Urban Rail Feasibility Study Eugene-Springfield Area
Final Report Executive Summary
July 1995

Introduction

The Urban Rail Feasibility Study, conducted by Lane council of Governments (LCOG), in cooperation with the Oregon Department of Transportation (ODOT), defined the type of rail system that could be constructed at a conceptual level, identified when a rail system for Eugene/Springfield would be feasible based on cost and ridership estimates, and identified actions that could be taken now to make rail a success in the future.

A citizen advisory committee, formed as a subcommittee of the *TransPlan* update public involvement effort, directed this study by selecting the rail technology, evaluation criteria, and potential corridors for urban rail. The committee has also reviewed the analysis and recommendations for this study. This summary reviews the key assumptions that have been made in this feasibility study and presents the recommendations.

Rail Technology

Based on a review of the capacity, right-of-way requirements and costs of alternative rail technologies the Committee selected light rail transit (LRT) as the technology for consideration this study. Some of the advantages of LRT over alternative technologies, such heavy rail or automated Group Transit (AGT), for the Eugene/Springfield area are its flexibility to operate in lanes shared with traffic in different right-of-way configurations and its potential lower costs. It can also operate as a streetcar, serving local trips, or as a line-haul mode serving work and other regional trips. The Committee was also interested in considering diesel-electric vehicles, instead of electric vehicles, as another means to reduce capital costs.

Evaluation Criteria

To develop evaluation criteria, the Committee discussed financial feasibility, economic redevelopment, reducing congestion and other factors that were important to them in measuring the success of an urban rail system. One of the key differences discussed was between the role of urban rail in addressing a regional transportation problem verses its role as a supplemental circulator for tourist and other non-work trip uses. Based on this discussion and considering the scope of the study, the committee selected eight criteria for use in evaluating urban rail. The consultant developed measures for use in applying the criteria in selecting the three corridors with the greatest potential for urban rail and in evaluating these corridors. The evaluation criteria used in the screening process and the corridor evaluation are:

- Increases transit ridership
- Reduces vehicle miles traveled
- Re-enforces desires urban form, linking land use, transportation, economic development and community livability
- Contributes to overall air quality improvement
- Minimizes traffic disruption
- Provides and improves access to major activities
- Creates intermodel transportation opportunities
- Minimizes private property takings

Corridor Screening

The Committee identified 17 urban rail corridors and asked the consultant to identify the three corridors that meet most of the selection criteria and that represented a range of potential rail applications to the Eugene/Springfield metro area. Based on the results of the screening process, the committee identified the following three representative corridors for further evaluation:

1. Between Eugene and Springfield along Main/Franklin, with the understanding that further evaluation of the corridor could include analysis of Centennial Boulevard as an alternative alignment

2. Some combination of the central Eugene corridor options with service to the edge of the U of O, Sacred Heart, downtown Eugene and an extension to serve nodes proposed by the *TransPlan* Land Use Measures (LUM) task force in the central area along either the Blair Line or Willamette.

3. Coburg Road, with the further development of services to increase the travel shed for this corridor.

Based on this, the Committee further defined the corridors for use in estimating cost and ridership as follows:

- *Downtown Loop*, serving the downtown employment and cultural areas, Sacred Heart Medical center, the U of O campus and established commercial and residential areas along 18th and Willamette. Beginning at the Amtrak station at 5th and Willamette, the route follows Willamette, East Broadway and Hilyard Streets to the U of O campus. Through the campus, the route follows on East 13th Street, University and East 15th right-of-way to Agate Street. The route continues on Agate Street, 18th Avenue and Willamette Street.

- *Coburg Road*, serving the growing commercial and residential areas along Coburg Road as well as the downtown Eugene employment and cultural center along Willamette Street. Beginning at Beltline Road, the corridor follows Coburg Road to the Amtrak station at 5th and Willamette and follows Willamette to East 11th Avenue past the LTD transit center. This corridor assumes use of a new bridge across the river in the vicinity of the existing Ferry Street Bridge.

