



Tacoma Link Expansion Alternatives Analysis Report and SEPA Addendum

MAY 2013



This Alternative Analysis report also serves as an addendum to Sound Transit's Supplemental EIS on the Regional Transit Long-Range Plan (Sound Transit, June 2005). It adds information and analysis regarding the Tacoma Link transit alternatives and their environmental impacts. This addendum is issued pursuant to the State Environmental Policy Act (SEPA) rules, WAC 197-11-600(4)(c) and WAC 197-11-625.

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Abbreviations

| | |
|--------|--|
| AA | Alternatives Analysis |
| BRT | bus rapid transit |
| EIS | Environmental Impact Statement |
| FTA | Federal Transit Administration |
| HCT | high-capacity transit |
| I-5 | Interstate 5 |
| LID | Local Improvement District |
| LRT | light rail transit |
| MLK | Martin Luther King, Jr. |
| MUC | Mixed-use center |
| N/A | Not applicable |
| NEPA | National Environmental Policy Act |
| PBQD | Parsons Brinckerhoff Quade & Douglas, Inc. |
| PLU | Pacific Lutheran University |
| Pre-AA | Pre-Alternatives Analysis |
| SEPA | State Environmental Policy Act |
| ST2 | Sound Transit 2 |
| TAC | Technical Advisory Committee |
| TCC | Tacoma Community College |
| TOD | transit-oriented development |
| TSM | transportation system management |
| UW | University of Washington |
| YOE | year of expenditure |

1 Introduction and Project Background

This report is the Tacoma Link Expansion Alternatives Analysis (AA) and State Environmental Policy Act (SEPA) Addendum to the Final Supplemental Environmental Impact Statement on the Regional Transit Long Range Plan (Sound Transit, June 2005). The AA was conducted from May 2012 through May 2013. This report includes the project's purpose and need, goals and objectives, and the framework and results of the screening and detailed evaluation of project corridors and modes. It also provides a summary of the public involvement activities conducted during the AA process.

The AA process was conducted to facilitate a decision on the corridor and mode for expanding the existing Tacoma Link system that will be evaluated in the project-level environmental review. To that end, the AA consisted of two distinct steps. The first step was an initial screening of all potential corridors according to their ability to meet the purpose and need for the project. The second step was a more detailed evaluation of the corridors that were advanced in the screening process along with the two modes under consideration. Subsequent to the detailed evaluation of corridors and modes, Sound Transit received a request from the City Council and the project's Stakeholder Roundtable to evaluate two additional hybrid corridors. This report includes the results of the analysis of the hybrid corridors as well.

This report is organized into seven sections with two appendices. The remainder of Section 1 describes the history of the project and the Pre-Alternatives Analysis (Pre-AA), the project's purpose and need statement, and the project's goals and objectives. Section 2 lists the corridors and modes that were considered in the AA. Section 3 provides a brief summary of the public involvement activities conducted throughout the AA. Section 4 describes the corridor screening framework and results of the corridor screening. Section 5 provides the results of the detailed evaluation of corridors and modes. Section 6 provides a brief overview of the anticipated capital funding sources for the project, and Section 7 describes the project's next steps. Appendix A is a compilation of the technical work produced during the course of the AA, and Appendix B includes detailed documentation of public outreach and public comments received, along with summaries of all committee meetings.

1.1 Brief History of the Project

Tacoma Link was included in Sound Transit's 1996 *Sound Move*, a ten-year regional transit system plan for the Puget Sound Region. Figure 1.1 displays the existing Tacoma Link system. It is 1.6 miles long and contains six at-grade stations. It serves downtown Tacoma and connects the Theater District, Commerce Street and South 11th, the Convention Center, Union Station, the University of Washington-Tacoma, and the Tacoma Dome. The system has been in operation since 2003.

In 2005, Sound Transit completed the Final Supplemental Environmental Impact Statement (EIS) on The Regional Transit Long-Range Plan and completed the Plan itself. The Long-Range Plan includes an extension of Tacoma Link from downtown Tacoma north and west to Tacoma Community College (TCC). The adopted map within the Long-Range Plan specifically identifies the Tacoma Link extension as a potential rail extension. The EIS accompanying the Long-Range Plan included a programmatic evaluation of the environmental impacts of expanding Tacoma Link in broad corridors to the west and to the east. Representative projects evaluated in the EIS included extending Tacoma Link from Downtown Tacoma to the north and west and from Freighthouse Square to the south and east. The Long-Range Plan was adopted by the Sound Transit Board in July 2005 (Resolution No. R2005-14).

The **Sound Transit 2 (ST2)** Plan was adopted by the Sound Transit Board in July 2008 (Resolution No. R2008-10), and financing for the plan was approved by the voters in November 2008. ST2 identified the second phase of high capacity transportation capital improvements to be made in the Sound Transit District. The ST2 Plan builds on the capital improvements made under the 1996 *Sound Move Plan*, including multiple extensions to the light rail system and other supporting investments. In Tacoma, the ST2 plan includes a capital contribution to the Tacoma Link expansion, with additional funding to be provided by others.

FIGURE 1.1
Existing Tacoma Link System



There have been multiple studies of expanding the Tacoma Link system. These studies are described in further detail below.

1.1.1 Studies Conducted Prior to the Pre-Alternatives Analysis

Sound Transit, in partnership with other stakeholders, conducted multiple studies between 2004 and 2008 that evaluated the feasibility of potential extensions of the Tacoma Link system. In addition, the City of Tacoma analyzed potential streetcar options along Martin Luther King, Jr. (MLK) Way in 2009. These studies are summarized below.

The **Tacoma Extension Feasibility Study Prepared for the Puyallup Tribe of Indians** was prepared by Sound Transit, Puget Sound Transit Consultants, and LTK Engineering Services in March 2004. Based on the successful start of service on the initial Tacoma Link line, the Puyallup Tribe of Indians voted to study the potential extension of the line from the Tacoma Dome Station to the Tribe's Cascades Casino complex (Cascades Casino) south of Interstate 5 (I-5) and east of Portland Avenue, a distance of approximately 1.5 miles. The study examined four alternative routes. All the alternatives began at the existing Tacoma Link track at East 25th and East G Streets and used a common segment on Puyallup Avenue that could be extended north to meet the Central Link light rail line, as envisioned in Sound Transit's Long Range Plan (Sound Transit, 2005). Three of the alternatives traveled south on Portland Avenue and then east to the Casino via East 28th, East 29th, or East 32nd Street. The fourth alternative traveled south from Puyallup Avenue to the Casino via Bay Street. The study concluded that all four alternatives had no fatal flaws and were feasible but entailed various tradeoffs.

The following four papers were prepared by Parsons Brinckerhoff Quade & Douglas, Inc. (PBQD), in March 2005. They were part of a series of reports designed to inform the Sound Transit Board of Directors in its decision-

making on the Regional Transit Long-Range Plan update (Sound Transit, 2005) to the 1996 plan for the Sound Transit service area. Sound Transit adopted the Regional Transit Long-Range Plan update in July 2005.

Sound Transit Long-Range Plan Update Issue Paper S.1: Tacoma Link Integration with Central Link (PBQD, 2005) evaluated options and issues associated with how Tacoma Link might ultimately be integrated with Central Link. The key findings were:

- Depending on lengths of light rail transit (LRT) trains accessing downtown Tacoma from the north, minor to major changes would be required to allow multi-car operations beyond Tacoma Dome Station.
- Ridership models that indicate ridership is lower between Tacoma and Federal Way than between Federal Way and Seattle.
- Four-car operations on the Tacoma Link corridor would require major revisions, potentially as extensive as complete replacement of current stations and some track segments.
- Consideration should be given to identifying the best transfer point for Tacoma Link to Central Link, either at Tacoma Dome Station or in the Federal Way area.
- Additional capacity for light rail maintenance and operations would be required to accommodate additional and larger vehicles.

Sound Transit Long-Range Plan Update Issue Paper S.3: HCT System Development Issues in the South Corridor (PBQD, 2005) discussed issues and considerations that may need to be addressed as high-capacity transit (HCT) services operated by Sound Transit are implemented in various phases in Sound Transit's South Corridor. The key findings were:

- Some Sound Transit services will operate for a significant period of time at service levels lower than what is fully envisioned in the Long-Range Plan.
- Sound Transit Express bus services have the potential to support the South corridor rail markets during interim phases of implementation and could be restructured to provide direct connecting service to Sounder commuter rail and Central Link light rail, as well as serving new markets.
- Sound Transit HCT services provided in an earlier implementation phase could be redundant when later-phase services are implemented, providing opportunities for the agency to make choices about restructuring and/or reductions.
- In planning of interim-phase HCT services, the useful life of supporting capital facilities should be considered and weighed against the anticipated full implementation of the Long-Range Plan to avoid investing in infrastructure that could become underutilized or obsolete.

