STREETCAR OPERATIONS AND ASSOCIATED COSTS

The operating cost for streetcar service, as with any type of transit service, is driven by the number of hours and miles operated and by the cost for a unit (usually an hour) of operation. The number of hours and miles operated by any transit service are a direct result of the assumptions included in the operating plan for service. For example, increased frequency of service usually increases the number of vehicles required and results in a greater number of operators and therefore higher costs. The cost per hour is unique to the operator providing the service and reflects prevailing wage rates, operator-specific overhead costs, costs specific to the vehicles purchased, etc.

Interaction with Existing Bus System

Salem Keizer Transit bus service operates on a number of major roadways in the downtown area. Most routes operating east of the Willamette River meet in timed transfers at the Courthouse Square Transit Center. On the west side, six routes meet at the West Salem Transfer Center making a timed connection to the Route 25 West Salem – Downtown, which serves the Courthouse Square Transit Center.

All bus routes serving the downtown do so on their way to or from other neighborhoods or regional markets. There is no internal bus circulator or any route that does a significant percentage of its business carrying passengers between locations within the downtown. Streetcar service may shift a limited amount of short downtown trips from local bus service. For example, a Capitol Mall employee may choose to use the streetcar rather than riding Route 5 from the Mall to downtown. However, this has little impact on the Route 5, which serves the Royal Oaks neighborhood in East Salem. Any trips shifted away from local bus routes are likely to be supplemented by new bus passengers transferring to streetcar.

Since none of the proposed alignments replace existing bus routes, we cannot expect that existing operating funds will be available to shift to streetcar services.

Per Hour Operating Costs for Streetcar and Buses

Based on experiences from other cities that operate bus and streetcar service, streetcar operating costs average 35 to 50 percent higher than the companion bus costs. Even at properties that operate modern streetcars, streetcar operation tends to be more costly than bus. Generally, there are more buses in operation than streetcars, resulting in economies of scale for that mode.

Streetcar maintenance is often done partially at an on-site maintenance facility and partially by moving car bodies and components outside for heavy maintenance. In Salem, preventative maintenance and minor repairs would need to be handled at a local maintenance facility; however, heavy maintenance could be conducted at Tri-Met's LRT and streetcar maintenance facility in Portland. The fact that a small unique fleet is being operated requires a higher spare ratio and proportionally more extra board drivers than might be required by a larger fleet.

In Portland, for example, an hour of streetcar service costs about $130 compared with about $85 for a fully allocated hour of bus service. In this case, the streetcar includes fully allocated administrative, marketing and other ancillary expenses that are unique to the streetcar. This 52 percent "premium" for an hour of service is the maximum that could be expected in Salem. The premium is due to the maintenance of track-way and a unique vehicle which requires separate shop facilities, etc. as well as the lack of economies of scale that accrue to larger fleets.

According to Salem-Keizer Transit, the existing bus service costs approximately $70 per hour. The following analysis uses a 40 percent premium for streetcar cost, or $98 per hour.

Travel Speeds

Travel speed is a key variable in developing operating costs, because it determines how quickly a given vehicle can make a round trip and begin the trip again. Travel speeds include the time required for stops as well as the speed between stops. The stop spacing identified for each proposed alignment governs how fast the street cars will travel – the more stops, the lower the average speed. Based current plans and on the national peer review, streetcar service is estimated to operate at 10 miles per hour, including all stops and delays. At this speed, streetcars are competitive with buses operating in the same environment.

Single Track Option

The single-track option presented above has no impact on operating costs (see Figure 8). Capital cost savings resulting from less track construction and fewer station stops are balanced to some degree by the need for passing tracks, dedicated right-of-way and two-way signal systems. These costs are presented in the Capital Plan section of the report.

Other Operating Plan Assumptions

This section offers a conceptual operating plan for the three identified streetcar alignments based on a number of assumptions including:

- Round trip distance;
- Estimate speed of travel;
- Frequency of service; and
- Length of service day.

The following analysis models 15-minute service frequencies for each alternative, proving a comparison of vehicle needs and operating cost. Services are assumed to operate over a span of 15 hours on weekdays (7:00 AM to 10:00 PM) and for 12 hours on weekends (8:00 AM to 8:00 PM). These spans may be adjusted based on further market analysis. Layover and recovery times are allocated at the ends of each trip, to provide time to return to schedule in case of delays. At least 20 percent of the round trip running time is allocated to layover and recovery in each operating scenario.