- *Main/Franklin*, connecting downtown Eugene with downtown Springfield with extensions to River Road to the west and to S. 58th Street at Main Street in Springfield to the east. Beginning at River Road near the intersection of the Northwest Expressway and the footbridge to Valley River Mall, the corridor follows 2nd Avenue and Blair Blvd., 5th Ave., Willamette Street, Broadway and Franklin Blvd in Eugene. In Springfield, the route follows Main Street and South A Street. It would serve the Amtrak station, the LTD transit center in downtown Eugene and be within a few blocks of the downtown Springfield transit center. A sub-corridor was also evaluated that ended at S. 14th Street in Springfield.

For all three corridors, the analysis assumes that stations would be located approximately every two blocks within downtown Eugene. Outside of downtown, stations would be located approximately every ½ mile. Park and ride lots, already being developed by LTD, would serve the ends of the corridors at River Road, Beltline Road and South 58th Street. Figures 2, 3 and 4 illustrate the three corridors, possible stations and park and ride locations.

The routings for each corridor are for evaluation purposes only as the basis for developing order of magnitude cost and ridership estimates. Any further consideration of LRT would need to include evaluation of alternative streets, right of way and terminus locations as well as operational configurations.

Corridor Evaluation

For these three corridors, the consultants developed conceptual capital, operations and maintenance cost estimates and potential ridership. For capital costs, the consultant developed two different types of estimates:

1. *A Low-End Cost* that assumes single track and passing track, asphalt paving, limited traffic signal modifications, utility protection instead of relocation, used vehicles and a limited communications system.

2. *A Mid-Range Cost* that assumes double track with pavers between tracks, traffic signal modifications for critical train movements and train pre-emption, utility relocation, new vehicles and a train-to-wayside communication system.

Though both systems were designed to operate at 10 minute peak headways, the use of a single track and passing track configuration would result in less reliability than a double-track system. In addition, because the low-end cost estimate does not include utility relocation, the system would be subject to closure for utility access. As a result, the mid-range system would be more suitable for revenue-operation as part of the regional transportation system while the low-end system would be more suitable for a local or tourist-oriented system. Based on these factors, the mid-range system is more likely to perform as a regional transportation solution than the low-end estimate. Both systems require modifications to existing traffic circulation patterns and on-street parking.

Using these assumptions, capital costs would range from $4.7 to $7.6 million per mile for the low end cost and $16.1 to $18.6 million per mile for the mid range cost, depending on the corridor. Table 1 summarizes these estimates.

Table 1: Low-End and Mid –Range Capital Cost Estimates
(Includes construction, vehicles, contingency and project administration)
(In Millions of 1995 dollars)

Corridor	Miles	No of Stations	Low End		Mid-Range	
			Cost	Cost/Mile	Cost	Cost/Mile
Downtown Loop	4.34	17	$29.5	$6.8	$74.2	$17.1
Coburg Road	3.34	13	$25.4	$7.6	$62.1	$18.6
Main/Franklin (S. 14th St.)	10.67	32	$49.5	$4.7	$171.8	$16.1
Main/Franklin (S. 14th St.)	6.56	24	$34.8	$5.3	$112.0	$17.1

Operations and maintenance costs, based on the experience with diesel-electric vehicles in Galveston, Texas, would range from $1.7 million for the Coburg Road line to $2.2 million for the downtown loop to $5.3 million for the Main/Franklin line annually. These costs assume that the urban rail would operate at roughly the same speeds as Lane Transit district buses today. Though operating costs would be lower if electric vehicles were used instead of diesel electric vehicles, capital costs, necessary for the catenary and substations, would be higher.

