

Board question

In its motion of Dec. 14, 2000, the board asked staff to provide:

“Detailed work plan for the value engineering/constructability review and schedule implications between January and July 2001.

This section outlines the six-month work program to support the final design and construction of University Link, following execution of the Full Funding Grant Agreement (FFGA) with the Federal Transit Administration (FTA).

The work falls into seven general areas that will proceed in parallel over the next six to nine months. All of these efforts will be closely coordinated with and monitored by the project’s Technical Advisory Committee (TAC). These areas include the following, which are described in more detail in the text and work flow diagrams that follow:

- A. Review the tunnel design for the tunnel beneath Portage Bay and the deep tunnel stations in the University District, and assess the comparative cost and risks with alternative bridge or tunnel alignment solutions.
- B. Design refinement and value engineering studies designed to improve the project’s functionality and reduce costs.
- C. Review of third party agreements in light of the current budget and schedule and with an eye toward improving the project’s cost effectiveness.
- D. Studies to reach decisions on the efficacy of and strategies for completing the tunnel sections to a north portal.
- E. Resolution and then execution of the procurement method for final design and construction of the new tunnel sections of University Link.
- F. Review of strategies to manage surface bus traffic in the Seattle CBD once buses are no longer able to operate in the Downtown Seattle Transit Tunnel (DSTT)
- G. Prepare scope, cost, schedule for Airport Link through 2003.

In addition to the activities supporting University Link, staff recommends that some work continue on the design and limited property acquisition for Airport Link.

A. Alternatives for reducing tunnel risk

In parallel with the analysis of University Link design refinements and value engineering, examination of additional alignment options to assess the cost/risks associated with the Portage Bay tunnel and deep mined stations in the University District is suggested. This effort would proceed in consultation with the Technical Advisory Committee (TAC) to determine the specific alternatives to be explored and the scope of the analysis. While a number of specific options involving other Ship Canal crossing locations and means have been identified, it will be left to consultations with the TAC to provide a focus for and prioritization of any additional work in this area. A high-level bridge crossing is an example of the type of alternatives that might be examined. Any additional studies recommended by the TAC will include a

public outreach process to involve potentially affected communities as well as possible additional environmental review.

The generalized work program for this effort is shown on the attached work flow diagram. The overall objective is to reach a decision in time to support the parallel activity of negotiating either a design/build contract or procurement of a final design team for the tunnel segment of University Link.

Assessing North Tunnel Risk/Comparing Alternatives

2001												2002														
JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG							
◆	◆	<i>Define Options and Design Scope with Technical Advisory Committee</i>																								
	◆				<i>Engineering and Cost Analysis of Alternatives</i>																					
		◆			<i>Preliminary Environmental Analysis of Alternatives</i>																					
	◆											<i>Community Outreach</i>														
			◆	◆		<i>Third Party Reviews</i>																				
						◆	<i>Decision</i>																			

B. Design refinements/value engineering

During the next six months a number of design refinements and value engineering activities would be undertaken with the objective of identifying potential cost savings, reducing impacts and improving the functionality of University Link. The specific activities and scope of work will be developed in consultation with the newly constituted TAC. Examples of potential work activities include the following:

1. Nagle Place Capitol Hill Station and crossover

The current design for the Capitol Hill Station and crossover are separate cut-and-cover structures located under Broadway between East Thomas and East Howell Streets. Station entrances are located on the west side of Broadway at the intersections of East John and East Howell Streets. In order to mitigate impacts to traffic during construction, a permanent deck was to be erected in Broadway and the station excavation and construction was to occur beneath the deck. However, it is known that shifting the station and crossover location to the east beneath Nagle Place and parts of the adjoining properties can reduce both construction costs and impacts.

