

# ***Sound Move***

**Launching a Rapid Transit System  
for the Puget Sound Region**

*Appendix D: Sound Move impacts, system  
performance and framework for integration  
with land-use planning*

*The Ten-Year  
Regional Transit  
System Plan*

As adopted May 31, 1996

## Contents

### **Environmental, social and economic impacts**

Environmental impacts . . . . .	1
Social impacts . . . . .	2
Economic impacts . . . . .	3

### **System performance characteristics**

Regional express bus services . . . . .	4
Commuter rail . . . . .	4
Electric light rail . . . . .	5

### **Framework for integrating regional transit system and land use**

Regional-level coordination . . . . .	6
Corridor-level coordination . . . . .	7
Community-level coordination . . . . .	7

## Environmental, social and economic impacts

### **Environmental impacts**

In 1993, the Joint Regional Policy Committee (JRPC) prepared an environmental impact statement for their Regional Transit System Plan. That document also describes the environmental impacts of the Central Puget Sound Regional Transit Authority's Ten-Year Regional Transit System Plan.

The EIS contains an extensive analysis of environmental impacts, and a description of the relationship between the high-capacity transit system and adopted land-use plans. The EIS also identifies other environmental impacts such as air quality, ecosystems, energy, visual quality, transportation, land use, utilities and parks and recreation. These impacts are described in more detail in technical reports prepared as background for the EIS, particularly *Land use, Growth Management and Station Area Planning* (BRW, 1991).

The EIS describes the relationship between the regional transit system plan and adopted land-use plans. In particular, the EIS discusses how the plan supports regional growth management planning. Successful growth management planning can reduce the automobile use growth rate, create more pedestrian-friendly environments in urban centers, reduce the suburban sprawl growth rate, and preserve open space and environmentally sensitive areas, particularly on the urban fringe.

Although the EIS makes it clear that the regional transit system alone will not be sufficient to bring about these beneficial results, it also makes it clear that an integrated high-capacity transit system is one of the elements critical to successful regional growth management.

Sound Move environmental impacts fall within the range of alternatives and environmental impacts examined in the JRPC environmental analysis. Sound Move is a subset of the JRPC-adopted system plan and is covered by the existing system plan EIS. Because the range of alternatives and impacts of Sound Move are addressed in the JRPC environmental analysis, a supplemental EIS is not required. The RTA adopted the JRPC's EIS as appropriate for Sound Move after independent review.

Since the JRPC issued its EIS in 1993, the Puget Sound Regional Council (PSRC) developed and adopted its Metropolitan Transportation Plan (MTP), and issued an EIS in 1995. The MTP is the region's long range transportation plan, satisfying Intermodal Surface Transportation Efficiency Act (ISTEA) requirements. MTP elements include completing the state Transportation Department's core HOV lane system. Since the information included in the PSRC's MTP environmental analysis is more current and, in some respects, more detailed than the JRPC system plan EIS (it addresses the previously adopted RTA Master Plan, elements of the proposed ten-year plan and long-range vision, and the state Transportation Department HOV lane system for central Puget Sound), the RTA also adopted the MTP EIS.

The state Environmental Policy Act permits agencies to use environmental documents that have been previously prepared to evaluate proposed actions, alternatives or environmental impacts. The proposals may be the same as or different from those analyzed in the existing document. The RTA adopted both the JRPC's System Plan EIS and the PSRC's MTP EIS pursuant to SEPA, and notice of this adoption was issued on May 22, 1996.

### **Social impacts**

The JRPC environmental analysis shows that the most significant social impacts of the plan are increased accessibility for the region's transit-dependent populations in the region. This determination is based on the analysis included in the *Accessibility of Transit-Dependent Populations* report (BRW, 1992). The EIS showed that transit riders' accessibility would be significantly improved by the increased speed and reliability of transit and the increase in service.

Accessibility would increase particularly for the low-income populations of the International District and the Rainier Valley. Transit travel times to employment centers outside Seattle from low income areas in Seattle, Everett, and Tacoma would decrease and more transit would become more reliable. More employment centers would become reasonably and regionally accessible by transit.

The EIS also shows that the regional transit system would be significantly expanded, substantially increasing accessibility for transit-dependent groups such as the elderly and disabled throughout the region. The regional transit system would also reduce automobile dependence for the general population. Refinements to the plan made since the EIS was published will also increase accessibility. These refinements include providing an integrated fare structure.

Other plan social impacts include support for the urban centers developed in VISION 2020 and related county and local government comprehensive plans in the region. While the urban centers concept was developed primarily to reduce traffic congestion and air pollution growth, it also has potentially beneficial social impacts in promoting pedestrian-oriented neighborhoods throughout the region, which in turn will increase social contacts within communities and strengthen community spirit.