Based on these assumptions, the plan highlights the number of revenue hours provided, the number of vehicles needed and the resulting cost of service. Assumptions about operating speed and service frequency directly affect the number of vehicles that would be required to operate the line, since the vehicle requirement is directly dependant on how long it takes a vehicle to make a round trip cycle of the proposed line.

Vehicle fleet requirements are a combination of the peak vehicle requirement to operate service and the number of spares needed to ensure a reliable service is maintained. Generally a 20 percent spare ratio is required for a standard transit fleet, rounded up to the next largest whole number of vehicles. Alignments 1 and 2 both require two vehicles to operate 15-minute headways at the estimated average travel speed of 10 miles per hour. Alignment three is slightly shorter, but still requires two in service vehicles to achieve 15-minute headways. All three alignments would require one additional spare vehicle to ensure system reliability, bringing the total vehicle requirement to three.

Modern Skoda vehicles, such as those used in Portland and Tacoma, have excellent maintenance track records. With a comparable modern vehicle fleet, Salem could likely manage with a single spare vehicle. Restored vintage cars have performed reliably for cities such as San Francisco and Memphis, but a second spare vehicle may be needed if historic cars are employed.

Estimated Annual Operating Costs

Figure 18 below highlights operating parameters for each of the three alternatives. The modeled scenarios, assuming 15-minute headways and seven-day a week operations, result in systems deploying 10,200 annual revenue hours using two vehicles at all times. At this service level annual operations cost just over $1 million per year. Because the same service assumptions are used in all alternatives and because cycle times including layover and recovery do not vary significantly in the three alternatives, operating costs are essentially the same for all three alternatives. Cutting back daily service spans or eliminating Sunday service could achieve significant operating cost savings. The elimination of Sunday service would save $145,000 per year. Cutting back weekday service spans to 12 hours would save an additional $148,000 per year. Annual operations for this more minimal system would cost approximately $710,000.

Figure 18 Operating Plan Model

Alignment	Weekdays			Saturdays			Sundays			Annualized				
										Operating Cost				
	Vehicles	Revenue Hours	Operating Cost	Vehicles	Revenue Hours	Operating Cost	Vehicles	Revenue Hours	Operating Cost	Weekday	Saturday	Sunday	Annual	Annual Operating Cost
One: Amtrak to Broadway & Market														
Late evening service + Sunday Service	2	30.00	$2,940	2	24.00	$2,352	2	24.00	$2,352	$737,940	$122,304	$145,824	10,266	$1,006,068
No evening or Sunday Service	2	24.00	$2,352	2	24.00	$2,352			$-	$590,352	$122,304	$-	7,272	$712,656
Two: Amtrak to Commercial/Liberty Couplet														
Late evening service + Sunday Service	2	30.00	$2,940	2	24.00	$2,352	2	24.00	$2,352	$737,940	$122,304	$145,824	10,266	$1,006,068
No evening or Sunday Service	2	24.00	$2,352	2	24.00	$2,352			$-	$590,352	$122,304	$-	7,272	$712,656
Three: Commercial/Liberty and Center/Court Couplets														
Late evening service + Sunday Service	2	30.00	$2,940	2	24.00	$2,352	2	24.00	$2,352	$737,940	$122,304	$145,824	10,266	$1,006,068
No evening or Sunday Service	2	24.00	$2,352	2	24.00	$2,352			$-	$590,352	$122,304	$-	7,272	$712,656
Single Track Alignment: 12th, Chemeketa, and Liberty/High														
Late evening service + Sunday Service	2	30.00	$2,940	2	24.00	$2,352	2	24.00	$2,352	$737,940	$122,304	$145,824	10,266	$1,006,068
No evening or Sunday Service	2	24.00	$2,352	2	24.00	$2,352			$-	$590,352	$122,304	$-	7,272	$712,656

Assumptions:

1. All estimates assume 15-minute headways
2. Roundtrip Mileages: Alt 1 - 3.6, Alt 2 - 4.0 and Alt 3 - 2.6 miles
3. Cycle times include 20% layover
4. Operating speed (10 mph) include platform dwell time. Actual travel speeds between stops are higher.
5. Service Spans: 15 hours weekday, 12 hours Saturdays and Sundays
6. 251 Weekdays, 52 Saturdays and 62 Sundays
7. Vehicle requirements do not include spares

Capital Cost Estimates

Methodology

The following elements are included in developing the capital cost estimate for each alternative: The unit costs used in this analysis are based on contractors estimate for building ballasted track for the Portland Streetcar Gibbs Extension.