Changing the location of this station will require substantial work to select a preferred configuration and develop the engineering and architectural design to a level that it can be turned over to a final designer, whether in a design/build or a design/bid/construct procurement. The attached work flow diagram shows the proposed general steps required. In addition to the design, cost estimating and construction staging activities, a community outreach effort, environmental review and coordination with third parties will be required. The entire effort could take from nine to ten months to complete. A major issue will be minimizing any impacts to Lincoln Reservoir and Park, which is an historic landmark. Throughout the process staff would work closely with both the surrounding community and third parties to assure timely information flow and an assessment of options and impacts. (See Figure 1)

3. Eliminate conveyor and barging system at Pacific Street

The RFP documents identified tunnel spoils removal sites at both CPS in downtown Seattle and Pacific Street in the University District. While spoils would be removed by truck from CPS, a system of conveyors and barges was to be used at Pacific to reduce the impacts of trucks in the University District. Based on the pricing information provided by the prospective design/build contractors, the conveyor/barge system of spoils removal is projected to be more costly than trucking.

Depending on the resolution of construction staging strategies for the north tunnels and whether or not a north tunnel portal is included in the first phase, it may be possible to eliminate the need for tunnel spoils removal at Pacific Station. Even if spoils removal remains necessary at this location it may be possible to develop a less costly means of transport.

The work program to address this issue, as illustrated in the accompanying chart, will require both additional public outreach as well as third party discussions. The activities would occur following resolution of the other items that will feed this decision, including decisions regarding construction staging and whether a north tunnel portal will be included in the scope of University Link.

2001												2002							
JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG
Eliminate Conveyor and Barging System at Pacific Street																			
								◆◆	<i>Determine Construction Staging Area</i>										
								◆◆	<i>Cost Estimating</i>										
						◆		◆	<i>Third Party Reviews/Agreements</i>										
						◆		◆	<i>Community Outreach</i>										

4. First Hill and NE 45th Station refinements

The refinement of the designs for the First Hill and NE 45th Stations involves simplifying the configuration of the elevator shafts, concourse tunnels and connector tunnels between the concourse tunnels and platform tube tunnels. The current width of the station platforms (15 feet) will also be re-evaluated. The objective is to minimize the amount of shaft construction and mining of caverns without adversely impacting the functionality of the station, passenger comfort or fire/life safety requirements. Surface shafts will be maintained at the locations indicated in the RFP documents in order to preserve third party agreements. Ventilation concepts and requirements will essentially remain unchanged from those indicated in the RFP documents.

In addition to the engineering, architectural, mechanical and systems design activities, the attached work flow diagram also shows the public outreach efforts, as well as third party reviews and coordination that will be needed. As with the other refinements, the design must be developed to a level that then can be turned over to a final designer, whether using a design/build or a design/bid/construct procurement method. (See Figure 2)

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JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG
First Hill and NE 45th Station Refinement																			
◆	◆			<i>Civil, Structural, Architectural, Mechanical and Systems Conceptual Design</i>															
	◆			<i>Civil, Structural, Architectural, Mechanical and Systems Preliminary Engineering</i>															
◆	<i>Select Options to be Studied</i>																		
	◆	<i>Cost Estimating</i>																	
	◆	◆	<i>Fire/Life Safety Coordination</i>																
		◆	◆	<i>Third Party Reviews/Agreements</i>															
	◆	<i>Community Outreach</i>																	

5. Pacific Station and Crossover Refinement

The goal of refining the design of the Pacific Station and the crossovers north of the station is to eliminate the sequential excavation method (SEM) tunneling currently planned for the tunnels and crossover chambers between the Pacific and NE 45th Stations. Eliminating this SEM tunneling would allow the flexibility of constructing simple twin-tube tunnels using Tunnel Boring Machines (TBMs). In order to achieve this, the Pacific Station must be configured to accommodate twin-tube tunnels at the south end of the station and a scissors type double crossover north of the station. Initial plans suggest a single cavern station concept, with side platforms and a scissors type double crossover in a single cavern extension of the station.

Shaft locations at the surface will be maintained at the current locations indicated in the RFP documents in order to preserve third party agreements. This requires that the tunnel and station platform shift to the west to provide for connections between the shafts and station concourses/mezzanines. This alignment shift should also have the benefit of reducing the potential electro magnetic interference (EMI) and vibration impacts on the UW facilities in the vicinity of the Pacific Station. Ventilation concepts and requirements, while similar to those indicated in the RFP documents, would need to be re-analyzed based on the final configuration of the station and crossover chamber.