### **Economic impacts**

The plan's regional economic impacts described in the JRPC EIS are based primarily on the analysis in the *Rail Construction Employment and Income Impact Assessment* (Parsons/Kaiser, December 1992). This analysis showed a net economic benefit to the region from the inflow of federal funds to build the proposed system.

Response to comments on the EIS indicate that, due to the jobs and income generated during construction, the proposed system would indirectly have a beneficial impact on the tax revenues available to local governments. The increased tax revenue would be reflected indirectly through an increased debt capacity for local governments, as well as through greater capacity to fund projects and programs with cash.

The EIS analysis also indicates that adding people-moving capacity in currently congested urban centers would help to stimulate new development in these areas and could also reduce commercial traffic costs.

Refer to the *Economic benefits, system use and transportation impacts of the RTA ten-year system plan* appendix for information about the economic impacts of the proposed plan.

## System performance characteristics

### Regional express bus services

Regional express bus services are high-speed routes that operate in both directions throughout the day. These routes would operate primarily on existing, heavily traveled, state and federal Interstate highway corridors using HOV lanes and major arterials with necessary improvements to maintain travel speeds and reliability consistent with Sound Move. These corridors would provide substantially higher passenger capacity, speed and service frequency than existing service. The routes would be provided in corridors without rail service, or in corridors where rail is planned (to help build a strong transit market before the rail line is in place).

When the rail system is extended along corridors served by regional bus, the bus route may be eliminated to avoid duplicating service.

#### **Regional express bus route characteristics:**

- serves a major travel corridor directly
- operates all day, every day
- runs frequently, generally with 15 minute, two-way service
- operates at reasonably high speeds, generally averaging 18 to 20 m.p.h. (with stops), using HOV lanes and other systems giving priority to transit such as signal preemption when available
- connects two or more of the designated VISION 2020 urban centers

- crosses city or county boundaries, and carries a significant portion of passengers traveling between jurisdictions
- provides connections to commuter rail, light rail, ferries, other regional express buses, and local service networks.

By providing a link between the regional rail system and local bus service, the regional express bus system will play a key role in helping develop and enhance both regional and local transit markets and providing connections to and between urban and regional activity centers.

### Commuter rail

The regional rail system vision includes commuter rail service between Lakewood, Tacoma, Seattle and Everett, that will begin operations within four years of locally committed funding. This service would operate on existing railroad rights-of-way initially using diesel-powered locomotives and two-level commuter cars.

The RTA will work with the railroads, potential bidders, major private sector employers along the proposed route and federal, state and local agencies, to develop a funding package to put the line in place. The RTA will also continue to work in a coalition with the ports, state Transportation Department and other partners to seek additional state and federal funds for the project.

The commuter rail system is expected to include the following general characteristics.

#### **Commuter rail characteristics:**

- maximum speed - 79 m.p.h.
- average speed - 35 m.p.h.
- frequency (service will be structured to avoid affecting freight movement):
  - nine trains each peak-use period (morning and evening) between Seattle and Lakewood
  - six trains each peak-use period between Seattle and Everett
- power source - Initially diesel/electric, with ability to convert to alternative fuels or all-electric in future
- train capacity - 3 to 10 car trains with capacity for 450 to 1,500 passengers
- peak-hour, peak direction capacity - 6,000 maximum
- station spacing - About 4 to 5 miles, closer in high employment centers
- right-of-way: railroad tracks shared with freight, signalized grade crossings
- implementation - Implementation of service and related capital investments will be developed along with a procurement process and negotiated agreement.

These characteristics are based on current rail technologies. The RTA will evaluate emerging rail technologies while developing each phasing package.

### Electric light rail

The regional rail system technologies will generally have the following design and performance characteristics to achieve the system objectives to the greatest extent feasible.

#### **Electric light-rail characteristics:**

- maximum speed — at least 55-65 m.p.h.
- average speed — 25-35 m.p.h.
- frequency — every 6 to 15 minutes.
- power source — electricity
- train capacity — 4-6 car train, at 125/car, or 500-750 passengers
- facility capacity — 22,000 per hour, per direction
- service capacity — 6,000-11,000 per hour, per direction
- station spacing — 1 to 2 miles on average, closer in high transit volume areas
- right-of-way — exclusive grade-separated and surface alignments, separated from traffic, with priority given with signals at grade crossings and intersections.
- alignments — connect directly to centers and maximize pedestrian and transit access.