Sound Transit Long-Range Plan Update Issue Paper S.4: Potential Tacoma Link Extension – West (PBQD, 2005) analyzed several corridor options for extending Tacoma Link west to the Tacoma Community College (TCC) Transit Center. All the options were assumed to operate in mixed traffic. The interrelationship between ridership demand, operational characteristics to meet demand, and station sizing was evaluated. The three options evaluated were:

- **The 6th Avenue Corridor**, a 5.7-mile line extending northwest on Division Avenue and west on 6th Avenue to South Pearl Street, then traveling south to S 19th Street and west to the TCC Transit Center.
- **The S 19th Street Corridor**, a 5.7-mile line extending northwest on Division Avenue to S Sprague Avenue and south to S 19th Street, continuing west to the TCC Transit Center.
- **The N 21st Street/S 12th Street Corridors**, a 6.5-mile line extending northwest on Division Avenue to N I Street, then continuing west on N 21st Street to Proctor Street, turning south to S 12th Street, then turning west to South Pearl Street and south to S 19th Street, and continuing west to the TCC Transit Center.

Alternatively, this option could continue on N 21st Street to Orchard Street, turn south to S 12th Street, and continue to the TCC Transit Center in the same manner.

The key findings were that the options studied traversed a diverse mix of land uses and would complement and support the neighboring communities. The concept-level cost estimates ranged from \$400 million to \$600 million (2005 dollars). Projected ridership was approximately 15,500 daily trips, with 10-minute headways in peak periods, connections to local service at the TCC Transit Center, transfer opportunities with future Tacoma/Federal Way/Seattle LRT service at Tacoma Dome Station, and park-and-ride access to the rail line at Tacoma Dome Station.

Sound Transit Long-Range Plan Update Issue Paper S.6: Potential Tacoma Link Extension – East analyzed whether Tacoma Link should be extended east. The alternative corridors considered in the 2004 Tacoma Extension Feasibility Study prepared for the Puyallup Tribe of Indians were included in this issue paper. Key findings included those identified in the 2004 feasibility study and additional findings on how a potential east extension would relate to long-term light rail service operating in the downtown Tacoma area. These additional findings were:

- There was a lack of information on potential ridership for an East Tacoma extension because there were no long-term development plans available for the Cascades Casino.
- Passenger demand levels for the service could require rail vehicles and stations larger than those identified in the 2004 study.
- The range of costs was estimated to be between \$38 million and \$71.5 million (2004 dollars) for an extension of Tacoma Link to Cascades Casino, including added contingencies.
- The potential need for larger vehicles and stations identified in the 2004 feasibility study required that the cost estimates for the extension to Cascades Casino be regarded as low-end estimates.

Sound Transit Phase 2 – South Corridor LRT Design Report: SR99 and I-5 Alignment Scenarios (S 200th Street to Tacoma Dome Station) and Tacoma Link Extension to West Tacoma was updated in 2008 to present cost estimates in 2007 dollars. The purpose of the planning effort behind this report was to define a Sound Transit 2 LRT project between S 200th Street and Tacoma Dome Station. The definition was the primary source of information used in preparing conceptual cost estimates for potential LRT systems to serve the South Corridor. For the S 200th Street to Tacoma Dome Station corridor, two prototypical alignments were developed for LRT extensions. One alignment would follow the SR 99 alignment in general; the second would follow the I-5 corridor. Extension of the Link LRT system into the South Corridor would include the extension of Tacoma Link from its north terminus in Downtown Tacoma to Tacoma General Hospital. A prototypical alignment was discussed for the potential Tacoma Link extension. The extension would include 1.3 miles of double track and serve two new, at-grade stations. Stadium High School Station would serve the high school and surrounding commercial area. The General Hospital Station would serve Tacoma General Hospital, Mary Bridge Children’s Hospital, and nearby residential and commercial areas.

The City of Tacoma prepared a report entitled **Electric Streetcar Alignment Options for Martin Luther King Jr. Way** in December 2009. The paper was prepared by Parametrix, Inc. and provided a conceptual design of a streetcar serving the neighborhood surrounding MLK Way, between Division Street and S. 25th Street. The purpose of the conceptual design was to inform the City of Tacoma to support the creation of a Local Improvement District (LID). The conceptual alignment options examined within the study included:

- Loop system (clockwise loop on MLK Way, South 6th Street, J Street, and South 20th Street)
- Double-track pinched loop system (dual parallel tracks along MLK way between South 4th Street and South 19th Street)
- Single track with bypass system (single track system in exclusive right-of-way between South 4th Street and South 19th Street)

1.1.2 Pre-Alternatives Analysis

Sound Transit conducted a Pre-AA of potential expansions of the Tacoma Link system in 2010 and 2011. The purpose of the Pre-AA was to provide technical information on a range of corridors being considered for expansion of the system, and the process included stakeholder involvement in the development of objectives for evaluating the corridors. Eight corridors were studied in the pre-AA; these are listed in Section 2. The corridors were analyzed for engineering feasibility, potential environmental impacts, and potential community and economic benefits. The Pre-AA report concluded that several corridors meet community and Sound Transit objectives for the Tacoma Link expansion and are feasible to construct. The final report from the Pre-AA is provided as Document A1 in Appendix A.

1.2 Purpose of and Need for the Project

The following purpose and need statement for the project was developed in consultation with the project Technical Advisory Committee (TAC). Members of the TAC and a summary of each TAC meeting are provided in Section 3.

The purpose of the Tacoma Link Expansion is to improve mobility and access to the regional transit system for Tacoma residents, employees, and visitors by connecting the existing Tacoma Link system with Tacoma's major activity centers and destinations within the City. The project will strive to serve traditionally underserved populations and neighborhoods in Tacoma while providing economic benefit to the City as a whole with a cost-effective and environmentally sensitive investment. The need for this project arises from:

- ***The need to meet the rapidly growing connectivity needs of the corridor and the region's future residents and workers*** by increasing mobility, access, and transportation capacity to and from regional growth and activity centers in Tacoma and the rest of the region, as called for in the region's adopted plans, including the Puget Sound Regional Council's VISION 2040 and Transportation 2040, the Countywide Planning Policies for Pierce County, 2012, as well as related county and city comprehensive plans.
- ***The need to link downtown with other growth centers in the City and encourage economic development within those areas.*** The City of Tacoma's Comprehensive Plan includes policies that specify the city's intention to locate major residential and employment growth in Mixed Use and Manufacturing/Industrial Centers. Expanding Tacoma Link to these centers would encourage denser, more transit-oriented development and further concentrate higher-wage manufacturing and industrial jobs. This would provide greater opportunities to reduce the number of vehicle miles traveled as commute trips.
- ***The need to serve increasing commute trips to the downtown core via transit.*** The Puget Sound Regional Council's 2002 report on the Downtown Tacoma Regional Growth Center indicates that the downtown core contains a majority of the jobs within the city today and is projected to continue to do so in the future. Increasing numbers of commuters will need alternative ways to access jobs within the downtown core.
- ***The need to support the land use planning goals of the South Downtown Subarea Plan, the MLK Subarea Plan and the other Growth and Employment centers.*** The City of Tacoma is currently undertaking planning processes for the South Downtown subarea and the MLK subarea. Both planning processes are designed to encourage transit-oriented, mixed-use development and economic revitalization in areas of Tacoma that are designated for future regional growth concentrations. Expanding Tacoma Link within either or both of these areas would help to bring those goals to fruition.
- ***The need to reduce greenhouse gas emissions within the City of Tacoma.*** The City of Tacoma has established an Office of Sustainability to implement its Climate Action Plan. The plan calls for a reduction in greenhouse gas emissions to 40% below 1990 levels by the year 2020, and a reduction in greenhouse gas emissions to 80% below 1990 levels by the year 2050. Transportation results in 53% of the greenhouse gas emissions within the City of Tacoma. To reduce that, the City has the goal of increasing the use of all public transportation modes. According to the 2010 Census, only 4% of workers ages 16 and older within

Tacoma used public transportation to commute to work. This number will need to increase substantially if the goals of the Climate Action Plan, the South Downtown Subarea Plan, and the MLK Subarea Plan are to be met.

