

**Communities By Design**, a  
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organization, in cooperation with the  
**City of Redwood City**,  
is pleased to present:

# The Forum *at Redwood City*

A CONTINUING CONVERSATION ON CITY DESIGN



## DEVELOPMENT ORIENTED TRANSIT: The Portland Streetcar

2008-09 SEASON: FORUM #4  
THURSDAY, JANUARY 8, 2009  
LITTLE FOX THEATER  
2209 BROADWAY  
REDWOOD CITY  
6:00 P.M. - 7:45 P.M.

On January 8, 2009, the City of Redwood City and the nonprofit "Communities by Design" held the fourth presentation of the 2008-2009 Forum season. **Rick Gustafson**, Chief Operating Officer and Executive Director of the Portland Streetcar, and Principal and Vice President of Shiels Oblatz Johnsen in Portland, Oregon, discussed development oriented streetcars and shared "The Portland Experience."

Mr. Gustafson's stressed that development is more important than transit and transit should be supportive of development. Having been involved in planning Portland's streetcar system from the beginning, he explained how the streetcar came to be in Portland, what made it successful as a means of transportation, how it serves as a catalyst for mixed-use high density development and a major contributor to people-oriented environments, and why it should be considered as a viable transportation option in cities across the country.

Before streetcars emerged in the late 1800's, they were preceded by dirt roads with carts on rails and donkey trolleys. Later, interest in streetcars waned as the automobile gained popularity. It was not until the late 1990's that the streetcar reemerged as a major mode of transportation in Portland.

"The real objective here is building viable public communities, not viable public roads."

-Rick Gustafson

Planning for Portland's current streetcar system was initiated through a private development plan that proposed to link Portland's River District and the new South Waterfront Development Area with downtown Portland. At the time, the existing development properties were brownfield sites, including 65 acres industrial rail yards in the north and over 100 acres of inaccessible land in downtown to the south. A committee of property owners was formed and they decided to provide streetcar lines to connect these properties. Developers weren't interested in a tourist trolley, but a modern streetcar that would be a catalyst for development and would provide permanent access for purchasers and residents. The resulting in-street system comprises part of Portland's current streetcar system and propelled development and future projects to expand along the streetcar system.

Portland's original streetcar system opened in 2001 with a 2.4 mile line at the cost of \$56.9 million. Funded with over \$3.5 billion in private investment and without any federal funds, the system has been extended three times to serve 1.6 additional miles since 2001. Of the completed extensions, 20% of the costs were funded by property owners. The streetcar's ongoing operational costs are funded through Trimet (\$3.2 million), City of Portland (\$1.9 million), and the Portland Streetcar (\$0.3 million) with a total operating budget of \$4.3 million.

The investment in streetcar infrastructure that began in 1997 resulted in substantial increases in transit ridership and has been a catalyst for greater private investment and development in the Portland region. The streetcar system returned 30% higher ridership than buses with about 12,000 riders per day, allowed for higher-density development along rail lines, bolstered Portland's economic development, and has allowed for 10,000 new housing units to be built over a period of 8 years.

The success of Portland's streetcar is no more evident than in the Pearl District, an infill development constructed in 1997 that replaced industrial brownfields. With only 2 remaining historical buildings today, the Pearl district's streetcar-supported development is now the most popular place to live in the Portland region.

"Since 1997, 53% of all development in the central city of Portland has been within a block of the streetcar."  
*-Rick Gustafson*

Part of the strategy that has allowed the streetcar to become a reality in Portland is the technique used to lay the tracks. The process was designed to have minimal impact on businesses, save money, and allow for rapid construction. Rather than ripping out an entire road to install the rail lines, the Portland streetcar rail lines were installed by creating an eight foot wide saw cut in the road allowing for traffic to flow around the construction. The rail line width takes up the equivalent of just one road lane, and the entire process of laying rebar, ties, and track, and paving the track can be done in just six weeks. Additionally, the streetcar's success in Portland can be attributed partly to the design of the vehicles themselves.

