SOUND TRANSIT

MOTION NO. M98-60

Design Issues
Link Light Rail Urban Design Components,
Guideway and Station Design

BACKGROUND AND COMMENTS

Meeting:	Date:	Type of Action:	Staff Contact:	Phone:
Board	7/23/98	Discussion	Paul Bay, Director, Link Light Rail	206-689-4761
Executive Committee	8/21/98	Action to recommend Board approval (Meeting Cancelled)		
Board	8/27/98	Action		

ACTION:

The adoption of Motion No. M98-60 is being requested of the Board at this time for design issues specific to the Link Light Rail system. These include Urban Design Components, Guideway and Station Design issues. Light Rail vehicle design criteria will also need to be addressed and will be done separately from this motion. Many additional design issues pertain to all three lines of business: Link Light Rail, Regional Express and Commuter Rail. The items of commonality are being addressed in separate discussions with the Board.

BACKGROUND:

In order to continue with conceptual and preliminary engineering, design criteria need to be established. These design criteria will set the standard for how Sound Transit will proceed with design and construction of the system by creating a basis for the engineers, architects and designers.

STAFF RECOMMENDATIONS FOR AUGUST 21, 1998 EXECUTIVE COMMITTEE

This following material contains staff recommendations for Architectural Expression of the stations, Vertical/ Horizontal Circulation, Guideway Architecture and Streetscape issues. In addition to specific recommendations, herein, we also recognize and are sensitive to the issue of "fairness" of design; that one community is not treated any differently than another based on relative influence or wealth. We have used the term equity in the text of this document to address that awareness. It is our intention that all elements of the Link Light Rail system be consistent and provide a high degree of quality overall.

Architectural Expression

There are three basic approaches to station design. One approach has an individual expression for each station, another applies a unified system-wide design concept, and the third is to provide a balanced approach with some elements of continuity and some of differentiation.

Sound Transit shall provide a balanced approach to station design, allowing station organization and selected functional elements to be standardized, yet also allowing designs to be individualized and responsive to the diversity of their surroundings. The spatial organization of stations shall be as consistent and clear to the users as possible, recognizing the site-specific requirements of individual types of stations, as in at-grade facilities.

System-wide equipment, such as fare-vending machines, elevators and escalators, shall be standardized in order to promote cost effectiveness for initial construction and maintenance costs. Emergency and security equipment should also be considered as standardized system-wide elements. In addition, the platform edge and safety zone shall be consistent throughout all Light Rail stations to minimize safety issues.

Sound Transit shall develop families of parts or materials, including performance criteria, and for other station components such as lighting, trash receptacles, seating, railings, finish materials and landscaping. These families of materials can be used to establish repetitive themes, while allowing flexibility of other elements. The regional image may be exploited in one instance, while another element may be echoed as a community theme for more than one station, such as lighting.

Light Rail signing and graphics will follow the Sound Transit system-wide signage program currently in development. Where additional situations warrant more extensive signing, such as aerial and tunnel stations, the Light Rail signage system shall build on the Sound Transit program by echoing the criteria that will be established.

Vertical/Horizontal Circulation

The Link Light Rail system will include at-grade, subway, and aerial stations--the latter two of which will require stairs, ramps, escalators and elevators to facilitate patron movement. The design of these pedestrian circulation elements and associated spaces will require that a set of performance standards and design criteria be established. These criteria will, in part, be based on code requirements, ADA requirements, patronage characteristics and established transit planning practices.

To facilitate the continuation of work on individual station design concepts, preliminary criteria are required for certain vertical circulation elements in grade separated stations, particularly escalators. In some stations, it will be beneficial to have longer runs of escalators, as well as elevators, in order to connect patrons from further away, thereby expanding the station further into the community. The following criteria are primarily based on vertical height change. However, higher patronage of a station may warrant an increased level of vertical circulation. Stations with patronage exceeding 5,000 to 6,000 people a day, regardless of vertical height change, may require additional stairs or escalators to accommodate moving people more expeditiously. The Seattle Bus Tunnel provides escalators in the up direction only and currently serves between 5,000 and 15,000 patrons a day.

- Where the vertical rise between public circulation levels is 12 feet or less, stairs and ramps should be the primary vertical circulation elements, unless high patron volumes warrant the use of escalators.