- **The need to support economic development in downtown Tacoma.** *The Downtown Tacoma Economic Development Strategy lists the existing Tacoma Link as a key asset within downtown Tacoma. One of the City of Tacoma’s primary goals for economic development is to stimulate investor interest in downtown. The expansion of Tacoma Link presents an opportunity to achieve the City’s economic development goals.*
- **The following goals and objectives, which are a part of Sound Transit’s Regional Transit Long-Range Plan (2005):**
 - *Help ensure long-term mobility, connectivity and convenience;*
 - *Preserve communities and open space;*
 - *Contribute to the region’s economic vitality;*
 - *Preserve our environment; and*
 - *Strengthen communities’ use of the regional transit network.*
- **The need to serve underserved communities and neighborhoods within the city of Tacoma. Underserved communities and neighborhoods are defined as those that meet all of the following criteria:**
 - *Have received proportionately fewer infrastructure investments in the past 10 years than other areas of Tacoma,*
 - *Have a greater proportion of minority or low-income residents than the city as a whole, and*
 - *Contain vacant and/or underutilized parcels that could be redeveloped to be transit-supportive.*

1.3 Goals and Objectives

The following goals and objectives for the project were developed in consultation with the project TAC, which is described in Section 3.

Goal 1: Improve mobility and transportation access for Tacoma residents and visitors.

- Objective 1A: Improve access to the regional transit system.
- Objective 1B: Improve transit connections between Tacoma’s neighborhoods and downtown.
- Objective 1C: Connect to major regional destinations via transit.

Goal 2: Increase transit ridership within the city of Tacoma.

- Objective 2A: Reduce vehicle miles traveled within the city.
- Objective 2B: Improve the quality of transit service within the city by increasing connections to multimodal facilities specified in the City of Tacoma’s Mobility Master Plan, improving speed and reliability, and expanding the area served.

Goal 3: Serve underserved neighborhoods and communities in the city of Tacoma.

- Objective 3A: Serve areas that historically have received proportionately few infrastructure investments.
- Objective 3B: Serve areas that are ethnically and economically diverse.

Goal 4: Use transit to spur economic development and other types of investments.

- Objective 4A: Connect to areas and neighborhoods that have the potential to develop transit-oriented development (TOD), high-density development, or concentrations of employment.

- Objective 4B: Attract and retain businesses in Tacoma through development of a high-quality transit system.
- Objective 4C: Enhance existing investments and leverage pending investments in downtown.
- Objective 4D: Attract visitors and new residents to downtown and the mixed use centers.

Goal 5: Ensure that the project is environmentally sensitive and sustainable.

- Objective 5A: Avoid major environmental constraints.
- Objective 5B: Develop consistent with Sound Transit’s Sustainability Plan, the City of Tacoma’s Climate Action Plan, and the City of Tacoma’s Comprehensive Plan.

Goal 6: Establish a project is competitive for federal funding.

- Objective 6A: Develop a cost-effective corridor.

2 Alternatives Considered

2.1 Corridors

Eleven distinct corridors are studied in the AA. Many of the corridors have one or more options resulting in 24 total options. Eight of the corridors were studied in the Pre-AA and were carried forward in the AA; the rest of the corridors were identified through public and agency comment. Table 2.1 describes the corridors and options studied in the AA. Maps of all corridors and options are provided in the Screening Report, attached as Document A2 in Appendix A.

TABLE 2.1
Corridors and Options Analyzed in the Screening Process

| Corridor | Option | Name | Description |
|----------|--------|--------------------------------------|--|
| A | 1 | North End* | Extends north from 9th/Theater District Station via Stadium Way; continues northwest and west via North E Street, North First Street, and Division Avenue, and continues west to Alder Street via I Street/North 21st Street. |
| | 2 | North End Extended | Extends north from 9th/Theater District Station via Stadium Way; continues northwest and west via North E Street, North First Street, and Division Avenue, and continues west to Orchard Street via I Street/North 21st Street. |
| | 3 | North End Loop | Extends north from 9th/Theater District Station via Stadium Way; continues northwest and west via North E Street, North First Street, and Division Avenue, and continues west to Union Street via I Street/North 21st Street. Heads south on Union Avenue to North 6th Street, then follows North 6th Street east to Division Avenue. |
| B | 1 | North End Central* | Extends north from 9th/Theater District Station via Stadium Way; continues northwest and west via North E Street, North 1st Street, and Division Avenue, and continues southwest and west via Division Avenue to South 6th Avenue to Alder/Cedar Streets. |
| | 2 | North End Central to Point Defiance | Extends north from 9th/Theater District Station via Stadium Way; continues northwest and west via North E Street, North 1st Street, and Division Avenue, and continues southwest and west via Division Avenue to South 6th Avenue to Pearl Street. Heads north on Pearl to Point Defiance. |
| | 3 | North End Central to TCC | Extends north from 9th/Theater District Station via Stadium Way; continues northwest and west via North E Street, North 1st Street, and Division Avenue, and continues southwest and west via Division Avenue to South 6th Avenue to Alder/Cedar Streets. Follows Alder/Cedar Street south to South 12th Avenue, and then heads west to TCC. |
| | 4 | North End Central to TCC via Orchard | Extends north from 9th/Theater District Station via Stadium Way; continues northwest and west via North E Street, North 1st Street, and Division Avenue, and continues southwest and west via Division Avenue to South 6th Avenue to Orchard. From Orchard, heads south to South 12th Avenue, then heads west to TCC. |
| C | 1 | Eastside* | Extends east from Tacoma Dome Station on 25th Street and south towards Salishan along Portland Avenue to 72nd Street Transit Center. |
| | 2 | South to Mt. Rainier | Extends east from Tacoma Dome Station on 25th Street and south towards Salishan along Portland Avenue. Continues in a southeasterly direction to Mt. Rainier. |
| D | 1 | South End* | Extends from South 25th Street Station south via Pacific Avenue and continues west on 38th Street to Tacoma Mall Boulevard. |

TABLE 2.1
Corridors and Options Analyzed in the Screening Process

| Corridor | Option | Name | Description |
|----------|--------|--|--|
| | 2 | South End via Jefferson | Extends from South 25th Street Station west to Jefferson Avenue and follows Jefferson Avenue (which becomes Center Street) to Pine Street. At Pine Street heads south to Tacoma Mall. |
| | 3 | South End via Portland and 38 th | Extends from South 25th Street Station south via Portland Avenue, and continues west on 38th Street to Tacoma Mall Boulevard. |
| | 4 | South End via Portland and 48 th | Extends from South 25th Street Station south via Portland Avenue, and continues west on 48th Street to Tacoma Mall Boulevard. |
| E | 1 | North Downtown Central* | Extends north from the 9th/Theater District Station via Stadium Way; continues northwest and west via North E Street, North First Street, and Division Avenue, and continues south on MLK Way to South 19th Street. |
| | 2 | North Downtown Central Loop | Extends north from the 9th/Theater District Station via Stadium Way; continues northwest and west via North E Street, North First Street, and Division Avenue, and continues south on MLK Way to South 19th Street. At South 19th St, heads east to J Street to 27th Street, then continues east on Jefferson Avenue to connect back to Tacoma Dome Station. |
| F | | South Downtown to MLK* | Extends west from Union Station west to South 19th Street; continues north on MLK Boulevard, through MLK district to Division Avenue, and could potential loop back to the 9th/Theater District Station. |
| G | 1 | Pacific Highway* | Extends east from the Tacoma Dome Station to Pacific Highway South to Fife, at 54th Avenue East. |
| | 2 | Pacific Highway to Federal Way | Extends east from the Tacoma Dome Station to Pacific Highway South to Federal Way. |
| | 3 | Pacific Highway to Tideflats | Extends east from the Tacoma Dome Station to Pacific Highway South to access tideflats via Port of Tacoma Road. |
| H | 1 | South Downtown Central* | Extends west from Union Station on South 19th St and continues west to Mildred Street and TCC. |
| | 2 | South Downtown Central and North Downtown Central Combined | Extends south from Division and MLK Boulevard to South 19th Street, and then continues west along 19th to TCC. |
| I | | Pacific Lutheran University (PLU) via Pacific | Extends from South 25th Street Station south via Pacific Avenue to PLU (approximately 125th Street South). |
| J | | Point Defiance via Ruston Way | Extends from Tacoma Dome Station along waterfront to Point Defiance via Dock Street, Schuster Parkway, and Ruston Way. |
| K | | Downtown to Sprague Avenue via South 11th | Extends west from South 11th and A Streets to 11th and Sprague. |

*Corridor option was studied in the Pre-AA

2.1.1 Hybrid Corridors

Subsequent to the screening and evaluation process, Sound Transit evaluated two hybrid corridors requested by the City of Tacoma and the Stakeholder Roundtable. Those hybrid corridors are composed of components of the E1, E2, and C1 corridors. Table 2.2 describes the hybrid corridors. Maps of the hybrid corridors are provided in Section 4 of this report.

