

Link LRT: Kent-Des Moines Road to Tacoma Dome Station

Project Number	S2
Subarea	South King
Primary Mode Impacted	Link
Facility Type	Link Service
Date Last Modified	12/8/2005

Project Locator Map



Short Project Description

Extension of the Central Link light rail system for approximately 15.4 miles from Kent-Des Moines Station to Tacoma (Tacoma Dome Station) including 5 new stations. For costing purposes, the alignment is assumed to be aerial primarily along SR 99. (A light rail extension project between S. 200th Station and Kent-Des Moines has been defined and costed separately - Project S8).

Project Purpose: To extend Link LRT service further south.

Cost and Schedule

Cost (In Millions of 2005\$); *pre-conceptual estimate only*

Schedule

	Low	High
Agency Admin	\$136.6	\$157.1
Environmental Clearance and PE	\$70.6	\$81.2
Final Design, Specs, and	\$177.8	\$204.5
ROW Acquisition	\$370.5	\$426.1
Construction	\$1,540.7	\$1,771.8
Vehicles	\$141.4	\$162.6
Contingency	\$147.0	\$169.1
Total	\$2,584.6	\$2,972.3

**Proposed
Schedule Not Yet Developed**

Breakdown of Capital Costs by Segment (in Millions)

	Low	High
Kent/Des Moines-Redondo	\$402.7	\$463.1
Redondo Heights-Federal Way	\$520.3	\$598.3
Federal Way-SW Federal Way	\$402.7	\$463.1
SW Federal Way-Fife	\$705.0	\$810.8
Fife-Tacoma Dome	\$553.9	\$637.0
Total	\$2,584.6	\$2,972.3

Design Basis

Based on per-mile cost of Project S1

Annual O&M*	\$17.1
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* In Millions of 2005 dollars

Environmental Documentation Required

- Environmental Impact Statement Required
- Environmental Assessment Required
- Environmental Checklist Required

Relationships to Other Projects

Relationship	Project
Dependent on	Connecting Federal Way to Seattle requires extension of light rail to Kent-Des Moines (see Projects S1 and S27).
Impacted by	Alignment crosses route of planned extension of SR 167. Need to coordinate with WSDOT on use of its right-of-way.

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Project Partners

Agency

KC Metro	
Pierce Transit	
WSDOT	
City of SeaTac	
City of Kent	
City of Des Moines	
Highline Community College	
City of Federal Way	
City of Fife	
Puyallup Tribe	
City of Tacoma	

Long Description:

This capital project scope and the companion capital cost estimate, are intended to include the entire project development cycle cost (agency and project administration, design, all aspects of property acquisitions, permits, agreements, construction, testing, commissioning, and contingencies) from project initiation through the start-up of revenue operations.

Project Description:

Construct an extension of Link light rail transit from the Kent Des Moines area (Highline Community College) to downtown Tacoma (Tacoma Dome Station). For cost estimation purposes, the line is assumed to be elevated, primarily following an SR 99 alignment, and will include stations at Redondo Heights, Federal Way, South Federal Way, Fife, and Tacoma.

Project Elements Included:

- Link LRT service extended approximately 15.4 miles south from Kent/Des Moines Station adjacent to Highline Community College to the Tacoma Dome Station. (An extension of Link light rail from S. 200th Station to Kent-Des Moines Station has been defined and costed separately)
- Alignment is expected to be aerial
- After leaving Kent-Des Moines Station, the alignment would continue along the west side of SR 99/Pacific Highway with an aerial profile. The alignment crosses Pacific Highway at S. 316th Street to serve the Federal Way Transit Center and returns to the west side of Pacific Highway south of S. 324th Street.
- Five new stations at the Redondo Heights Park-and-Ride, Federal Way Transit Center, South Federal Way Park-and-Ride, Fife, and Tacoma Dome station are assumed to be center platform aerial stations with ground level plazas. The terminus station in Tacoma includes a mezzanine and is assumed to be located on the north side of the Tacoma Dome Transit Center Parking Garage,
- An elevated pedestrian walkway between the parking garage and Tacoma Dome mezzanine station will provide connections to the existing Tacoma Link and Sounder system through the parking garage.
- New 500 space parking structure at the Fife Station.
- New rail-only bridge crossing the Puyallup River.
- 1% for art
- Road widening and traffic signal modifications at 32 SR 99/Pacific Highway intersections.
- 10 minute headways in peaks; 15 minutes in base period.
- 4-car trains in peak; 3-car trains in base
- 40 additional light rail vehicles (35 in service; 5 spares)
- New maintenance and operations base; located south and east of the Kent-Des Moines Station. An 18-acre site south of S. 240th St. and east of SR 99 (former Midway Drive-In Theater site) has been assumed for the maintenance facility. The right-of-way and initial construction cost has been previously assumed in the S. 200th to Kent-Des Moines project description. The facility will accommodate the 40 additional LRV's required for this service.

Other design features assumed in the cost estimate include:

- Five track crossovers north of each station
- Right-of-way needed for roadway widening at 32 signalized intersections

Utilities

- Relocation of the existing high voltage power line (no undergrounding)

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Mitigation

- The final project scope will include all mitigation(s) committed to by ST in pertinent, future project-level environmental documents.

Exclusions

- Non-structural architectural and aesthetic elements in excess of the ST art program
- Public restrooms
- Track improvements
- Undergrounding of overhead utilities
- Community development funding
- Non-structural architectural and aesthetic elements in excess of the ST art program
- Central command and control for operations
- Additional park-and-ride capacity is assumed at any of the stations, except for the new 500-space parking structure at the Fife Station

Permits Required

- Building, electrical, mechanical, utility, construction-related

Agreements Required

Agreements with WSDOT and affected jurisdictions

ST has developed scope definitions for ST2 project proposals for the purposes of developing cost estimates, implementation schedules, a financial plan, and the estimation of project benefits. This scope definition should not be construed as a commitment that all defined features will be included in the final developed project.

Evaluation Measures

<i>Measure</i>	<i>Measurement/ Rating</i>	<i>Notes</i>
Average Weekday Ridership	28,000	
Capital Cost	\$2584.6 - \$2972.3	in Millions of 2005\$
Annual Operating Cost	\$17.1	in Millions of 2005\$
Travel Time & Reliability		
Connectivity & Integration	High	# transit routes: 3 ST, 7 Metro
Land Use & Development		
Customer Experience		
Consistency with Plans		
Public Support		
Risk Avoidance	Low	

Key Issues and Benefits

Issues:

- Project could be separated into smaller stand-alone segments (e.g., Tacoma to Federal Way) but ridership would be lower and separate maintenance facility would have to be constructed to serve that segment.
- Due to column placement, aerial alignment along SR 99/Pacific Highway would impact property access and parking.
- Alternative alignment following I-5 would reduce impacts to SR 99 but would make serving communities along SR 99 more difficult.
- An aerial alignment along SR 99 was selected as the representative alignment for estimation purposes in order account for the potentially greater impacts and costs of constructing a light rail system along a highly developed and urbanized traffic corridor.
- Bus services providing same connections may need to be reduced, restructured or eliminated (e.g., ST Express Route 574.)
- Depending on station locations, the existing park-and-ride lots in potential station areas may be used, or, may have to be redesigned or relocated.

Benefits:

- Completes connection of Seattle and Tacoma with light rail transit service, consistent with Sound Transit's Long Range Plan.
- Serves the Federal Way urban core, Fife and other growing communities in South King County and north Pierce County