



# MEMORANDUM

EUGENE WATER & ELECTRIC BOARD  
CUSTOMER AND SHARED SERVICES DIVISION

*Rely on us.*

TO: Commissioners Brown, Simpson, Cassidy, Ernst and Cunningham  
FROM: Debra Smith, Customer and Shared Services Director, and Lance Robertson,  
Public Affairs Manager  
DATE: April 25, 2011  
SUBJECT: Streetcar feasibility report

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## **Issue**

Should Eugene pursue a streetcar system at this time?

## **Background**

In 2010, the City of Eugene, Lane County, Lane Transit District, EmRail, the Eugene Chamber of Commerce, Travel Lane County, EWEB, the University of Oregon and the Central Lane Metropolitan Planning Organization formed a Eugene Streetcar Feasibility Study Group to answer the question: Shall local public and private agencies seek funding to conduct a streetcar study to identify a preferred route, estimate costs, identify funding options for construction, and develop a funding plan for operations? This proposed study would be accompanied by significant public involvement and conclude with a report to be presented to the Eugene City Council, the LTD Board, and the Lane County Board of Commissioners. The study cost is estimated at \$200,000 to \$350,000.

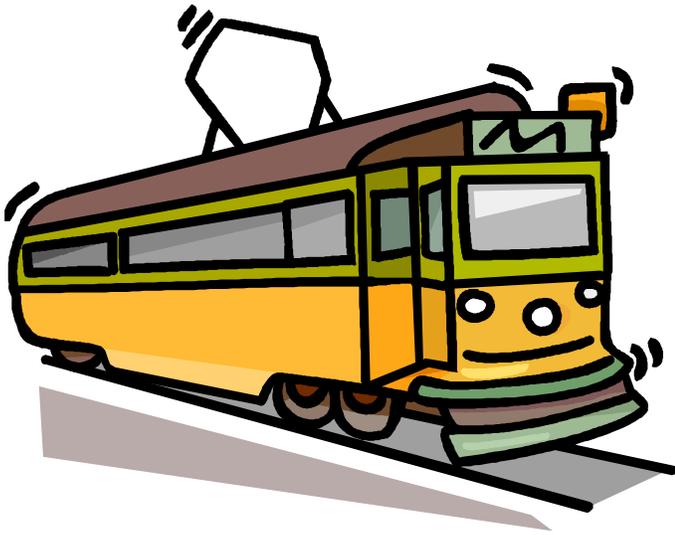
Each entity was represented on the study group. Public Affairs Manager Lance Robertson served as EWEB's representative. EWEB provided \$15,000 in funding for the initial report. The City of Eugene provided similar funding, and other entities also provided funds. EWEB has an interest for a number of reasons, including the potential for a future streetcar route serving the utility's redeveloped riverfront site, as well as the technical issues regarding the ability of EWEB to adequately serve a downtown streetcar system with reliable electricity.

## **Discussion**

The Streetcar Feasibility Study Group found that successful streetcar systems in other communities have certain attributes that contribute to their success, and that many of those conditions do not currently exist in Eugene. The study group was unanimous in encouraging further consideration of a streetcar system in Eugene once key conditions for success are met. However, the Streetcar Feasibility Study Group recommended against pursuing a streetcar-specific study at this time.

## **Requested Board Action**

None. This is an information item only. A copy of the streetcar group's report is attached.



# Eugene Streetcar Feasibility Study

March 2011



## **Executive Summary:**

Streetcars are cool!

As an urban amenity, streetcars have the ability to attract significant private sector development investment, serve as a point of community pride, and help shape the urban form. They can also provide a useful bridge between other forms of public transit.

The Streetcar Feasibility Study Group is unanimous in encouraging further consideration of a streetcar system in Eugene once key conditions for success are met.

The Streetcar Feasibility Study Group recommends against pursuing a streetcar-specific study at this time, but strongly recommends that a streetcar system should be considered within the context of developing a more comprehensive economic development vision for the metropolitan area.

## **Background:**

In 2010, the City of Eugene, Lane County, Lane Transit District, EmRail, the Eugene Chamber of Commerce, Travel Lane County, Eugene Water & Electric Board, the University of Oregon and the Central Lane Metropolitan Planning Organization formed a Eugene Streetcar Feasibility Study Group to answer the question: Shall local public and private agencies seek funding to conduct a streetcar study to:

- Identify a preferred route(s)
- Determine operating characteristics (frequency, vehicle, stops, etc)
- Estimate capital costs
- Estimate operating costs
- Estimate ridership
- Identify Funding options for capital
- Develop a Funding plan for operations

This proposed study would be accompanied by significant public involvement and conclude with a report to be presented to the Eugene City Council, the LTD Board, and the Lane County Board of Commissioners. The cost for this study is estimated to be \$200,000 to \$350,000.