TABLE 2.2
Hybrid Corridors

| Name | Description | Requested by |
|---|---|------------------------|
| H1: Hybrid with South Connection to MLK Way | <ul style="list-style-type: none"> Beginning at existing 25th Avenue station, travels east on 25th Avenue then north along MLK Way to 6th Avenue Beginning at the Tacoma Dome Station, west along 25th Avenue to Pacific Avenue then south to Portland and 29th Avenue | City of Tacoma |
| H2: Hybrid with North Connection to MLK Way | <ul style="list-style-type: none"> Beginning at existing Theater District station, travels north along Stadium Way, west along Division Avenue, then south along MLK Way to 19th St. Beginning at the Tacoma Dome Station, west along 25th Avenue to Pacific Avenue then south to Portland and 29th Avenue | Stakeholder Roundtable |

The project team conducted a detailed engineering feasibility assessment and provided cost estimates for both hybrid corridors. This assessment is attached as document A5 in Appendix A.

Section 4 of this report discusses and provides the results of the screening process, and section 5 of this report provides the results of the detailed evaluation.

2.2 Modes

The AA process included analysis of two transit modes: LRT and bus rapid transit (BRT). For the purpose of this project, these modes are specifically defined as follows:

- **LRT** is defined as a continuation of the existing technology used for the currently-operating Tacoma Link system. The expansion is assumed to operate in a shared lane with traffic.
- **BRT** is defined as a rubber-tired vehicle that would operate in a shared lane with traffic, would serve substantial transit stations, and would have distinctive branding, low-floor boarding, and transit signal priority.

When the AA process began in May 2012, it was assumed that the analysis would also include evaluation of a Transportation System Management (TSM) mode, in order to meet Federal Transit Administration (FTA) regulations that were in place at the time. However, as the AA process moved forward, new federal legislation was passed (MAP-21) that no longer required an AA under the FTA regulations and a TSM mode was not evaluated.

3 Summary of Public Involvement

The AA process included extensive public outreach through several forms: a project website, five sets of project open houses, a citizen-based stakeholder roundtable, and a TAC. A detailed summary of the methods used for direct outreach to the public and public comments received during the course of the community outreach process is provided in the Community Outreach Report, attached as Document B1 in Appendix B.

The AA phase of the project also included the formal launch of the project’s environmental review. Sound Transit and the FTA started the environmental process for the Tacoma Link Expansion by issuing notice of early scoping in August, 2012 under SEPA and NEPA. The early scoping notice advised the public, agencies, and Tribes of Sound Transit’s intent to develop and evaluate alternatives for the Tacoma Link Expansion, including corridor and mode (LRT and BRT) alternatives. Two public meetings were held to receive early scoping comments, and written comments were accepted during the 30-day public comment period. A summary of the early scoping comments received is provided as Document B2 in Appendix B.

The sections below describe the formal committees involved in the project.

3.1 Stakeholder Group (Prior to the AA)

Community outreach for the Tacoma Link Expansion began in July 2010 with the formation of a Stakeholder Group by Sound Transit, the City of Tacoma, and Pierce Transit. The group included representatives from City, business, neighborhood, development, transportation, and other interests. The Stakeholder Group developed the initial list of potential corridors for expanding Tacoma Link, and its members provided commentary and feedback representative of their various constituencies. The Stakeholder Group report is included as an appendix to the Pre-AA report, which is attached to this report as Document A1 in Appendix A.

3.2 Technical Advisory Committee

The TAC met eleven times between June 2012 and April 2013. The purpose of the TAC was to provide key guidance to Sound Transit on the technical analysis in the AA as well as the public outreach strategy. Members of the TAC were as follows:

- Kurtis Kingsolver, City of Tacoma;
- Alisa O’Hanlon, City of Tacoma;
- Tom Rutherford, City of Tacoma;
- Diane Wiatr; City of Tacoma
- Lihuang Wung, City of Tacoma;
- Steven Shanafelt, David Evans and Associates (representing the City of Tacoma);
- Peter Stackpole, Pierce Transit;
- Justin Leighton, Pierce Transit

Summaries of all TAC meetings are provided in Document B3 in Appendix B.

3.3 Stakeholder Roundtable

The Stakeholder Roundtable was comprised of leaders from the Tacoma community. The Roundtable met six times between November 2012 and April 2013. The purpose of the Stakeholder Roundtable was to provide input to Sound Transit by representing the interests, concerns, and needs of the community; communicate information to interest groups to inform diverse cross-sections of community members about the project, how decisions are made and how to get involved; provide ongoing individual and group feedback to the TAC on the technical work and on project issues. Members of the Stakeholder Roundtable were as follows:

- Earl Brydson, South End Neighborhood Council
- Eric Crittendon, New Tacoma Neighborhood Council

- Ed Davis, President Hillside Development Council
- Venus Dergan, South Tacoma Neighborhood Council
- Ryan Dicks, Pierce County Sustainability
- Chris Green, Economic Development Board for Tacoma-Pierce County
- Judi Hyman, Downtown Merchants Group
- Matt Jones, Central Neighborhood Council
- Mark Martinez, Pierce County Building and Construction Trades Council
- Evette Mason, Port of Tacoma
- Andrea Mesnick, Tacoma Regional Convention and Visitor Bureau
- Michael Mirra, Tacoma Housing Authority
- Aaron Pointer, Black Collective-Metro Parks
- Kyle Price, North End Neighborhood Council
- Noah Prince, Lincoln High School
- Lynette Scheidt, Eastside Neighborhood Council
- Lois Stark, Tacoma Area Commission on Disabilities
- Milt Tremblay, University of Washington Tacoma
- Dan Voelpel, Tacoma School District
- Kristina Walker, Downtown on the Go
- Chad Wright, Marine View Ventures
- Kate Whiting, Transportation Choices Coalition

Summaries of the Stakeholder Roundtable meetings are provided in Document B4 in Appendix B.

4 Screening Process

The project team developed a screening framework to analyze the corridors described in Section 2. The screening framework included questions designed to assess each corridor’s ability to meet the purpose and need for the project. Modes were not evaluated during the screening process and both LRT and BRT advanced to the detailed analysis phase. Table 4.1 provides the corridor screening framework. Sections 4.1 and 4.2 below summarize the results of the screening process. More detail on the screening process is available in the Screening Report, which is provided in Appendix A as Document A2.

TABLE 4.1
Corridor Screening Framework

| Element of the Purpose and Need Statement | Screening Question | Data Used to Answer Screening Question |
|--|---|---|
| Improve connections to the regional transit system. | 1A: Would the corridor improve connections to regional transit, including the Sounder commuter rail, express buses, or Amtrak? | Project team knowledge of local and regional transit system. Sound Transit’s adopted Long Range Plan (2005). |
| Improve transit mobility, serve increases in commuting trips to the downtown core via transit, and help reduce greenhouse gas emissions within the city of Tacoma. | 2A: Would the corridor be likely to increase transit ridership and reduce vehicle miles traveled through improvement of ride quality, improvement in the number of direct connections, or decrease in travel time? | Existing Pierce Transit bus route alignments and frequencies, as provided on www.piercetransit.org . |
| Connect the existing Tacoma Link system with Tacoma neighborhoods and major activity centers and destinations within the city. | 3A: Would the corridor connect to an existing neighborhood or major activity center? 3B: Would the corridor improve transit service between at least one Tacoma neighborhood and downtown Tacoma? 3C: Would the corridor serve existing or proposed areas of high-density residential or employment uses? | Locations of City of Tacoma neighborhood districts, using the City of Tacoma’s Geographic Information System’s shapefile on neighborhood boundaries, downloaded from http://www.cityoftacoma.org/Page.aspx?hid=1925 . 2010 population and employment data by traffic analysis zone provided by Puget Sound Regional Council |
| Serve traditionally underserved populations. | 4A: Would the corridor serve an area that contains a high percentage of low-income and/or minority residents, has historically received proportionately low investments in infrastructure, or is currently not well connected to the greater Tacoma community via transit? | Census 2010 data on income and minority status by census tract within the cities of Tacoma, Fife, and Fircrest. Existing Pierce Transit bus route alignments and frequencies, as provided on www.piercetransit.org . |
| Support economic development in downtown Tacoma and the city of Tacoma and support the City’s land use planning goals. | 5A: Would the corridor connect to an existing mixed-use center or a designated manufacturing/industrial center? | City of Tacoma’s Geographic Information System’s shapefile on mixed-use centers and manufacturing/industrial centers, downloaded from http://www.cityoftacoma.org/Page.aspx?hid=1925 . |
| Be cost-effective. | 6A: Would the corridor avoid major engineering challenges that would be likely to increase the project cost without providing additional benefit? | Project team knowledge of right-of-way constraints, locations of steep slopes, major utility conflicts, structural insufficiencies, and vertical clearance limitations for overhead catenary systems. Existing Tacoma Link vehicles cannot handle grades over 8% for long distances, and cannot handle grades over 10% for any distance, so this was considered the maximum grade in order to allow for this mode to be considered. |

4.1 Results

Of the 24 options within 11 corridors, 18 options were not carried forward, and 6 options within 5 corridors were retained. Options B1, C1, D4, E1, E2, and G1 passed the screening process. Following is a summary of the results by options (options in italics are those carried forward).