In addition to the engineering, architectural, mechanical and systems design activities, the attached work flow diagram also shows the new public outreach efforts, possible environmental review, as well as the required third party reviews and coordination that will be needed. As with the other possible changes, the design must be developed to a level that then can be turned over to a final designer, whether using a design/build or a design/bid/construct procurement method. (See Figure 3)

2001												2002							
JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG
Pacific Street Station and Crossover Refinement																			
◆ Civil, Structural, Architectural, Mechanical and Systems Design Conceptual Design																			
◆ Civil, Structural, Architectural, Mechanical and Systems Preliminary Design																			
◆ Select Options to be Studied																			
◆ Agreements on results of reanalysis of vibration and EMI impacts.																			
◆ Determine Construction Staging Area																			
◆ Cost Estimating																			
◆ Fire/Life Safety Coordination																			
◆ Environmental Process																			
◆ Third Party Reviews/Agreements																			
◆ Community Outreach																			

6. Selected deferral of Operations and Maintenance Base Facilities

The Central Operations and Maintenance (O & M) Facility will ultimately need to support the fleet of 100 light rail vehicles (LRVs) anticipated in 2020. Initially, however, the O & M Facility needs only to contain the facilities and infrastructure required to support a fleet of 40 LRVs. It may thus be possible to defer construction of up to eight storage tracks and the Maintenance-of-Way (MOW) Building. The maintenance, storage and office functions programmed for the MOW Building can be temporarily transferred into the Main Shop Building where they can be accommodated so long as the fleet remains at 40 cars. The work program for this element consists of a review of the earlier efforts and confirmation of the cost savings. This activity can be completed in a relatively short period of time and brought to the Board for consideration.

2001												2002							
JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG
Selected Deferral of Maintenance Base Facilities																			
◆◆ Civil, Structural, Architectural, Mechanical and Systems Design																			
◆◆ Cost Estimating																			

7. Deferral of elevators in deep tunnel stations

Current plans include four large elevators per shaft for the NE 45th and Pacific Stations and three per shaft at the First Hill Station, all of which would be operational at the start of revenue service. The elevators were sized based on full system build-out patronage levels, a condition that will not occur until well past the year 2020. The goals of this value engineering effort will be to re-assess the level of service criteria to determine if elevator sizes can be reduced, and determine if some elevators can be deferred based on near-term patronage estimates without adversely impacting functionality of the stations, passenger comfort or fire/life safety considerations.

The accompanying work flow diagram shows this effort to be a relatively simple six-week effort to identify possible savings. Assuming that no changes in design criteria will be made, the effort will not require additional public outreach or third party coordination efforts.

2001												2002							
JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG
Deferral of Elevators in Deep Tunnel Stations																			
◆		<i>Civil, Structural, Architectural, Mechanical and Systems Design</i>																	
◆◆			<i>Cost Estimating</i>																

8. Deferral of SR 520 vent shaft

The RFP documents call for construction of a combined traction power substation (TPSS), emergency fan facility and vent shaft in the SR 520 right of way southeast of the 10th Avenue East over crossing of the freeway. The facility is to be located below grade to minimize its view from an immediately adjacent private residence. The TPSS facility is required to provide track level power to the trains. However, the emergency ventilation fans would not be needed until headways between trains operating in the tunnels fall below four minutes. Based on ridership projections, this condition is not anticipated to occur prior to the year 2020.

The attached work flow diagram for this element shows an analysis effort to determine the feasibility of deferring the construction of the ventilation facility to a later date. If this is determined feasible, design documents will be modified to show a TPSS facility only but with provisions for the ventilation facility to be constructed at a later date. The design must take into consideration that future construction must be done without interrupting revenue service. In addition, it is anticipated that deferral of this ventilation facility may result in the need to alter the design of the ventilation systems at both Pacific and Capitol Hill Stations.

In addition to possible deferral of the vent shaft, design refinements could be explored to improve the constructability and reduce the cost of this facility.