Funding Options: The best source of funding is likely to be a Transportation Growth Management (TGM) Grant which would pay for approximately 90 percent of the cost. TGM grant applications are accepted annually, so this could be a 2011 request.

## **What is a Streetcar?:**

As used in this report, a streetcar is a fixed-rail vehicle designed to operate within existing street rights of way. Streetcars are designed for relatively slow speeds, with frequent, closely spaced stops. They are most commonly electrically powered through overhead electrical lines.

Although both operate on rails, streetcars are not light rail systems. Light rail is characterized by high speed operation along separated rights of way, with stop intervals of one-half mile or greater.

A comparison of various transit system types is included as Appendix 1.

## **Economic Development Use:**

Streetcar systems are first and foremost economic development tools. Streetcars should be considered significant urban amenities like parks and public art.

Mobility is a secondary purpose.

## **1995 Rail Report:**

A study completed in 1995 as part of TransPlan development evaluated the feasibility of a light rail based system *vis a vis* bus rapid transit (BRT.) It determined that, from a mobility standpoint, BRT was more cost effective throughout the Eugene/Springfield Metropolitan area than was a rail-based (primarily light rail) system, and that sufficient ridership to justify a light rail system was not projected during the 20 year plan horizon.

As the area grows and develops, BRT also makes possible a relatively simple upgrade to Light Rail, given the prior acquisition of dedicated rights of way along many of the BRT routes.

The study further determined that streetcar/trolley systems were best suited to relatively small areas serving in a circulator function, likely for tourism based purposes.

The study concluded -

“... 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.

*... in the longer run, as densities increase and policies such as those suggested in the Urban Rail Study are put in place, the feasibility of rail will increase. Because of its existing densities and street pattern, the central area of Eugene will likely be one of the first areas where rail is feasible.* The study also suggests that both the nodal development and the type of transit strategies that make up BRT as it is being pursued in TransPlan are important to making rail feasible in the future. These and other strategies have been described as “setting the table” for rail.

*... a streetcar system can provide an effective means of transportation in areas and along corridors of high density. Portland is using it as a way to increase the access to some medium and high-density housing as well as 2 large undeveloped areas of downtown – it connects with and is coordinated with Tri-Met service in general including the MAX line. Several other cities are also finding useful public transportation functions for streetcar systems (Seattle, Memphis, Dallas, and New Orleans).*

*Similar to Portland, this type of system could be developed through efforts of the City and a private, non-profit with participation from LTD. The system might be developed initially for tourism purposes, or as a downtown circulator. ... Given the densities and parking policies in place in downtown Portland and the other large cities listed above, it may be several years before a similar streetcar system is feasible in Eugene. “*

### **Routing Opportunities and Estimated Costs:**

The Feasibility Group was not charged with proposing a route and indeed specifically chose not to explore one at this time.

The Group did look at possible points, corridors and zones which might be suitable for linkage by a streetcar system. A map and listing of opportunities is attached as Appendix 2.

Although it did not consider a specific route, the Group estimated the following generalized costs for a hypothetical 2 mile line:

- At a capital cost of \$17.5M per mile, *initial construction* would cost approximately \$35M;
- *Four streetcars* would need to be purchased at a cost of \$3.5M each, for an additional \$14M.
- Using Portland's experience, *operating costs* are estimated at \$2.2M per year.

### **Portland Experience:**

The Study Group met with Rick Gustafson, Executive Director of Portland Streetcar, and Principal of Shiels/Obletz/Johnson. Based on his experience with Portland's Streetcar system, and his work on other streetcar systems around the country, Mr. Gustafson provided the group with the following information and recommendations:

An important quality necessary for a successful streetcar system is not necessarily high density, but rather the "walkability" of the district. Three investments are considered necessary for walkable urban developments:

- Quality Non-Auto Access. Not just streetcar/transit – biking and walking as well.
- Good Open Space. For mixed use to work, effectively planned open space is needed.
- Affordability. Need aggressive program to make it possible to afford living in a walkable urban environment.

A streetcar is "not some magic elixir", but should be seen a part of a broader set of initiatives for development of a district.

Strong partnership with the development and business community is critical to success of streetcar ventures. Strong partnerships with the Transit District are also important.