## Framework for integrating regional transit system and land use

Land-use planning that supports transit is critical to the success of the regional transit system. The transit system and local growth management plans are consistent with each other and meet state GMA guidelines. Implementation schedules also require local jurisdiction cooperation. Because local jurisdictions have direct land-use authority, partnerships must be established to make sure that land-use planning efforts and transit service investments support each other.

The RTA's enabling legislation requires the authority to favor cities and counties with supportive land-use plans when implementing its programs. In addition, the RTA is obligated, in cooperation with public and private interests, to promote transit-compatible land uses and development that includes joint development.

A clearly defined process for coordinating land-use planning and regional transit development should be jointly developed by the RTA, the PSRC, the state Transportation Department, counties, local public transportation agencies, and local jurisdictions within the three-county area.

The following three-level structure - Regional, Corridor, and Community - is recommended as a framework for developing this process.

### Regional-level coordination

The VISION 2020 growth and transportation strategy and the subsequent adopted Metropolitan Transportation Plan (MTP) provide the broad regional framework to develop the regional transit system plan. Regional guidance needs to continue to make sure that future transit decisions, such as specific station locations and alignments, and future local development decisions, such as station area land-uses and densities, are consistent with VISION 2020, the MTP and other regional plans.

Coordination on the regional level will allow local jurisdictions, the state Transportation Department, PSRC, local transit operators, and the public to work with the RTA to:

- develop a process to preserve right-of-way for regional transit facilities
- establish transit service standards and transit-supportive guidelines for regionally designated centers
- establish regionally consistent policies for land-uses and densities commensurate with the level and type of transit station investment
- monitor the development of the regional transit system and land-use policies to make sure the regional growth and transportation strategy is achieved.

The RTA will work together with the PSRC and local jurisdictions to assess local jurisdictions' progress in meeting the VISION 2020 growth management objectives.

### Corridor-level coordination

Corridor-level coordination will be important as the RTA and local jurisdictions work on the more detailed aspects of implementing the regional transit system. Planning will be focused along specific segments of each corridor to evaluate potential transit alignments, station locations, and other transit-related facilities based on guidance established through regional-level coordination

Corridor-level coordination will provide the RTA the opportunity to work closely with counties, local jurisdictions, local communities, public transportation agencies and the state to:

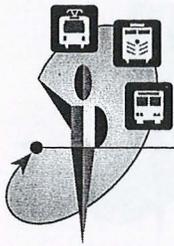
- jointly determine rail station locations and the specific alignments that link rail stations
- establish how priority investments in transit facilities can support jurisdictions that adopt land-use policies that support transit
- define the role of each station based on both local plans and goals and the requirements of regional growth management goals and the regional transit system
- determine the appropriate supporting facilities and services for each station based on its defined role within the corridor.

Corridor-level coordination will ensure that the transit services and local impacts of those services are distributed in a way that is acceptable to the communities along regional transit corridors.

### Community-level coordination

Building on regional and corridor-level coordination efforts, community-level planning will enable local jurisdictions to establish an ongoing working relationship with the RTA and local public transportation agencies to:

- evaluate station facility plans for compatibility with local plans to make sure that the station "fits" within the local community
- balance local land-use and transportation planning needs with the regional transit responsibilities of the RTA
- involve local government and citizens in designing rail stations that make attractive and functional additions to the surrounding community
- pursue joint development opportunities at transit facilities and in surrounding areas as appropriate to support increased transit use and community objectives.



## Framework for integrating regional transit system and land use

Recognizing that different types of station facilities are appropriate for different types of station areas, the RTA will work with local jurisdictions and local transit operators to develop a set of minimum development standards for each type of station facility. These minimum standards will include pedestrian- and transit-friendly design standards, zoning provisions, access and circulation in and around station areas; and should consider at least:

- desired joint development opportunities and densities within station right-of-way
- urban design
- parking policies
- non-motorized access
- motorized access (with HOV priority)
- projected ridership volumes.

These standards will be used by the RTA to help define the characteristics of each station and establish any financial support it might provide to local jurisdictions for station area improvements.

**Sound Move — the Ten-Year Regional  
Transit System Plan**

Sound Transit  
The Central Puget Sound Regional  
Transit Authority  
Union Station  
401 S. Jackson St.  
Seattle, Washington 98104-2826  
E-mail: [main@soundtransit.org](mailto:main@soundtransit.org)  
800-201-4900

Information presented in the ten-year  
system plan is provided by Sound  
Transit to inform citizens and may be  
reproduced freely.

This information is available in  
accessible formats on request at  
800-201-4900 or (206) 398-5014 TTY.  
Sound Transit information is also  
available through the Worldwide Web  
at [www.soundtransit.org](http://www.soundtransit.org).



**SOUNDTRANSIT**