The work flow diagram for this effort shows the role of additional environmental review, community outreach and third party discussions.

2001												2002							
JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG
Deferral of SR520 Vent Shaft																			
◆		<i>Civil, Structural, Architectural, Mechanical and Systems Conceptual Design</i>																	
◆			<i>Civil, Structural, Architectural, Mechanical and Systems Design</i>																
◆		<i>Decisions needed on Revised Location of Facility</i>																	
◆◆		<i>Determine Construction Staging Area</i>																	
◆			<i>Cost Estimating</i>																
◆◆		<i>Fire/Life Safety Coordination</i>																	
◆		<i>Environmental Process</i>																	
◆◆			<i>Third Party Reviews/Agreements</i>																
◆		<i>Community Outreach</i>																	

9. Value engineering review of deep tunnel fire/life safety enhancements

RFP documents include a number of fire/life safety provisions in the deep tunnel stations that were requested by the City of Seattle. While these provisions address legitimate safety concerns, they have resulted in costly increases in the size of the associated underground structures. It may be possible to meet the intent of many of these features and at the same time reduce the amount of underground construction.

The goal of the review of these fire/life safety provisions will be to minimize the size of the shafts and mined caverns without adversely impacting functionality of the station, passenger comfort or fire/life safety considerations. The attached work flow diagram shows the relationship of the design and cost estimating work to the third party review efforts. This effort is not anticipated to require any additional environmental or public outreach efforts.

2001												2002							
JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG
Value Engineering of Fire/Life Safety Enhancements																			
◆	◆																		
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10. Review of Station Architectural Finishes

The intent of this design review is to more fully define the architectural finishes and identify potential cost savings for the six new University Link stations prior to the completion of their design. This work element involves analyzing the current station designs and cost estimates, incorporating design refinements that are selected, and reviewing modifications with the City and community. In addition, any major changes in the NE 45th and Pacific Stations must also go through an additional design review process with the University of Washington.

2001												2002							
JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG
Review Station Architectural Finishes																			
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11. Minimize Cross Passage Mining

The goal of this task is to reduce the length and size of the crosspassages between the twin-tube tunnels. To accomplish this the alignment will need to be analyzed for possible modifications to minimize the distance between the twin-tube tunnels without adversely affecting train operations. Any resulting decrease in cross-section and length will reduce mining costs. This may also reduce subsurface easements required.

As shown in the attached work flow diagram this is a relatively simple and straightforward task and will probably not require any new environmental review, public outreach or third party coordination.

2001												2002							
JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG
Minimize Cross Passage Mining																			
◆	◆																		
	◆	◆																	

C. Review third party agreements and costs

The change in the project’s schedule and budget may require modifying or amending many of the project’s third party agreements (for example those with the City of Seattle, King County Metro, WSDOT and the University of Washington). In addition, possible outcomes from the design refinement and value engineering effort may also trigger the need for changes to these agreements. This also presents the opportunity to revisit a number of issues with an eye toward improving the project’s cost effectiveness.

2001												2002										
JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG			
Review Third Party Costs																						
	◆					◆																

D. Inclusion of north portal as part of University Link

The completion of the entire tunnel section from CPS to the ultimate north portal, located between NE 45th Street and Northgate, has engineering, construction and cost advantages for the completion of University Link and the eventual extension of the line northward if funding is provided for in later phases. Including a tunnel portal north of NE 45th Street will allow simultaneous construction of the tunnels from both the north and south. Spoils removal from the main tunnel work can occur at the two portals, thus eliminating the costs and impacts associated with removal at Pacific Street, as originally planned in the RFP documents. Adding a north portal will provide another means of access to the underground workings, benefiting all contractors. This will lower the risk to Sound Transit of potential delay claims from follow-on contractors should one of the tunnels become blocked. It may also reduce the overall cost of constructing the Pacific Station as well as the tunnel section between Pacific and 45th Stations. This occurs since it may no longer be necessary to launch tunnel boring machines from Pacific Station and allows the section to the north to be bored rather than mined.