- Trackwork – Track slab installation, turnout/track crossing installation and ballasted track installation.
- Catenary poles and overhead wire.
- Traffic signals – Modifications to existing and installation of new traffic signals along the alignment to accommodate proposed streetcar operations.
- Civil/Roadway – Grind/overlay of pavement, traffic control, minor roadway and/or sidewalk reconstruction and drainage inlet.
- Utilities – An allowance is associated with each type of impact (high, moderate or minor). This allowance only applies to public utilities, i.e. water, storm and sanitary. No costs are assumed for relocation or modification of private utilities.
- Drainage – Allowance associated with possible stormwater detention and treatment facilities.
- Platforms – For this level of analysis, a platform (stop) is assumed every 2 blocks or roughly 700 feet.
- Substations – Approximately one per one-half mile of track
- Maintenance Facility – The proposed location is south of the existing Amtrak station on 12th.
- Vehicles – Two sets of vehicle costs are presented – modern and historic/replica. Modern vehicle costs are based on the latest purchase price for Inekon/Skoda streetcars for Portland and include sales tax and spare parts. Replica/historic vehicle costs are averaged from a number of recent purchases in the United States. Fleet size assumes a minimum headway of 15 minutes (2 vehicles plus 1 spare).
- Construction Soft Costs – Includes mobilization,

traffic control, field engineering, quality control and general conditions.

- Engineering and Administration – Agency and consultant costs to design and manage the construction of the streetcar project. Typical percentages range from 20 percent (Portland Streetcar) to 40 percent (Tri-Met).
- Year of Expenditure – The capital cost associated with each alternative is presented in year 2004 and year 2006 dollars. Year of Expenditure is assumed to be 2006. This cost is obtained by applying an annual compounded rate of 3 percent to year 2004 costs, or a factor of 1.0609.

The following table summarizes the order of magnitude capital cost of each streetcar alternative in both current year (2004) as well as a future year (2006) to illustrate the impact of inflation on capital costs. Since the choice to use modern or historic/replica vehicles will make a significant difference in total capital costs, two estimates are provided for each line.

Detailed capital costs estimates are presented in Appendix A of this report.

Figure 19 Capital Costs Summary

Alignment	Length	Year 2004 Cost (w Replica Vehicles)	Year 2006 Cost (w Replica Vehicles)	Year 2004 Cost (w Modern Vehicles)	Year 2006 Cost (w Modern Vehicles)
1	3.8 mi	$51.7 million	$54.9 million	$57.2 million	$60.6 million
2	4.1 mi	$56.3 million	$59.8 million	$61.7 million	$65.5 million
3	3.2 mi	$47.2 million	$50.0 million	$52.6 million	$55.8 million
Single-Track	2.7 mi	$42.7 million	$45.3 million	$48.1 million	$51.1 million

FUNDING OPTIONS AND REVENUE POTENTIAL

This section describes some of the opportunities that may be available to fund streetcar projects in Salem. As with all projects of this type, a combination of funding from multiple federal, state and/or local sources would be required to make this service a reality. No funding has been identified to date for an initial streetcar line serving downtown Salem.

It is important to note that eliminating the use of federal funds for construction has been a popular strategy for many cities that have recently constructed streetcar lines or are pursuing streetcar projects. This eliminates the need to comply with extensive federal requirements and allows for faster, lower cost construction projects. In order to achieve this, cities focus on the development of public private partnerships and leveraging local revenue options.

Figure 27 at the end of this section provides a tabular summary of identified funding opportunities.