Ridership estimates were based on the number of trips with origins and destinations in the corridor and the potential for these trips to use transit, plus the additional ridership that could be expected from feeder bus and park and ride. A special factor, reflecting the attractiveness of transit was used in the ridership estimates to estimate a high end range. As a result, daily ridership in the range of 3,000 to 6,600 for the low end and 4,000 to 10,000 at the high end could be expected, as shown in Table 2. These estimates indicate that urban rail would not carry a significant share of traffic and would be much lower than the capacity that urban rail offers. The number of new riders, though not calculated specifically at this level of analysis, is likely to be low based on the limited reductions in travel time that are possible with LRT in shared traffic lanes.

Table 2: 2015 Low and High Estimated Daily Ridership

Corridor	Length (miles)	Daily Ridership Low/High	Ridership/mile Low/High
Downtown Loop	4.34	3,300/4,900	760/1,130
Coburg Road	3.34	3,000/4,000	900/1,200
Main/Franklin (S. 58th St.)	10.67	6,600/10,100	620/950
Main/Franklin	6.56	4,400/6,500	670/1,010

Table 2: 2015 Low and High Estimated Daily Ridership			
(S. 14th St.)			

Conclusions and Recommendations

Frequent existing transit services in major corridors and planned nodal development are factors that support urban rail in the Eugene-Springfield area. If public right-of-way can be used, another favorable factor would be that rail could be constructed for less than $20 million per mile which is low compared to rail cost in other cities. However, projected 2015 ridership levels for the three corridors analyzed, assuming continuation of current trends and development patterns, appear too low to be competitive with other cities seeking federal transit funding. A review of ridership in other cities that have successfully competed for federal funding indicates that ridership levels are roughly twice that projected for the Eugene/Springfield area.

As a tourist-oriented system, not intended to provide the frequent, reliable services that commuters require, lower cost urban rail could be developed but would still require major financial investments and modifications to the transportation system which may conflict with other transportation policies.

Based on these conclusions, this study recommends that the region act now to implement parking, land use and transit policies that will help increase future ridership potential and help ensure feasibility of urban rail in the future. These policies include:

- *Make long-term parking less available* by not increasing the supply and/or increasing the cost in downtown Eugene, Springfield, U of O campus, medical centers, Riverfront Research Park and other major employment areas. Parking alternatives, including peripheral or satellite parking and additional park and ride capacity, should be pursued. Higher parking costs and longer walking distances to parking are key factors that increase transit use.

- *Encourage trip-making activity along the major corridors and within the downtown region* by increasing densities in designated nodes, encouraging mixed-use commercial and residential development and encouraging in-fill development. Policies that help increase the number of trips made within a corridor and reduce the travel distances between these trip ends can lead to greater use of transit for trips to and within the corridor.

- *Adopt development design standards that support transit use,* including full street grids in residential neighborhoods that allow convenient and direct transit and pedestrians access and building orientation that makes access more convenient for transit and pedestrians than for auto. This will help make transit more attractive by reducing the total trip times for transit compared to auto.

- *Improve bus services to rapid transit standards in major corridors* by increasing service frequencies, improving bus speeds and offering convenient transfer connections between secondary level bus routes and the major bus corridor service. These improvements, which

begin to replicate rail services, will help develop the corridor ridership that will eventually help justify the larger capital investment in rail.

- *Within central Eugene, where the ridership is not as easy to forecast as for the major commuter-oriented corridors, LTD should consider implementing a circulator service* that would replicate a potential streetcar route. The bus could be specially designated, such as a specially painted natural-gas operated bus. This would help indicate future ridership levels and help determine the most successful future rail route.

- *LTD should work with the Cities of Springfield and Eugene and the U of O to identify possible changes in traffic circulation and/or elimination of parking* to give transit priority, convenient access, and faster running times for service to the greatest concentration of employees. Much as the rail might utilize contra-flow lanes, the pedestrian mall, or travel through campus, these routings should be considered for bus. This will help give transit the priority over the auto that is necessary to attract new riders and qualify for federal funding.

- *A variety of other techniques that would increase the cost of using autos relative to the cost of using transit should be evaluated*. In addition to parking cost and availability, these could include increasing the gas tax, vehicle registration fees or even congestion pricing.