BRIDGE



APPENDIX C

PRELIMINARY SKETCHES

NORTH END CONNECTION ALTERNATIVE: PEDESTRIAN-BICYCLE BRIDGE