- 1) Corridor A: All three options in this corridor would have right-of-way challenges as 6th Street is a two-lane roadway with many buildings directly adjacent to the sidewalk. This could be overcome through shared right-of-way, but the Tacoma Link project must be at least 50 percent exclusive right-of-way.
 - a. A1: This option was not advanced because it does not serve underserved populations and it has limited economic development potential.
 - b. A2: This option was not advanced because it does not serve underserved populations and it has limited economic development potential. In addition, electric transmission lines on 21st Street west of Alder could be an engineering constraint. The terminus at Orchard for this option provides no additional benefit and it is not an activity center.
 - c. A3: This option was not advanced because it has limited economic development potential and could conflict with transmission lines on 21st west of Alder. Although the southern leg of the option (along 6th) would travel along the edge of a census block that is predominantly low-income and minority population, this area would also be served by option B1.
- 2) Corridor B:
 - a. *B1: This option was retained because it would provide service to underserved populations, has some potential for economic development, and does not have any major engineering constraints. It would be extended to Union Street to reach University of Puget Sound and to maximize the potential for economic development.*
 - b. B2: This option was not advanced because it does not reach any mixed-use centers (MUCs) beyond the Westgate MUC, and economic development potential is limited at the Westgate MUC. Other MUCs served by this option are also served by option B1. In addition, it does not serve underserved populations beyond what is served by option B1.
 - c. B3: This option was not advanced because of the limited economic development potential between the 6th Avenue and Pine MUC and the James Center MUC, and because of engineering constraints crossing under SR 16.
 - d. B4: This option was not advanced because of the limited economic development potential between the 6th Avenue and Pine MUC and the James Center MUC, and because of engineering constraints crossing under SR 16.
- 3) Corridor C:
 - a. *C1: This option was retained because it would provide service to underserved populations, particularly at Salishan, and does have potential for economic development. The option was shortened to end at E 44th Street (the entrance to Salishan) because household and employment density decreases south of this point.*
 - b. C2: This option was not advanced because it did not access any MUC beyond the 72nd and Pacific MUC, the destination is outside the Sound Transit service area, and the cost to reach Mt. Rainier would be prohibitive.

- 4) Corridor D:
- a. D1: This option was not advanced because of steep grades on Pacific and because accessing Tacoma Mall on 38th would also be a challenge with existing traffic and right-of-way limitations.
 - b. D2: This option was not advanced because of little potential for economic development and low population density in this area, as well as steep grades on 25th between Pacific and Jefferson.
 - c. D3: This option was not advanced because there is little potential for economic development and there are engineering challenges on 38th, including the crossing of SR 7.
 - d. *D4: This option will be carried forward, but would turn west at 38th and continue on 38th to Yakima, then turn south on Yakima to 48th, where it would turn west to cross over I-5 and reach Tacoma Mall. This revision would allow access to Salishan, add access to the Lincoln Center MUC, and avoid engineering challenges on 38th.*
- 5) Corridor E:
- a. *E1: This option was retained because it would provide service to underserved populations and has more potential for economic development than most other options.*
 - b. *E2: This option was retained because it would provide service to underserved populations and has more potential for economic development than most other options. However, 27th between Jefferson and Pacific Avenue is approximately a 7 percent grade, which is near the maximum for the Tacoma Link system. For cost-estimating purposes, this will be assumed to be a double-track loop.*
- 6) Corridor F: This corridor was not advanced because the grade on 19th between South I Street and Market Street ranges from 12 to 16 percent, beyond what is allowable for the Tacoma Link system.
- 7) Corridor G:
- a. *G1: This option was retained because it would provide service to underserved populations and serve proposed areas of high-density residential or employment. This option could be a start toward connecting to Link in Federal Way. One issue noted is that the Eels Street Bridge from Portland to Milwaukee is set to be replaced by the City in the next 3 to 5 years. The City has completed plans for the replacement of the easternmost structure; however, the plans at this time do not accommodate light rail.*
 - b. G2: This option was not advanced because this connection will be evaluated under a separate study to be conducted by Sound Transit.
 - c. G3: This option was not advanced because it did not provide any additional benefits beyond G1, and there is low potential for economic development.
- 8) Corridor H
- a. H1: This option was not advanced because of the length and because the grade on 19th between South I Street and Market Street reaches 12 to 16 percent. Economic development potential on this corridor was considered to be low.
 - b. H2: This option was not advanced because of the crossing of SR 16 on 19th, which would involve crossing left turns from the SR 16 on- and off-ramps, and require substantial traffic mitigation. Economic development potential on this corridor was considered to be low.
- 9) Corridor I: This corridor was not advanced because it did not access any MUC beyond the 72nd and Pacific MUC, it would have long freeway crossings, it would have grades greater than 10 percent on Pacific, it would need to go under the new Sounder commuter rail bridge, and Tacoma Link may not provide service on this corridor comparable to Pierce Transit's existing Route 1 bus. Route 1 has the highest ridership for Pierce Transit and reaches speeds greater than 25 mph on Pacific, which is the speed that Tacoma Link

would be limited to. Changes in service could possibly reduce ridership from existing conditions on this route.

10) Corridor J: This corridor was not advanced because it did not access any MUC and there are multiple engineering constraints along Dock Street, Schuster Parkway, and Ruston Way, including limited right-of-way, extensive structure length, and roundabouts.

11) Corridor K: This corridor was not advanced because the grades on 11th are between 7 and 13 percent, it does not provide access to any MUCs, and there is little potential for economic development on this corridor.

Figure 4.1 depicts the six corridors that advanced from the screening process for detailed evaluation. Figures 4.2 and 4.3 depict the two hybrid corridors described in Section 2. The hybrid corridors were brought forward into the process after the screening had already been conducted, and therefore were advanced directly into the detailed evaluation.