Federal Sources and Transportation Bill Reauthorization

Funding programs listed below are part of the TEA 21 legislation and it is assumed that they will be reauthorized under the SAFETEA reauthorization. However, until final details of reauthorization are complete, funding programs are subject to change.

Project Earmarks/Federal Demonstration Projects

While recent federal transportation policy focuses on the devolution of spending decisions to state, regional and local entities, congressional earmarking of funds for projects still occurs, especially during the transportation bill reauthorization process. To obtain an earmark, project sponsors must raise the profile of their project and local congressional representation must be effective in advocating for the project during legislative negotiations. A key to the federal earmarking process is local support for a project. Members of

Congress have limited access to earmarked funds, and since each member is interested in returning funds to their home district for projects that are broadly popular, it is important that a proposed project have high visibility and a high degree of local support.

Earmarking can often jump start a project, by providing initial funds for environmental analysis or another specific aspect of the project development process. Earmarks are not available for operating funds.

Federal Transit Act Formula Funds

This federal program is devoted to funding the region's capital improvement program. Public transit operators could claim these funds for the purchase of buses, trains, vans and support equipment. Formula Funds require a 20 percent match.

Federal Transit Act Fixed Guideway Funds

A fixed-guideway operation must be operating for seven years before it can begin receiving allocations form fixed-guideway funds. While these funds are not relevant for initial project deployment, streetcar projects could ultimately receive these funds if a successful system is put in place.

Federal Transit Act New Starts/Small Starts Discretionary Program

The New Starts Discretionary Program is the primary federal funding source for new rail transit services. Projects are determined via a highly competitive process. While the funds are allocated at the Federal level, a critical component of this process is regional support and the importance of coordinated land use planning. Another critical component for New Starts funds is the ability to leverage funding for both the capital investment and ongoing operating support for a project. The Administration proposed to increase the local share requirements for new starts to 50 percent. Currently, transit programs have the same federal share requirements as highways (80% federal, 20% state or local).

The current SAFETEA proposal establishes a new category of new starts projects with under $75 million in federal funding as "Small Starts." These projects would have a streamlined evaluation process. This new category is meant to foster the development of less capital-intensive transit systems, such as Bus Rapid Transit and urban streetcar.

Transportation and Community and System Preservation Pilot (TCSP) Program

This innovative program of TEA-21 provides funding for projects that address the link between land use, community quality of life and transportation. It is not clear whether this program would be continued under SAFETEA, although it is worth mentioning because these funds could be a valuable element of a comprehensive funding program. The program favors projects that partner with private sector interests to make transportation and land-use connections. Transit agencies and cities are eligible recipients of these grant funds. Priority is given to projects that demonstrate a commitment of non-federal resources. Projects that make use of in-kind contributions, including funding from local and private sources, receive priority. Partnerships are encouraged and could include a broad range of traditional partners and non-traditional partners such as the general public, environmental community, businesses and other groups.

Transportation for Livable Communities

FTA has developed the Livable Communities Initiative (LCI) to strengthen the linkage between transportation services and the communities served. This program targets projects that utilize a collaborative public planning process, are transit or bicycle/pedestrian oriented, have significant local community benefits, and have been driven largely from a "bottom up" initiative. It promotes customer-friendly, community-oriented and well-designed facilities and services. The characteristics of community sensitive transit facilities and services include readily available customer information and services, a safe and secure environment; sufficient pedestrian and bicycle access, and architecture that reflects the values of the community. There is no guarantee this funding program would be continued under SAFETEA, however if is, LCI funds could supplement funding for a small element of streetcar facility projects, especially if it is developed in collaboration the business and local community.

Transportation Enhancement Activities (TEA)

TEA is a grant program under TEA-21. It is designed to fund environmental and alternative transportation projects that would not necessarily have other available funding sources. A wide variety of public agencies including cities, counties and transit operators are eligible for TEA funds. These funds are mainly used for capital projects, and cannot be used for transit operations. TEA funds are eligible for bicycle, pedestrian, transit, landscaping, public art or historic projects linked to transportation. As with other innovative programs under TEA 21, these funds are highly competitive. The evaluation criteria emphasize the same qualities as the TLC program.