Portland has seen \$3.5 billion in private investment within 750 feet of their approximately 4 miles of streetcar line.

### **Streetcar System Purpose Statements:**

In reviewing streetcar systems around the county, we have found each to be an integral part of a clearly articulated economic development and/or tourism plan. We have found no instances where development of a streetcar system has preceded a development plan or followed an “if you build it, they will come” hypothesis.

Example purpose statements include:

Kenosha, WI	Redevelopment of the 64 acre RiverPark on Lake Michigan waterfront brownfield area into mixed use linking it to downtown Kenosha and the Metra light rail system serving the greater Chicago area.
Little Rock, AR	Part of the redevelopment plan for Little Rock and North Little Rock Downtown Districts. Connects the Little Rock downtown River Market District to major hotels and shops/parks/arena of North Little Rock.
Tampa, FL	Connect tourist destination areas from Ybor historic district, along waterfront to convention center/arena/aquarium/cruise ship terminal.
Portland, OR	Connect two redevelopment districts otherwise cut off by freeway development. Also allow for expansion, via cog train, of Oregon Health Sciences Center to redevelopment area.

### **Streetcar Types:**

The Study Group briefly reviewed the two major types of streetcar systems: Vintage Trolleys vs. Modern Streetcars and share these observations:

- Type reflects community choice. San Francisco opted for historic cars – not just replicas.
- Historic replica – Tampa and Little Rock doing replicas. Portland has one replica. Replicas generally use modern electrical technology, as opposed to actual vintage vehicles which often use obsolete voltages and feed systems.
- In Portland the funders did not want a vintage system. “Wanted to be taken seriously as transit, not as tourist attraction.” Operate 18 hours/7 day.
- Dramatic difference in accessibility for people with physical disabilities. Modern (low floor) system easy for walkers, baby strollers, wheelchairs to access. Vintage very difficult – effectively restricts access.
- Portland using 10” curbs. Trying to build from existing sidewalk – not to building face.
- When operating 18 hours per day, need to be realistic about how much work it takes to keep historic cars operational.
- Type (purpose) of streetcar system also influences choice of type of streetcar.

Given the region’s strong commitment to accessibility, the Group recommends that only Modern Streetcar systems be considered.

### **Attributes of Successful Streetcar Systems:**

The Study Group identified the following as common attributes of successful modern streetcar projects:

A. Strong Partnerships

- Public/private partnerships with the development and business sectors
- Partnerships with universities
- Partnership with existing transit authorities

B. Strong Vision

- Clearly articulated economic development concept incorporating local transit
- Support by key local stakeholders

C. Local opportunities

- Strong tie to tourist and favored local destinations
- Potential for significant commercial development investment
- Potential for significant impact as a cultural amenity

**Assessment:**

In comparing the attributes listed above with current conditions in downtown Eugene, the Group discussed the following opportunities and challenges:

**Opportunities**

- A partnership with Lane Transit District is already in place and operational to a significant extent. LTD has been involved already in the feasibility study discussions.
- There are several examples of partnerships with the business/development sector and with the University of Oregon related to specific projects in the community.
- Local transit also has an articulated long-range vision for Bus Rapid Transit that supports economic development;
- A recent Regional Economic Development Strategy was reviewed and approved by the Joint Elected Officials.
- Ties to some tourism destinations are possible, and a streetcar could contribute to the enhancement of Downtown Eugene for an arts and cultural center.

**Challenges**

The group found no strong development/redevelopment strategy for downtown. Secondly, at present there is no champion or evidence of significant interest from the business community for streetcars. To articulate the primary challenge for a Eugene Streetcar project, the Study Group puts forward the following statement:

While individual economic development projects and public/private partnership efforts have succeeded, the region lacks **consistent, steady, and strategic planning and implementation over multiple develop cycles** that transcends individual projects.

### **Options:**

- 1) Seek \$200,000-\$350,000 in TGM funding for a more detailed streetcar system study.
- 2) Study specific elements to incorporate into the current high level streetcar feasibility study, spending no more than \$50,000 additional local funds.
- 3) Table the concept of a streetcar at this time, and wait for an opportunity to discuss a streetcar system within a broader economic development/tourism plan.

### **Recommendation:**

The Streetcar Feasibility Study Group compared the characteristics of successful streetcar systems with current conditions in Eugene. Based on their assessment the Group recommends against pursuing a streetcar-specific study at this time.