FIGURE 4.1
Corridors Advanced for Detailed Evaluation

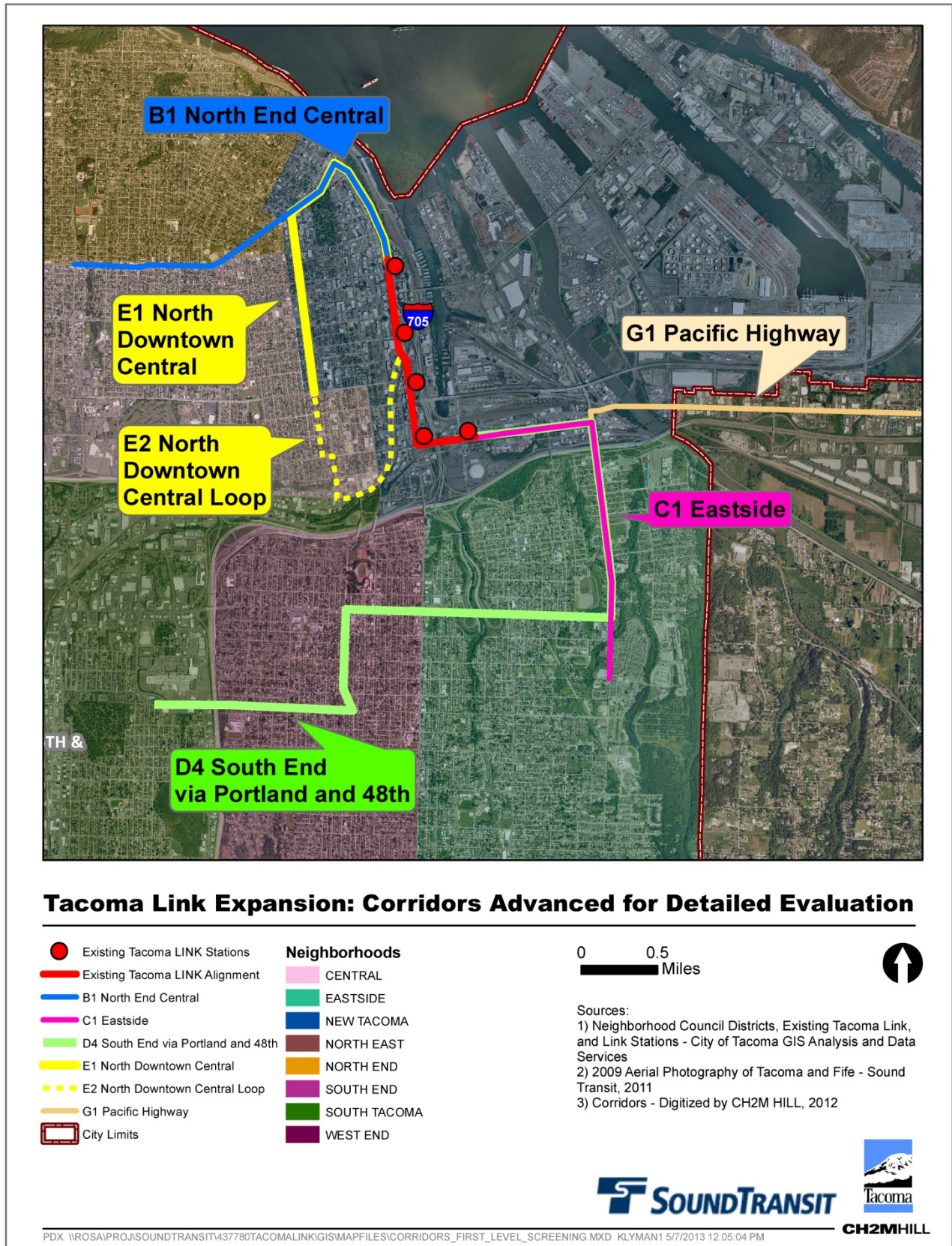


FIGURE 4.2
H1 Hybrid Corridor

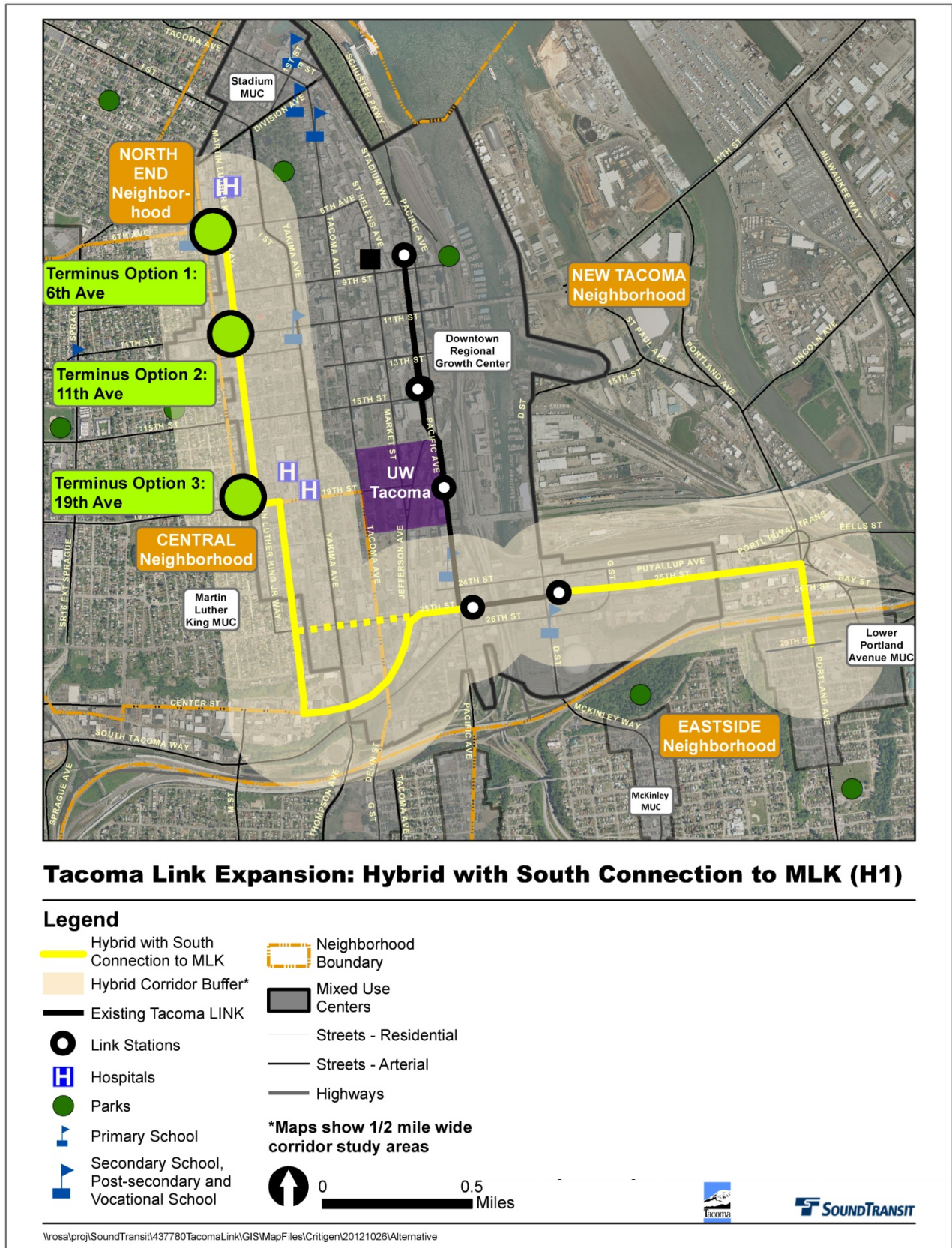
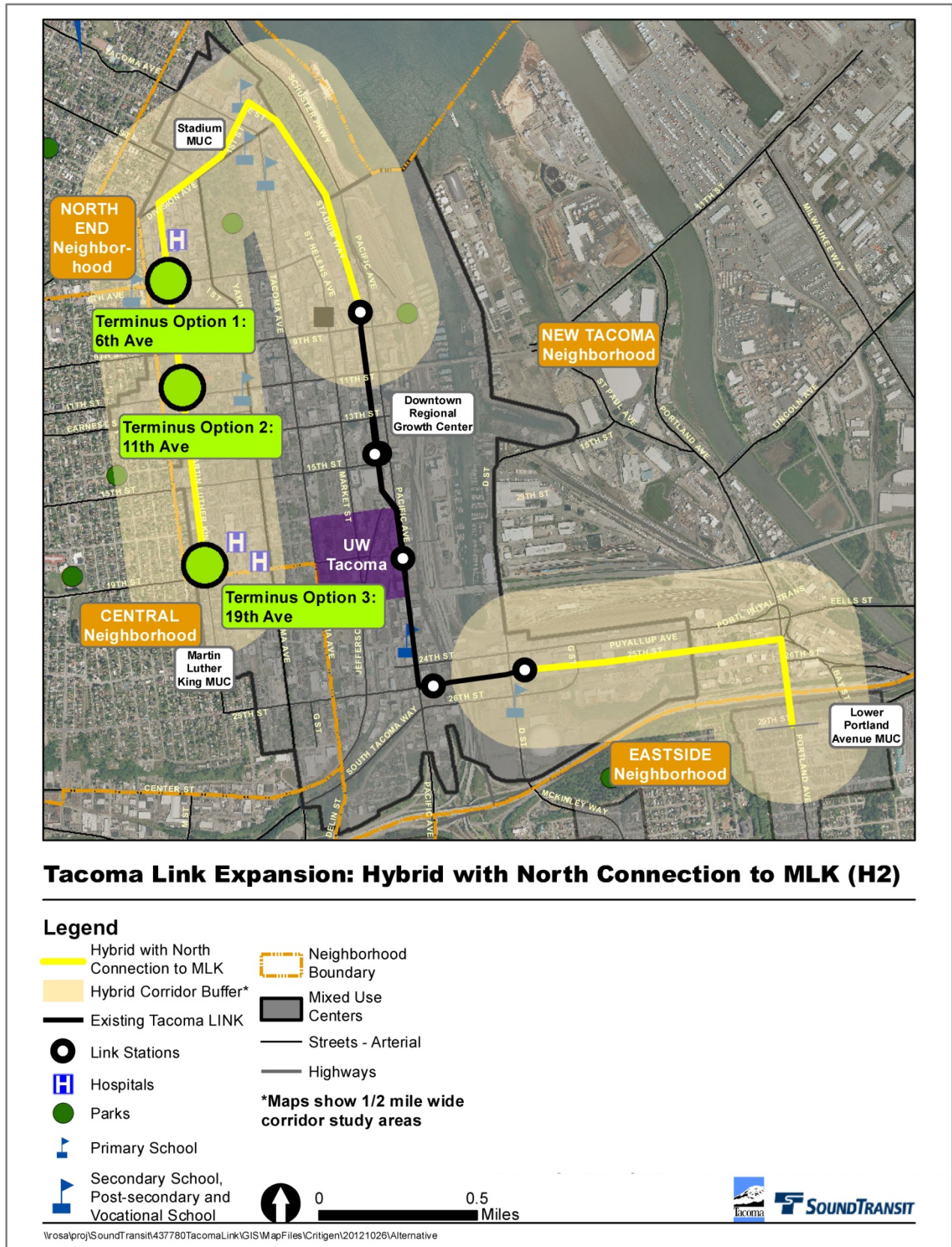