Housing and Urban Development Funds

While this in not a tradition source of support for transportation projects, Portland Streetcar, Inc. has been successful in lobbying the Federal Housing and Urban Development Department (HUD) for earmark funds. On average Portland Streetcar has received $500,000 per year from HUD. These monies have largely supported planning and design work and have not been used for construction to avoid federal requirements on construction projects. Strong support from the area's Congressional delegation has made this funding possible.

HUD earmark funds do require local match. In Portland, the City backed the local match requirements for these funds.

State Funding Opportunities

Oregon has a limited number of programs that could fund a Salem streetcar project.

Direct Appropriations

Limited funds may be available through direct appropriations.

State Transportation Improvement Program

Transit capital improvement projects are eligible for STIP funds through the standard Oregon Department of Transportation application process. This source is highly competitive, as it funds road, highway and bridge projects throughout the state.

Governor's Budget – Connect Oregon

Connect Oregon promises to distribute $100 million dollars for key transportation capital projects statewide. The allocation of these funds will be based on the ranking of submittals to the Governor's Office. SKT has submitted a $6 million dollar request for the Downtown Salem Streetcar Circulator project.

Oregon State Lottery Funds

This is not a typical source of funding for transit projects; however, State Lottery funds were allocated to the Washington County Commuter Rail project. The funds are secured through direct requests to the state.

Local Revenue Options

Most recent and successful streetcar projects in the United States have relied largely, if not solely on local funding for construction and operation. In places like Portland and Tacoma, avoiding onerous requirements associated with federally funded construction projects has allowed for most cost effective and rapid construction and implementation of service. For this reason streetcar development interests have funneled federal earmarks to planning and design work rather than construction.

A successful streetcar project in Salem will rely on significant local funding. Competition for federal grant funds is stiff and Salem is at a relative disadvantage due to its size.

Therefore, a strong mix of public and private support and will be required to develop a viable funding plan. Local funding opportunities include traditional transit funding sources such as farebox collections and advertising revenue. A Local Improvement Districts (LID) is another common tool for generating capital funds. This method assesses local businesses and property owners based on proximity and perceived benefit from the streetcar line. This option and others are discussed below.

Local Improvement District

A local improvement district is a geographic area in which real property is taxed to defray all or part of the costs of a public improvement. The distinctive feature of a special assessment is that its costs are apportioned according to the estimated benefit that will accrue to each property. In Oregon, local improvement districts are governed by local ordinances, but the Bancroft Bonding Act (ORS 223.205- 295) addresses the means by which local governments may finance public improvements. It is deemed within the local jurisdiction's discretion to determine the benefits and benefit area of a project financed by a local improvement district.

MEASURE 50 Impact on Local Assessments

Assessment methodologies in Oregon that rely entirely on property value are considered property taxes and are subject to Measure 50. Measure 50 limits combined property taxes to 1.5 percent of a property's real market value and limits taxes exclusive of school district levies to 1 percent of real market value. In the event that taxes exceed these limits, taxing districts may be required to forego the difference between the assessed tax and the Measure 50 limit.

The basic principle of a local improvement district is that it creates an assessment charge imposed upon property owners who receive special benefits from an improvement beyond the general benefits received by all citizens of the community. In the case of streetcar this assessment would be tied to a unique transportation service and to the positive impact of streetcar on property values.

Three "principles of benefit" should be considered by a public agency when deciding to use special assessment. They are:

- **Direct Service.** An example would be the construction of a street that gives access to a property previously without access.
- **Obligation to Others.** This is not an intuitively obvious benefit, but addresses the shared responsibility of land ownership and development interests to the greater public good of the community.

- **Equal Sharing.** An example would be a sidewalk down the length of a street. Each property owner is usually responsible for the sidewalk in front of the property, not always because the property owner desires a sidewalk, but because all properties served by the sidewalk system benefit equally from it.

Initiating a LID in Salem

According to the City of Salem Finance Department, no Local Improvement District has ever been formed within the City and no specific local regulations govern the formation of a LID. A LID would be passed as a resolution by the Salem City Council, with a process for input from affected business owners.