In addition, depending on the final procurement method and construction staging strategies chosen to build the tunnel sections of University Link, completion of the tunnels to a north portal may ultimately reduce the cost of the Northgate extension for NE 45th to Northgate. Savings could be realized by reducing contractor mobilization and the procurement of additional tunnel boring machines.

However, additional design and environmental review, as well as community outreach and third party discussions, will be required to confirm these advantages and quantify the potential savings. In addition, the advantages of having a north portal for the University Link tunnel work are known to vary depending on the preferred alignment north of NE 45th Street and the related portal location. Finally, the Board has gone on record indicating intent to identify a Locally Preferred Alternative for the Northgate Extension by the end of spring of this year.

The attached work flow diagram illustrates the effort proposed to reach resolution of these issues for both the University Link tunnel construction, as well as the eventual extension of service to Northgate. The design effort could include additional engineering and architecture, construction staging and cost estimating to refine the initial assessments of advantages and disadvantages and support the environmental, community outreach and third party efforts. As shown the environmental process would be designed to support an eventual decision on both a preferred alignment for the extension and whether the north portal will be included in the University Link tunneling work. Finally, since no federal money is assumed to be available for tunneling work beyond NE 45th as part of University Link, an element of the work program must address funding options before the Board can make a final decision. Likely funding options include additional local and/or state monies or savings identified elsewhere in University Link through the parallel design refinement and value engineering studies.

North Tunnel Final Design and Construction Procurement

2001												2002												
JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG					
◆	◆	<i>Review and Analyze Strategies for Design and Construction Procurement</i>																						
	◆	<i>Report to Board on Procurement Strategy Intent</i>																						
<i>If Design/Build</i>																								
	◆			◆	<i>Negotiate Design/Build Contract</i>																			
					◆	<i>Contract to Finance Committee</i>																		
					◆	<i>Contract to Board for Approval</i>																		
						◆														▶ <i>Final Design and Tunnel Boring Machine Procurement</i>				
<i>If Design/Bid/Construct or Contingency</i>																								
	◆			◆	<i>Final Design Contract Procurement</i>																			
					◆	<i>Contract to Finance Committee</i>																		
					◆	<i>Contract to Board for Approval</i>																		
						◆														▶ <i>Final Design</i>				

F. Review of Seattle CBD bus volumes

Since 1998, Sound Transit, King County Metro, Community Transit and the City of Seattle have been working with the downtown stakeholders to develop a package of operational and physical improvements in downtown Seattle to accommodate all transportation needs during the tunnel retrofit and after light rail is operational. The final package of improvements is included in the Downtown Tunnel Transfer Agreement. The agreement also established a four agency Monitor and Maintain Committee to implement and manage the street improvements, develop standards, take on-going measurements and recommend strategies for balancing the needs of transit, autos, pedestrians and other users of the street system.

The work program for this effort will engage the Monitor and Maintain Committee in a review of ways to accommodate the most transit riders in the fewest number of buses during the closure of the DSTT for retrofit and after Link is operational. Specific tasks to be undertaken include the following:

- Engage the Monitor and Maintain Committee and their associated technical committees to review ways to accommodate the most transit riders in the fewest number of buses during the closure of the DSTT for retrofit and after Link is operational.
- Consider a wide range of alternatives including, but not limited to:
 - Re-evaluating growth assumptions
 - More aggressive truncation options both within the light rail corridor and in other areas of the transit systems.
 - Bus-rail transfer facilities at the north end of downtown, the International District Station and Lander Street
 - Other strategies
- Based upon the alternatives considered, develop a set of options for review by the governing bodies of the four agencies, the Downtown Stakeholders Group and other regional interest groups.
- Prepare an Implementation Plan for alternatives agreed upon by the four partner agencies.