FIGURE 4.3
H2 Hybrid Corridor



5 Detailed Evaluation

The project team conducted a detailed evaluation of the six corridors, two hybrid corridors, and two modes described in Section 2. This section describes the evaluation framework and the results of the evaluation for both corridors and modes.

5.1 Evaluation Framework

The project team developed an evaluation framework designed to measure each corridor and mode’s ability to meet the goals and objectives of the project (listed in Section 1). The evaluation framework is listed below in Table 5.1. A detailed explanation of the methodology and data sources used for the evaluation is listed in the Methodologies for Evaluation Process Report, included in Appendix A as Document A3.

TABLE 5.1
Evaluation Framework

| Objectives | Evaluation Criteria for Corridors | Evaluation Criteria for Modes (BRT and LRT) |
|---|--|--|
| Goal 1: Improve mobility and transportation access for Tacoma residents and visitors. | | |
| <ul style="list-style-type: none"> Objective 1A: Improve access to the regional transit system. Objective 1B: Improve transit connections between Tacoma’s neighborhoods and downtown. Objective 1C: Connect to major regional destinations via transit. | <ul style="list-style-type: none"> Travel time to the Tacoma Dome Station, as compared to existing transit and auto travel times Travel time from Tacoma neighborhoods to downtown Tacoma, as compared to existing transit and auto travel times Number of major regional destinations served | <ul style="list-style-type: none"> Number of transfers needed to reach Tacoma Dome Station Quality of connection to existing Tacoma Link Does not differentiate modes |
| Goal 2: Increase transit ridership within the City of Tacoma. | | |
| <ul style="list-style-type: none"> Objective 2A: Reduce vehicle miles traveled within the city. Objective 2B: Improve the quality of transit service within the city by increasing connections to multimodal facilities specified in the City of Tacoma’s Mobility Master Plan, improving speed and reliability, and expanding the area served. | <ul style="list-style-type: none"> Likely ridership response Number of connections to major bicycle and pedestrian facilities Likely change in transit travel time Likely change in transit travel time reliability | <ul style="list-style-type: none"> Likely ridership response Likely change in transit travel time Likely change in transit travel time reliability |
| Goal 3: Serve underserved neighborhoods and communities in the City of Tacoma. | | |
| <ul style="list-style-type: none"> Objective 3A: Serve areas that historically have received proportionately few infrastructure investments. Objective 3B: Serve areas that are ethnically and economically diverse. | <ul style="list-style-type: none"> Number of transportation infrastructure investments within the past 10 years within ¼ mile of each corridor Population within ¼ mile of each corridor that is considered low-income and/or minority | <ul style="list-style-type: none"> Does not differentiate modes Does not differentiate modes |

TABLE 5.1
Evaluation Framework

| Objectives | Evaluation Criteria for Corridors | Evaluation Criteria for Modes (BRT and LRT) |
|---|--|--|
| Goal 4: Use transit to spur economic development and other types of investments. | | |
| <ul style="list-style-type: none"> Objective 4A: Connect to areas and neighborhoods that have the potential to develop TOD, high-density development, or concentrations of employment. Objective 4B: Attract and retain businesses in Tacoma through development of a high-quality transit system. Objective 4C: Enhance existing investments and leverage pending investments in downtown. Objective 4D: Attract visitors and new residents to downtown and the mixed use centers. | <ul style="list-style-type: none"> Amount of vacant land within ¼ mile of the corridor that could potentially be developed Number of parcels zoned for commercial and industrial use within ¼ mile of the corridor Qualitative assessment of the potential to spur private investment Likely ridership response Ease of connection to downtown | <ul style="list-style-type: none"> Does not differentiate modes Does not differentiate modes Qualitative assessment of the potential to spur private investment Likely ridership response Ease of connection to downtown |
| Goal 5: Ensure that the project is environmentally sensitive and sustainable. | | |
| <ul style="list-style-type: none"> Objective 5A: Avoid major environmental constraints. Objective 5B: Develop consistent with Sound Transit's Sustainability Plan, the City of Tacoma's Climate Action Plan, and the City of Tacoma's Comprehensive Plan. | <ul style="list-style-type: none"> Presence of historic districts and distance to the corridor Presence of habitat corridors and distance to the corridor Presence of parks and distance to the corridor Presence of sensitive noise receptors and distance to the corridor Consistency with Sound Transit's Sustainability Plan Consistency with City of Tacoma's Climate Action Plan Consistency with City of Tacoma's Comprehensive Plan | <ul style="list-style-type: none"> Potential to cause noise and vibration impacts Potential to cause visual impacts Consistency with Sound Transit's Sustainability Plan Consistency with City of Tacoma's Climate Action Plan Consistency with City of Tacoma's Comprehensive Plan |
| Goal 6: Establish a project that is competitive for federal funding. | | |
| <ul style="list-style-type: none"> Objective 6A: Develop a cost-effective corridor. | <ul style="list-style-type: none"> Affordability Availability of funding | <ul style="list-style-type: none"> Affordability Availability of funding |

5.2 Results of the Evaluation for Corridors

Table 5.2 provides the results of the evaluation of each corridor. Each corridor was given a rating of High, Medium, or Low based on its performance under each evaluation criterion relative to the other corridors. A rating of High indicates that the corridor fared positively in comparison to other corridors for that evaluation measure, and a rating of Low indicates that the corridor fared negatively in comparison to other corridors. The text following the table below summarizes the results of the evaluation by goal.

TABLE 5.2
Corridor Evaluation Results Summary

| Corridor | B1 | C1 | D4 | E1 | E2 | G1 | H1 | H2 |
|--|--------|--------|--------|--------|--------|--------|--------|--------|
| Goal 1: Improve mobility and transportation access for Tacoma residents and visitors | | | | | | | | |
| Travel time to Tacoma Dome | High | Medium | Low | High | High | Low | High | Medium |
| Travel time to downtown Tacoma | Medium | High | Low | Medium | Low | Medium | Low | Low |
| Number of major regional destinations served | Medium | Medium | High | Medium | Medium | Medium | Medium | Medium |
| Goal 2: Increase transit ridership within the City of Tacoma | | | | | | | | |
| Travel market assessment/likely ridership response | High | Low | Medium | High | High | Low | High | High |
| Number of connections to major bicycle and pedestrian facilities | High | Low | Medium | High | High | Low | High | High |
| Reliability | High | High | Low | Medium | Medium | Medium | High | High |
| Goal 3: Serve underserved neighborhoods and communities in the City of Tacoma | | | | | | | | |
| Serve areas that have historically received proportionally fewer infrastructure investments | Medium | High | High | Low | Low | High | Low | Low |
| Serve areas that are ethnically and economically diverse | Medium | High | Medium | High | High | Low | High | High |
| Goal 4: Use transit to spur economic development and other types of investments | | | | | | | | |
| Amount of vacant land within ¼ mile of the corridor centerline that could potentially be developed | Low | High | Medium | Low | Medium | High | Medium | Medium |
| Ratio of building value to land value to determine developed but “underutilized” parcels | Low | High | Low | Medium | Medium | High | Medium | Medium |
| Presence of zoning that supports TOD | High | Low | Low | High | Medium | Low | Medium | Medium |
| Number of parcels zoned for commercial within ¼ mile of the corridor centerline | Medium | High | Low | Medium | Medium | High | High | High |
| Likely ridership response | High | Low | Medium | High | High | Low | Medium | Medium |
| Ease of connection to downtown and MUCs | High | Medium | Low | High | High | Low | Medium | Medium |
| Goal 5: Ensure that the project is environmentally sensitive and sustainable | | | | | | | | |
| Presence of historic districts and distance to the corridor | Low | High | High | Low | Low | High | Low | Low |
| Presence of habitat corridors and distance to the corridor | High | Medium | Medium | High | High | Medium | High | High |
| Presence of parks and distance to the corridor | Medium | Medium | Medium | Medium | Medium | Low | Medium | Medium |
| Presence of sensitive noise receptors and distance to the corridor | Medium | High | High | Low | Low | High | Medium | Low |