Typically, an extensive outreach process should be conducted in advance of any resolution to determine the level of support from the local business community. Ultimately, a locally tailored approach to LID assessment will need to be developed and should consider the impacts the assessment will have on potential stakeholders and opponents. The assessment approach proposed in this section uses a methodology based on property valuation and lineal feet of street frontage. Assessments are then adjusted for land use type and tiered based on distance from the alignment. This avoids issues associated with square footage assessments, which tends to penalize certain types of businesses that require broader footprints. It also includes an adjustment for real or perceived benefits to a business based on its on proximity to the streetcar line. Minimum and/or maximum assessments can also be established to limit the impact of the LID on any one business or property owner.

It is important to remember that an LID cannot be assessed until project construction is complete. Therefore, it is important to ensure that the assessment district holds and will retain sufficient value to cover bonding requirements.

Assessment Details

The purpose of this section is to determine the revenue potential of a Local Improvement District formed to fund a portion of streetcar capital construction and/or vehicle acquisition costs.

For this evaluation we use a LID assessment method based on both lineal frontage on the streetcar alignment and per unit of tax assessed valuation. The two-part fee is calculated using the following assessment rates:

1. $20 per lineal foot of property fronting on the streetcar alignment
2. Maximum of $8.80 per $1,000 of tax assessed valuation

Total assessment would be apportioned among properties based on a scaled percentage of land and improvements value as determined by principal use of the property. Assessment would be scaled as follows: regional institutional (at 100%), commercial (75%), local institutional (50%), industrial (50%), and residential (50%). This scaled system is comparable to that used by a Portland, Oregon LID that funded 20% of the actual costs of the Central City Streetcar alignment.

Two assessment zones are proposed within the district:

Zone 1: Properties within 200 feet of the proposed line would be assessed at full value.

Zone 2: Properties between 200 and 660 (1/8 mile) feet of the line will be assessed at 50 percent of the Zone 1 rate.

For the purpose of calculating the potential value of an LID for proposed streetcar alignments, we use have used the following assessment rates per $1,000 in assessed value:

Figure 20 Proposed LID Assessment Rates

Land Use	Examples	Zone 1	Zone 2
Regional Institutional	Government, university	$8.80	$4.40
Commercial	Retail, office	$6.60	$3.30
Local Institutional	Churches, theaters, museums, libraries	$4.40	$2.20
Industrial	Manufacturing	$4.40	$2.20
Residential	Condo or rental	$4.40	$2.20

These rates are based on those assessed by the Portland Central City Streetcar LID and are adjusted downward 20 percent to reflect lower land values more restrictive zoning requirements in Salem.

An alternative method for LID assessment is present in the figure below. This method was devised to apply a more equitable assessment value in areas where there is a mix of developed and undeveloped land. This is typically not an issue in an established downtown business district such as Salem's Central Business District; however, it is more appropriate for area such as the North Downtown, where property owners stand to benefit from streetcar development, but currently have low assessed structural value.

Figure 21 Alternative Assessment Method

Alternative Assessment Method: The following LID assessment method was used for the Portland Streetcar RiverPlace Extension. This extension served significantly more under- or undeveloped land area. Therefore, the assessed value method unfairly targeted developed properties along the line, discounting benefits of the line to future development.

Method: Properties were assessed an amount equal to their value times a calculated value assessment rate, not to exceed $6.00 per thousand dollars of value, but not less than a fixed land area assessment rate of $0.90 per square foot of Land Area; multiplied by a distance factor (a number that is inversely proportional to the ratio resulting from dividing the distance from a Streetcar Street by 720 feet). Properties fronting on a streetcar street were given a Distance Factor of 1.0, while a property 360 feet from a streetcar street were given a Distance Factor of 0.5. In making the calculations, contiguous properties with the same ownership were treated as a single property.

Example: The assessment on a property with a value of $5 million and a land area of 10,000 square feet that is 200 feet from a Streetcar Street is estimated to be $21,600, computed as follows: Value method = $6.00 ÷ $1000 x $5,000,000 = $30,000. Land Area method = $0.90 x 10,000 square feet = $9,000. Distance Factor = 1 - (200 ÷ 720) = .72. In this case, the Value method applies and the estimated Assessment = $30,000 x 0.72 = $21,600. If financed over 20 years, annual payments would equal about $1,880 per year at 6% interest.