Review of Seattle CBD Bus Volumes

2001												2002									
JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG		
◆		<i>Engage Monitor and Maintain Committee</i>																			
◆		◆			<i>Consider Alternatives</i>																
		◆		◆		<i>Develop Options for Outreach</i>															
				◆		◆		<i>Prepare Modified Plan</i>													

G. Airport Link work program

Rescheduling the start of revenue service for Link until the fall of 2009, has implications for the Airport Link elements of the project from the Maintenance Base to South 200th Street in Seatac. This portion of the Link project is approximately 12.9 miles in length, and includes 1.1 miles of tunnel under Beacon Hill in Seattle, 5.8 miles of at-grade median running operations in Seattle and Tukwila, and 6 miles of elevated operations. It includes a total of nine initial stations and two additional stations whose completion is to be deferred until additional funding can be found for its completion.

The implications of the delay in the start of service until 2009 on Beacon Hill, the Rainier Valley, Tukwila and Seatac will be assessed, and appropriate activities that should continue without delay will be identified and pursued. To accomplish this, staff will prepare a work plan with recommendations for continuation or initiation of key activities in the Airport Link portion of the project. The work plan will include detailed scope, schedule, and budget and will be presented to the Board for consideration in February 2001.

Factors to be addressed in the work plan include: affordability; design implications; community expectations; environmental considerations; property acquisition and relocation; participation of project partners; agency costs; coordination with other projects; and, our ability to manage the effort.

The Airport Link Work Plan will identify the unique needs of each portion of the light rail line from the maintenance base to South 200th Street in Seatac, with a focus on the 2001-2003 timeframe. The objective is to define the level of effort and specific tasks that should be undertaken in light of the revised project schedule.

Proceeding with the Airport Link Work Plan will be predicated upon the following assumptions:

- The Airport Link portion of the project will proceed as defined by the Sound Transit Board;
- Federal funding participation for the Airport Link will occur; when Congress reauthorizes the project in 2003
- Local revenues are sufficient and available to fund activities in 2001, 2002 and 2003.
- Sound Transit is confident that Airport Link construction will be completed in this decade.

The work plan will describe how Sound Transit will proceed with key project activities that allow for:

- Appropriate design in key segments to define right-of-way needs;
- The identification of properties for acquisition;
- The pursuit of protective and hardship property acquisitions;
- Design sufficient to allow local jurisdictions to condition private development; and
- Proceeding with Community Development Fund activities in the Rainier Valley.

Specific Work Plan Tasks will include the following, with a focus on the 2001-2003 timeframe:

- The level of effort the agency can afford to maintain in the Airport Link portion of the project;
- Determination of the additional effort needed for each portion of Airport Link;
- Total costs for these needed activities;
- Community and partner expectations; and,
- Scope, schedule, and budget for the identified activities.

A proposed schedule for design and construction activities for Airport Link was presented in the December 14, 2000 Central Link Board Briefing Book. The Airport Link work program will include recommendations that would augment this schedule to reflect continuation or initiation of key activities in the 2001-2003 timeframe.