The first streetcars introduced in Portland were designed by a Czech company which proposed to build cars that were shorter and smaller than normal light rail vehicles and

"Amazingly enough, when you upgrade the quality of transit, people start using it."  
*-Rick Gustafson*

would work well in the built urban environment. (Now the cars are being built in Oregon.) Portland's streetcars use "in street operations," meaning that they run in the middle of the

street, they operate much like a bus, but provide better accessibility, at a more human size and scale. Mr. Gustafson commented that what makes Portland's streetcar more appealing than buses or even light rail is the fact that streetcars provide better quality of service in regards to ride, noise, and accessibility. Mr. Gustafson calls this "quality of access." He cited one instance of where a streetcar provided a clear advantage over a bus by showing a photo of a streetcar moving through a public plaza with outdoor seating. The streetcar's design and quieter presence make it more compatible with pedestrian traffic as compared to buses, and are compatible with a mix of transportation types including bikes, pedestrian access, light rail traffic, etc.

From a planning perspective, a fundamental key to the success of Portland's streetcar planning effort was a development agreement between property owners and developers to establish minimum densities, with increases in minimum densities as the city developed the infrastructure to support those densities. Mr. Gustafson cited developments that eventually exceeded minimum densities due to the presence of the streetcar, including a development that originally was required to provide a minimum density of 87 units/acre but was later able to go up to 109 units/acre when serviced by the streetcar, and up to 131 units/acre when a park and other amenities were built. In general, Mr. Gustafson agrees that "density is a word that will cause enormous revolts" which is why it is so important instead to understand the concepts of development oriented transit and sustainability.

Since the introduction of the streetcar in 1997, 90% of the allowed density has been built along development supported by the streetcar. Mr. Gustafson noted that it is typical for developers to not meet density criteria due to market uncertainties, and that in areas zoned for high density, only 42% of this density required was realized pre-1997 (before the streetcar). The streetcar system is a service that everybody wants to make sure they're close to, and businesses frequently provide informational brochures with streetcar information to encourage people to take advantage of it to access their businesses.

"Every single community where density was the lead concept ended in disaster."

-Rick Gustafson

According to Mr. Gustafson, the introduction of the streetcar in Portland laid the groundwork for supporting mixed-use development and open space, limiting automobiles, spurring a broader economic spectrum of housing options, and creating pedestrian-friendly environments. The high density mixed-use properties surrounding the streetcar lines impact travel and commute distances, and are projected to have reduced over 70 million vehicle miles traveled (VMT). In contrast to suburban developments which require an average 22-23 miles of driving per day, 27% of trips in higher density neighborhoods supported by the streetcar can be satisfied by walking, effectively reducing resident's carbon footprints. The City of Portland has seen transit ridership grow 46% from 1996-2006, while service grew by 16%, population grew by 27%, and VMT grew by 19%. The result is that the City has effectively reduced their carbon footprint by 65%. Mr. Gustafson noted that Portland is one of the only cities that has experienced population growth and has been capable of reducing VMT, and attributed the streetcar as the driving force for the reduction in VMT.

In extending the streetcar lines to further reaches within Portland, planners have outlined a proposed metric for transit projects relating to zoned development capacity, compact urban form, land availability, market readiness, trip reduction, and measures to reduce the impacts in terms of carbon footprint. Portland plans to extend downtown Portland's dense

development west of the river to the east side of the river as well, and intends to use the metric to guide development with a linking streetcar loop throughout the central city.

While the City of Portland streetcar system has demonstrated the feasibility and effectiveness of the streetcar in an American city, Mr.

"The entire market for the future is in the walkable urban market."

-Rick Gustafson

Gustafson pointed out that essentially two growth alternatives remain for cities across the US. They can either become or remain "drivable suburban" areas or "walkable urban" places. According to a study by the Brookings Institute, there is currently a national supply of 57 million "drivable suburban" residences, a projected negative demand for these of minus 16 million units, and a growing market demand for walkable urban places.

The infrastructure needed to support walkable urban places is very different from that of drivable suburban and it includes alternative quality access, open space, and affordability as opposed to utility expansions, roads, and cheap land. Mr. Gustafson argued that the streetcar offers a key to achieving walkable urban environments, and that the market is shifting to bring such a vision to reality.

Mr. Gustafson concluded by highlighting examples of other streetcar projects in US cities including Seattle, WA; Washington DC; Tacoma, WA; Tucson, AZ; Salt Lake City, UT; West Sacramento, CA; Miami, FL; Charlotte, NC; Cincinnati, OH; Fort Worth, TX; Boise, ID; Grand Rapids, MI; and perhaps even someday in Redwood City, CA.

"There is hope for the future. The growth of utilization in our transit system is unprecedented."

-Rick Gustafson