LID Assessment Revenue Potential

This section estimates both components of the proposed two-part fee assessment: (1) a lineal footage assessment and (2) a property tax based valuation component. The valuation component includes a revenue estimate based on current valuation and one based on potential property value increases if undervalued lots are redeveloped.

Frontage Along Streetcar Alignment Assessment

The following table provides an estimated fee for those properties fronting each of the proposed alignments. Our estimate accounts for building frontages on both sides of streetcar operating streets. For fully developed streets, such those in downtown we assume that 75 percent of the alignment is developed to account for cross streets and other Right-Of-Way (ROW) reductions. In the North Downtown area, the

Capitol Mall, 12th Street and around Willamette University, rates are lowered to account for lower density land use and/or limited street-fronting development. The resulting fees are established using the $20 per linear foot assessment. This component of the proposed fee generates between $324,000 and $407,000 based on the alignment.

Figure 22 Frontage Based Fees

Street Car Alignment	Frontage	Assessment per Linear Foot	Assessment
1	16,685	$20	$333,696
2	20,379	$20	$407,583
3	16,844	$20	$336,882
3X	19,774	$20	$395,472

Property Value Assessment

The following table shows a potential property value assessment for each alignment. The analysis totaled assessed values for all properties in Zone 1 (within 200 feet of Streetcar) and Zone 2 (between 200 and 600 feet of alignment). Many study properties do not have current assessed values. In those cases, an assessed valued is estimated to be 67 percent of the total land and improvement values combined. This scale factor is based on the existing assessed valuations in the study area. This component of the fee generates between $2.5 and $3.7 million based on the alignment.

Figure 23 LID Revenue Estimates Based on Current Property Valuation

Land Use	Zone 1 Rate	Zone 2 Rate	Alignment 1 Fee	Alignment 2 Fee	Alignment 3 Fee	Alignment 3X Fee
Regional Institutional	$8.8	$4.4	$1,747,884	$1,954,056	$998,767	$2,001,340
Commercial	$6.6	$3.3	$1,376,077	$1,368,809	$1,202,746	$1,374,636
Local Institutional	$4.4	$2.2	$311,453	$31,617	$110,962	$128,820
Industrial	$4.4	$2.2	-	$408	$105,776	$105,776
Residential	$4.4	$2.2	$54,184	$72,592	$55,733	$79,296
Total Fee			**$3,489,598**	**$3,427,482**	**$2,473,984**	**$3,689,868**

Note: Alignment 3X represents Alignment 3 with service on extension to Amtrak Station

The presence of many under-utilized properties in the proposed streetcar alignments creates the potential for increased property valuations and therefore higher LID fees. Local Urban Renewal efforts could increase the total assessed values for the properties used to calculate the fees; however, much of the added valuation may occur after the assessment district has been created.

To estimate potential future fees, the following table recalculates the assessments based on increased improvement values for those properties currently with below average improvements. Commercial properties constitute a large percentage of the tax base and assuming these properties have the greatest potential for increased valuation, only commercial lots were addressed. Currently, all commercial properties along the various alignments have an average improvement value of $76 per square foot. For this analysis, a property valued at a lower level was brought up to this average value. This provides a higher end estimate of LID revenue generations were significant infill development to occur before the LID was assessed. As the table indicates, assessment revenues are between $0.8 and $1.2 million higher than those based on current valuations.

Figure 24 LID Revenue Estimates Based on Adjusted Valuation for Undervalued Commercial Properties

Land Use	Zone 1 Rate	Zone 2 Rate	Alignment 1 Fee	Alignment 2 Fee	Alignment 3 Fee	Alignment 3X Fee
Regional Institutional	$8.8	$4.4	$1,747,884	$1,954,056	$998,767	$2,001,340
Commercial	$6.6	$3.3	$2,366,932	$2,605,349	$2,010,275	$2,447,614
Local Institutional	$4.4	$2.2	$311,453	$31,617	$110,962	$128,820
Industrial	$4.4	$2.2		$408	$105,776	$105,776
Residential	$4.4	$2.2	$54,184	$72,592	$55,733	$79,296
Total Fee			**$4,480,452**	**$4,664,022**	**$3,281,513**	**$4,762,846**

Note: Alignment 3X represents Alignment 3 with service on extension to Amtrak station

Figure 25 calculates total estimated LID revenue potential for each alignment alternative. Alignment 2 has the highest potential totaling just over $3.8 million given current land uses and just over $5 million with additional downtown redevelopment. Alignment 3 has the lowest potential revenue from an LID.