- Where the vertical rise between public levels exceeds 12 feet but does not exceed 25 feet, vertical circulation shall be provided with elevators, stairs and escalators in the up direction only, unless high patron volumes warrant otherwise.
- In addition to elevators and stairs, escalators should be provided in both directions when the vertical rise exceeds 25 feet and in heavily patronized stations. Where the depth of the subway station exceeds 120 feet from entry level to platform level, high-speed elevators shall be the primary means of vertical transportation.

Guideway Architecture

Guideway architecture consists of at-grade and aerial alignments. Tunnel segments will be utilitarian and therefore not addressed as guideway architecture. Both aerial and at-grade situations will raise urban design and aesthetic considerations in selected environs. All guideway architecture shall integrate with the community and neighborhood character, enhance the street as an amenity, and provide human scale. Design of these elements shall consider not only existing conditions, but shall recognize adopted community/neighborhood plans for the future. In addition, the Sound Transit public art process will be an essential part of the design and development of all guideway architecture.

At-Grade Architecture

At-grade alignments will require trackway to be integrated into the local surroundings. This trackway shall be responsive to the streetscape, consistent with the neighborhood context, cost effective and equitable throughout all alignments. Selection of appropriate materials, such as landscaping and paving, shall conform to Sound Transit's developed family of materials and coordinate with local jurisdiction requirements.

Aerial Guideway

Aerial guideway and the supporting structure shall be appropriately scaled and adaptable to a variety of contextual situations, particularly pedestrian-oriented urban environments. A basic aerial guideway architectural concept should adapt to the local communities while retaining a regional distinct "signature". The guideway shall be developed to be structurally efficient and cost effective.

Overhead Contact System (OCS)

The Link Light Rail system will utilize an overhead power distribution system for vehicle power. The poles and hardware of this system shall be responsive to urban design and aesthetic considerations. For all locations, cost-effective designs should be developed for the OCS, which are in character and scale with their immediate environs. Where possible, the joint use of poles for OCS, street lighting and signing should be pursued. The Sound Transit public art process will also be an integral part of the design and development of the OCS.

Streetscape

Streetscape design shall be in character with the community, developed in conjunction with local agencies and their adopted neighborhood plans and equitable throughout the entire Link system. Sound Transit recognizes the need to develop stations as part of a larger community environment. However, clear direction needs to be provided to engineers and architects in order

to determine the limits of Link Light Rail station and alignment improvements and surrounding neighborhood or streetscape development.

Design and construction of light rail facilities shall be limited to required improvements to operate the transit system, the confines of the right of way disturbed by construction of the system and to provide ample pedestrian access from adjacent streets. Whenever possible, connections will be made to other adjacent transit facilities. Improvements beyond the scope of providing transit related facilities will be considered as joint improvements with local jurisdictions, when in the public right of way, and with local developers or communities in private property areas.

These items will be coordinated into the overall Design Criteria Manual for Link Light Rail Transit Project that is currently in draft form. The conceptual design of the Link Light Rail is scheduled for completion by the end of 1998 with preliminary engineering to be complete by December 1999.

RELEVANT BOARD POLICIES AND PREVIOUS ACTIONS TAKEN:

- Adoption of *Sound Move*, The Ten-Year Regional Transit System Plan (May 31, 1996)
- Adoption of Fiscal Year 1998 Budget (December 11, 1997)
- Resolution No. 98-3 (January 22, 1998)

KEY FEATURES:

Staff recommendations for the establishment of design criteria to be used in the design of the Link Light Rail system, stations and urban design components.

ALTERNATIVES:

The following alternatives would be available for Board action:

1. Adopt the design policy issues as presented after discussion of all material.
2. Adopt a portion of the design policy issues to allow design work to continue with specific items listed as needing further review and/or discussion.

CONSEQUENCES OF DELAY:

Agreement on the design criteria is essential to continue conceptual design phase on the Link Light Rail System. Delay in conceptual design will adversely affect the facility design schedule, thereby negatively affecting the overall construction schedule. Schedules are aggressive to meet operational dates as adopted by Sound Move and do not allow much flexibility.

Attachment

SOUND TRANSIT

MOTION NO. M98-60

A motion of the Board of the Central Puget Sound Regional Transit Authority to establish policy for Link Light Rail design issues.

Background:

In order to continue with conceptual and preliminary engineering, design criteria need to be established. These design criteria will set the standard for how Sound Transit will proceed with design and construction of the system by creating a basis for the engineers, architects and designers. This motion presents policy issues for Architectural Expression of the stations, Vertical/ Horizontal Circulation, Guideway Architecture and Streetscape issues. After policy decisions are determined, specific design criteria will be drafted for designing and developing Sound Transit facilities.