The Group was encouraged, however, by evidence of significant investments being made in communities along streetcar routes, and recommends pursuit of a clear community vision for development of the Eugene Core, along with the following considerations:

- Work with the private sectors to jointly develop a clearly articulated economic vision for Eugene, in particular the Downtown and University areas.
- Engage with the business community to determine where they think economic development investments should be made by the public sector.
- Coordinate efforts with Downtown Eugene, Incorporated (DEI.)
- Provide education opportunities to illustrate how streetcar systems can add value to economic development and to district development/redevelopment activities, perhaps in conjunction with other rail education and summit opportunities.
- Recognize the potential for shaping the urban form with streetcar lines, and making streetcars a part of future walkable community planning efforts.
- Ensure planning and development codes continue to allow for future streetcar development by requiring adequate street widths, appropriate rights of way, and allowing overhead electrical feed lines.
- As the community continues to develop, periodically reevaluate Eugene's conditions against the attributes of successful streetcar systems outlined above, to determine when the time is right to engage in a full-blown streetcar planning effort.

# Appendix 1



TYPE	PURPOSE	SYSTEM TYPE	POWER SYSTEM	STOP SPACING	COSTS
<b>High Speed Rail</b>	Long Distance Mass Transportation. Generally between cities and longer distances. Designed to compete favorably with air travel.	Fixed Rail, Usually Electrically Powered (some diesel-electric hybrid systems in use.) Designed for operation in excess of 110 MPH.	Usually Electrically Powered (some diesel-electric hybrid systems in use.)	Usually One Stop Per Major City.	High Capital Construction Cost. Very Efficient Passenger/Mile Operating Costs.
<b>Heavy Rail</b>	Long Distance Mass Transportation. Generally between cities and longer distances.	Fixed Rail. Usually shares rail system with freight. Designed for operation below 110 MPH.	Usually Diesel/Electric Hybrid. Some Electric.	Usually One Stop Per Major City.	High Capital Construction Cost. Reasonably Efficient Passenger/Mile Operating Costs.
<b>Light Rail</b>	Moderate Distance Transit. Generally within or between closely placed cities.	Fixed Rail, Usually Electrically Powered. Special Station Configuration to Allow for Rapid Boarding, and High Accessibility.	Usually Electrically Powered.	Generally at Least 1/2 Mile Apart.	High Capital Construction Cost. Very Efficient Passenger/Mile Operating Costs Over Medium Distances.
<b>Bus Rapid Transit</b>	Medium Distance Transit. Generally within a city or urban area.	Dedicated Right of Way with Ability to Operate in Roadway Where Necessary. Special Platform Configuration to Allow for Rapid Boarding, and High Accessibility.	EmX is Hybrid Diesel-Electric. Standard Diesel, Gasoline, or Natural Gas Systems in Use Elsewhere.	Generally at Least 1/2 Mile Apart.	Approximately 1/8 Capital Costs of Light Rail. Higher Operating Costs per Passenger Mile Than Light Rail, More Efficient Than Conventional Bus.
<b>Conventional Bus</b>	Short-Medium Distance Transit. Generally with a city or urban area.	Uses Existing Roadway System. No Special Platform Required.	Generally Diesel, Gasoline or Natural Gas Engines. Some Hybrid Diesel (Gas)-Electric Systems in Use.	Generally 2-4 Blocks Apart.	Minimal Construction Costs. Moderately High Operating Costs.
<b>Streetcar</b>	Economic Development/Tourism Focus, with secondary transit characteristics for short distance, relatively low speed travel.	Fixed Rail in Existing Roadway. Modern Systems Allow for Rapid Boarding and High Accessibility with Slight Increase in Standard Curb Height.	Usually Electrically Powered from Overhead Lines.	Generally 2-4 Blocks Apart.	Construction Costs Higher Than BRT, Lower Than Light Rail. Operating Costs Approx. \$1M/Mile/Year.

## Appendix 2



### POINTS/HOT SPOTS

1. Valley River Center
2. Oakway Center
3. Autzen Stadium
4. Whiteaker/Blair
5. Train Station
6. Saturday Market
7. 5<sup>th</sup> Street Market
8. Federal Courthouse/EWEB
9. Fairgrounds
10. Midtown Shopping
11. 29<sup>th</sup> & Willamette
12. Matt Court
13. Hayward Field

### CORRIDORS

- A. Willamette
- B. Franklin/Coburg
- C. 5<sup>th</sup>
- D. Broadway
- E. 13<sup>th</sup>

### ZONES

- Downtown
- UO Campus  
(Glenwood/Springfield)