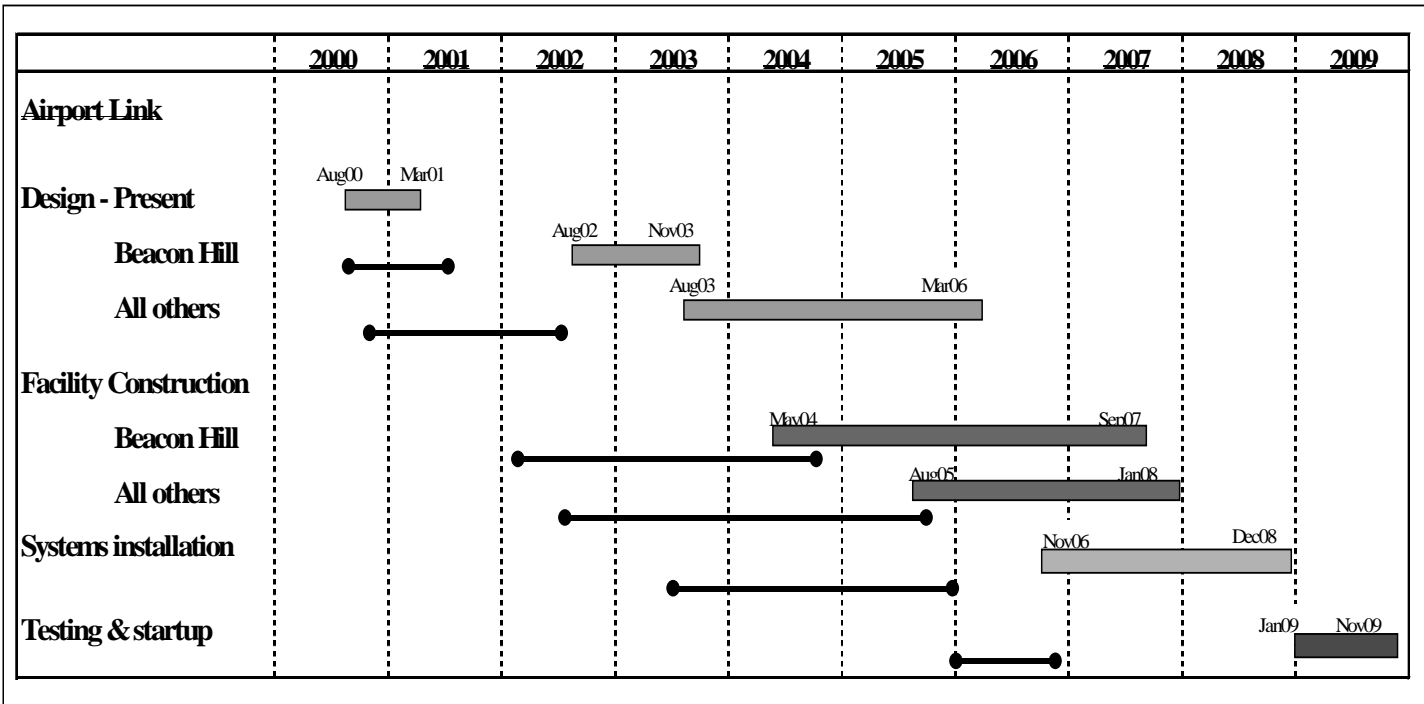
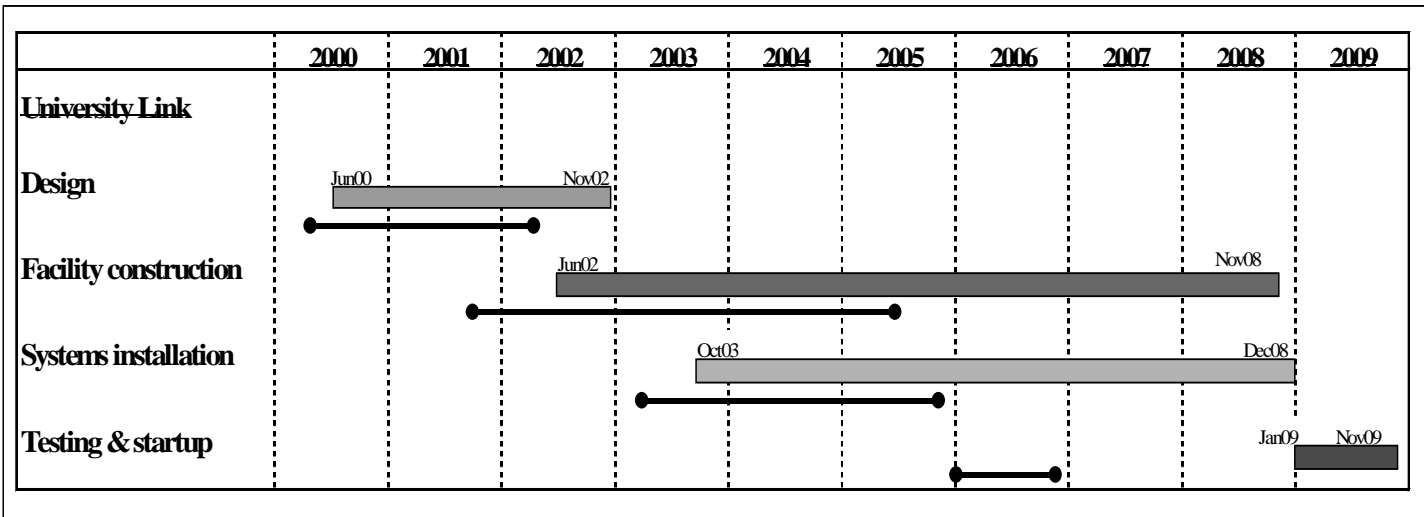
The budget to implement the work plan of approximately \$130m will be confirmed, and an allocation of costs will be made to the following major cost categories:

- Final design contracts;
- Agency Costs
- Right of Way acquisition
- Third Party Costs

The Airport Link work plan timed for the February 9, 2001 board meeting will propose a mechanism for addressing these issues. For example, in the area of property acquisition, criteria will be needed to determine the appropriateness of any early property acquisition activities.

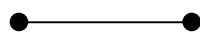
Proposed changes to schedule

New balanced baseline schedule - Central Link light rail project



Key

Original schedule



Proposed schedule



I. Central Link work program draft Board agenda

February 2001

- TAC Review Topics
 - Alignments to be studied to reduce tunnel risk
 - Tunnel design and procurement methods
 - Capitol Hill Station alternatives for further study
 - Deferral of maintenance base facilities
 - Deferral of elevators in deep stations
 - Alternatives to be studied for SR 520 Vent Shaft
- Staff briefing on status of Seattle CBD bus volume review
- Finance Committee demonstration of financial/project management system
- Year-end 2000 budget reports
- Risk Management Performance Audit
- Board communications strategies
- Airport Link workplan
- **ACTION:** 2001 Link Budget Amendment

March 2001

- TAC Review Topics
 - Alternatives for Inclusion of North Portal
 - CPS alignment change alternatives
 - Value engineering of fire/life safety enhancements
 - Alignment changes to reduce cross passage mining
- Staff briefing on status of review of third party agreements
- Review/outcomes of organizational changes
- Agency overhead audit report
- Financial A133 Federal Audit and Subarea Report

April 2001

- TAC Review Topics
 - Capitol Hill Station referred alternative
 - Design changes to First Hill Station
 - Design changes to NE 45th Station
 - Design changes to Pacific Station
- Staff briefing on status of Seattle CBD bus volume review
- (Tentative) report on Project Control Consultant recommendations
- Resolution of accounting for Community Development Fund

May 2001

- TAC Review Topics
 - Inclusion of North Portal
 - Alignments to reduce risk
- Staff briefing on status of tunnel contract negotiations (if applicable)

June 2001

- TAC Review Topics
 - Alignments to reduce risk
 - Design changes to First Hill Station
 - Design changes to NE 45th Station
 - Review of architectural finishes
- **ACTION:** Approve North Tunnel section design/build or final design contract
- **ACTION:** Identify LPA for Northgate Extension

July 2001

- TAC Review Topics
 - Capitol Hill Station
 - CPS alignment change
 - Design of Pacific Station
 - SR-520 Vent Shaft
- **ACTION:** Resolution on further analysis of alignments to reduce risk (if applicable)
- **ACTION:** Recommendations on review of Seattle CBD bus volumes
- **ACTION:** Approve of third party agreement amendments (if applicable)

August 2001

- TAC Review Topics
 - Agenda to be determined
- **ACTION:** Resolution adopting location and configuration of Capitol Hill Station
- **ACTION:** Approve third party agreement amendments (if applicable)

September 2001

- TAC Review Topics
 - Barging of Spoils at Pacific Station
- **ACTION:** Approve third party agreement amendments (if applicable)

October 2001

- TAC Review Topics
 - Agenda to be determined
- **ACTION:** Adopt Final LPA for Northgate Extension
- **ACTION:** Resolution adding North Portal to University Link (if applicable)
- **ACTION:** Adopt Revised LPA (if applicable)
- **ACTION:** Approve contract amendments to reflect changes to University Link (if applicable)
- **ACTION:** Approve third party agreement amendments (if applicable)