Motion:

The Board of the Central Puget Sound hereby moves that the Regional Transit Authority adopt the following items as policy for Link Light Rail design criteria:

A. Architectural Expression

With respect to the architectural expression of stations, Sound Transit shall:

- provide a balanced approach to station design, allowing station organization and selected functional elements to be standardized, yet also allowing designs to be responsive to the diversity of their immediate environs
- organize stations to be consistent and clear to the users recognizing the site-specific requirements of individual types of stations, as in at-grade facilities
- standardize system-wide equipment, such as fare-vending machines, elevators and escalators, emergency and security equipment, in order to promote cost effectiveness for initial construction and long term maintenance costs
- standardize the platform edge and safety zone to minimize safety issues
- develop families of parts or materials and performance criteria for other station components, such as lighting, trash receptacles, seating, railings, finish materials and landscaping
- follow the Sound Transit system-wide signage program currently in development, and the Light Rail system shall modify the overall Sound Transit signage program in unique Light Rail situations, such as aerial and tunnel stations
- pursue a thorough and ongoing neighborhood involvement process in order to respond to the neighborhood context, goals and principles, recognizing that those may be broadly and creatively addressed through station programming and design

B. Vertical/Horizontal Circulation

With respect to vertical and horizontal circulation, Sound Transit shall:

- establish performance standards and design criteria for pedestrian circulation elements and associated spaces based on code requirements, ADA requirements, patronage characteristics and established transit planning practices
- provide stairs and ramps as the primary vertical circulation elements where the vertical rise between public circulation levels is 12 feet or less, unless high patron volumes warrant the use of escalators (over 5,000 patrons a day)
- provide a combination of stairs, elevators and escalators in the up direction only where the vertical rise between public levels exceeds 12 feet but does not exceed 25 feet, unless high patron volumes warrant otherwise (over 5,000 patrons a day)
- provide escalators in both directions, in addition to elevators and stairs, when the vertical rise exceeds 25 feet and in heavily patronized stations (over 5,000 patrons a day)
- provide high-speed elevators as the primary means of vertical transportation where the depth of the subway station exceeds 120 feet from entry level to platform level

C. Guideway Architecture

With respect to guideway architecture, Sound Transit shall:

- integrate with the community and neighborhood character
- enhance the street as an amenity and provide human scale (see Streetscape below)
- consider not only existing conditions, but shall recognize adopted community/neighborhood plans for the future
- integrate the public art process into the design and development of all guideway architecture
- address tunnel segments as guideway architecture rather than solely utilitarian components

<u>At-Grade Architecture</u>

- be responsive to the streetscape and consistent with the neighborhood context
- develop cost effective improvements that are equitable throughout all alignments
- select appropriate materials that conform to Sound Transit's developed family of materials, such as landscaping and paving

<u>Aerial Guideway</u>

- develop aerial guideway architecture that is responsive to scale and character of the neighborhood
- develop structurally efficient, cost effective guideways
- be adaptable to a variety of contextual situations while having a distinct "signature"

D. Overhead Contact System (OCS)

With respect to overhead contact system, Sound Transit shall:

- consider urban design and aesthetic considerations of poles and hardware
- develop OCS which are in character and scale with their immediate environs
- pursue the joint use of poles for OCS, street lighting and signing
- integrate the public art process in design and development
- develop cost-effective designs

E. Streetscape

With respect to streetscape, Sound Transit shall:

- design in character with the community and recognize the need to develop stations as part of a larger community environment
- develop in conjunction with local agencies and their adopted neighborhood plans
- improve areas equitably throughout the entire Link system
- limit improvements to those required for operations of the transit system and to the confines of the right of way disturbed by construction of the system
- provide ample pedestrian access from adjacent streets
- provide connections to other adjacent transit facilities, whenever possible
- improve areas beyond the scope of transit related facilities as joint improvements with local jurisdictions, when in the public right of way, and with local developers or communities in private property areas
- work with local public transportation agencies, communities and local governments to include making improvements within one-half mile of each station for safe, easy transit, pedestrian and bicycle access as outlined in Sound Move

Adopted by the Board of the Central Puget Sound Regional Transit Authority at a regular meeting thereof on the 27th of August, 1998.

Paul E. Miller

Paul Miller
Board Chair

ATTEST:

Marcia Walker

Marcia Walker
Board Administrator