TABLE 5.2
Corridor Evaluation Results Summary

| Corridor | B1 | C1 | D4 | E1 | E2 | G1 | H1 | H2 |
|--|----------|----------|--------------|----------|----------|----------|----------|----------|
| Potential to avoid visual impacts | High | High | Medium | High | Medium | High | Medium | High |
| Consistency with Sound Transit's Sustainability Plan | High | High | High | High | High | High | High | High |
| Consistency with City of Tacoma's Climate Action Plan | High | High | High | High | High | High | High | High |
| Consistency with City of Tacoma's Comprehensive Plan | High | High | High | High | High | High | High | High |
| Consistency with University of Washington (UW) Tacoma's Master Plan | N/A | N/A | N/A | N/A | Low | N/A | N/A | N/A |
| Goal 6: Establish a project that is competitive for federal funding | | | | | | | | |
| Affordability | Medium | High | Low | High | Low | Medium | Low | Low |
| Availability of federal funding (<i>eligibility for a Small Starts grant</i>) | Eligible | Eligible | Not eligible | Eligible | Eligible | Eligible | Eligible | Eligible |
| Assessed value | High | Low | Medium | Medium | High | Low | Medium | High |
| Redevelopment potential | High | Low | Low | High | High | Medium | High | High |
| Potential for Local Improvement District | High | Low | Medium | High | High | Low | High | High |

- Corridors B1, C1, and E1 would best meet the project's **Goal 1**. Although Corridor D4 serves two Regional Growth Centers (Downtown Tacoma and Tacoma Mall), it would not improve transit travel time to either the Tacoma Dome or to downtown Tacoma.
- Corridors B1, E1, E2 H1, and H2 would best meet the project's **Goal 2**, because of the high potential of each corridor to attract riders, the number of connections to major bicycle and pedestrian facilities, and the potential to improve transit travel time reliability.
- Corridor C1 would best meet the project's **Goal 3**, because it serves an area that has historically received proportionally fewer infrastructure investments than other areas of Tacoma, and because it would serve an area that is ethnically and economically diverse.
- Corridors E1, E2, H1, and H2 generally fare the highest under the evaluation for **Goal 4**, but the results are somewhat mixed. Corridors C1 and G1 have the highest percentages of vacant land, the highest amount of developable but underutilized parcels, and are near high percentages of commercial land. However, Corridors C1 and G1 are not near land that is currently zoned for high-density development.
- Corridors C1 and D4 fared the highest in the evaluation for **Goal 5**. Corridors B1, E1, E2, and H2 are near to several historic properties and historic districts and a Category 1 noise sensitive receptor (the Broadway Center for the Performing Arts). Corridor E2 is inconsistent with the UW Tacoma's Campus Master Plan because it would likely require use of Jefferson Street. All corridors except G1 are near one or more parks.
- Corridors B1 and E1 fared the highest in the evaluation for **Goal 6**, because of their relatively lower estimated cost, high redevelopment potential, and higher potential for a viable Local Improvement District. Corridor D4 is estimated to be the most expensive corridor and would likely render the project ineligible for a Small Starts grant.

5.3 Results of the Evaluation for Modes

Table 5.3 below summarizes the results of the relative evaluation of each mode's ability to meet the goals and objectives of the project.

TABLE 5.3

Mode Evaluation Results Summary

| | BRT | LRT |
|--|--------|--------|
| Goal 1: Improve mobility and transportation access for Tacoma residents and visitors | | |
| Number of transfers needed to reach Tacoma Dome Station | Low | High |
| Goal 2: Increase transit ridership within the City of Tacoma [N/A] | | |
| Goal 3: Serve underserved neighborhoods and communities within the City of Tacoma [N/A] | | |
| Goal 4: Use transit to spur economic development and other types of investments | | |
| Qualitative assessment of the potential to spur private investment | Low | High |
| Ease of connection to downtown and MUCs | Low | High |
| Goal 5: Ensure that the project is environmentally sensitive and sustainable | | |
| Potential to avoid noise and vibration impacts | Medium | Medium |
| Potential to avoid visual impacts | High | Medium |
| Consistency with Sound Transit's Sustainability Plan | High | High |
| Consistency with City of Tacoma's Climate Action Plan | High | High |
| Consistency with City of Tacoma's Comprehensive Plan | High | High |
| Goal 6: Establish a project that is competitive for federal funding | | |
| Affordability | High | High |
| Availability of funding | High | High |

- LRT would better meet the project's **Goal 1** because it would provide a direct connection to Tacoma Dome Station without a transfer. Tacoma Dome Station is a major regional transit facility
- LRT would better meet the project's **Goal 4**. Rail infrastructure has demonstrated a greater ability to spur private investments than bus infrastructure in other communities, and there is no indication that the Tacoma community would react differently. Additionally, LRT would provide a better connection to downtown because it would not require a transfer.
- The results for **Goal 5** are mixed; both BRT and LRT could potentially cause noise or vibration impacts. LRT is more likely to cause a visual impact than BRT.
- BRT and LRT would fare equally under **Goal 6**.

Of the four project goals that lend themselves to a mode evaluation, LRT fares better in two, BRT fares slightly better in one, and the two modes fare equally in one. This indicates that LRT would be the better mode choice for the expansion of Tacoma Link. In addition, LRT is the only mode consistent with Sound Transit's Long-Range Plan and ST2.

As noted above in Section 1.1.1, Sound Transit's Long-Range Plan included an extension of Tacoma Link light rail from downtown Tacoma north and west to TCC. The EIS accompanying the Long-Range Plan included a

programmatic evaluation of the environmental impacts of expanding Tacoma Link in broad corridors to the west and to the east. While the Long-Range Plan EIS evaluated a variety of modal alternatives (including BRT), light rail was selected as the mode choice in the Long-Range Plan and in the ST2 Plan for the Tacoma expansion based on the extensive regional planning, public and agency involvement, and environmental review conducted through the Long-Range Plan and ST2 processes.

6 Capital Funding Plan

Sound Transit has established a budget of \$150 Million in Year of Expenditure (YOE) dollars for the Tacoma Link Expansion project. This \$150 Million is expected to be comprised of:

- A **\$50 Million** capital contribution from local revenues received through the Sound Transit 2 ballot measure.
- A **\$50 Million** grant that Sound Transit intends to seek through FTA's Small Starts funding program. The Small Starts program provides grants for capital costs associated with new fixed guideway transit systems or extensions. In order to qualify for a Small Starts grant, the request for funding must be less than \$75 Million and the total project cost must be under \$250 Million.
- A **\$50 Million** contribution from a local funding partner or partners. The AA process did not determine the exact source of partnership funds for the project; this will be determined in future phases of the project.

7 Next Steps

After review of this Alternatives Analysis Report and SEPA Addendum, the Sound Transit Board will identify a preferred corridor for more detailed environmental review. That corridor will be advanced through preliminary engineering and detailed environmental review under NEPA and SEPA.

Technical Documentation

Document A1: Pre-Alternatives Analysis and Keys to Success for the Tacoma Link Extension Project
(September 2011)

Document A2: Tacoma Link Expansion AA: Screening Report (December 5, 2012)

Document A3: Tacoma Link Expansion AA: Methodologies for Evaluation Process (February 28, 2013)

Document A4: Tacoma Link Evaluation Results: Revised to Include Hybrid Corridors (April 4, 2013)

Document A5: Tacoma Link Expansion: Engineering Assessment of Hybrid Corridors (April 4, 2013)

Public Involvement

Document B1: Tacoma Link Expansion Alternatives Analysis Community Outreach Report *(April 2013)*

Document B2: Tacoma Link Light Rail Expansion Project Early Scoping Comment Summary *(January 2013)*

Document B3: Summaries of Technical Advisory Committee Meetings *(June 2012 – April 2013)*

Document B4: Summaries of Stakeholder Roundtable Meetings *(November 2012 – April 2013)*