Figure 25 Potential LID Revenue By Alignment

Assessment Component	Alignment 1		Alignment 2	
	Low-End	High-End	Low-End	High-End
Lineal Frontage	$333,696	$333,696	$407,583	$407,583
Property Valuation	$3,489,598	$4,480,452	$3,427,482	$4,664,022
TOTAL REVENUE	**$3,823,294**	**$4,814,148**	**$3,835,065**	**$5,071,605**
Assessment Component	**Alignment 3**		**Alignment 3X**	
	Low-End	High-End	Low-End	High-End
Lineal Frontage	$336,882	$336,882	$395,472	$395,472
Property Valuation	$2,473,984	$3,281,513	$3,689,868	$4,762,846
TOTAL REVENUE	**$2,810,866**	**$3,618,395**	**$4,085,340**	**$5,158,318**

Note: Alignment 3X represents Alignment 3 with service on extension to Amtrak Station

Appendix A provides further analysis that estimates the per square foot cost that individual property owners would pay under the proposed LID assessment method.

Other Operating and Capital Revenue Sources

A range of other funding options may be feasible for supporting ongoing operations or for capital development. Options such as fares, advertising and sponsorship are relatively small but reliable funding sources. Other options discussed in this section, including the use of City general funds and transit district sales tax receipts, may have significant political and/or technical barriers.

Fares

Fare revenue is based on the average fare per passenger multiplied by the number of riders expected to use the system. Currently, the system charges $0.75 for a single ride and $20.00 for a monthly pass. Discounts are available for seniors and youth riders, and a low cost day pass is available for riders making multiple trips during the day. The Board has recently passed a fare increase, effective January 1, 2005, which will increase fares as follows:

Figure 26 2005 Salem-Kaiser Transit Fares

Individual Adult Fare	$0.85	Adult Day Pass	$1.70
Adult Monthly Pass	$22.00		
Youth Individual Fare	$0.60	Youth Day Pass	$1.20
Youth Monthly Pass	$16.00		
Special Individual Fare	$0.40	Special Day Pass	$0.80
Special Monthly Pass	$11.00		

Pass riders, including day pass users, are more likely to use the streetcar frequently than are those that pay full cash fare, because streetcar trips will generally be very short trips that may seem "costly" at full fare. For this reason, it is difficult to estimate the fare increment that can be attributed to streetcar. For example, a rider who buys a $1.70 day pass and previously used it for a single round trip to commute to work (value = $1.70 at full fare or $0.85 average fare) may now use the same day pass to make a round trip on the streetcar in addition to the round trip to and from work. While the streetcar would be responsible for two new boardings, there would be no resulting new fare revenue for those trips and the average fare per boarding for that passenger would decrease from $0.85 per trip to $0.43 per trip.

For the purposes of estimation, it is assumed that each new streetcar trip generates about $0.50 in new revenue. While many trips will generate very little revenue, some trips will come from new and occasional riders, paying full fare.

Depending on the alignment selected, initial fare revenue would be between $102,650 and $128,350. This will cover a very small percentage of the total operating cost – generally between 10 to 12 percent

Advertising and Sponsorships

Another potential revenue source is the sale of streetcar advertising. Revenue generated from the sale of advertising on vehicles, benches and shelters has become increasingly important to transit providers as federal, state and local government grant funding becomes scarcer and increasingly competitive. In Portland, revenues are also generated through annual corporate sponsorship of streetcar stops. Sponsoring businesses have their name called out every time a streetcar vehicle arrives at the sponsored stop. This is particularly attractive to businesses located along the line.

In Tampa a recently constructed streetcar line is funded through a patchwork of sources that include the sale of naming rights to the line, cars, stations, and even streetcar seats.

General Obligation Bonds (Property Tax Supported)

Bonds are a primary source of funds for constructing capital improvement projects. Voter-approved bonds are sold to fund street and other transportation improvement projects. Transportation projects can be grouped in "bond packages" that go before the public for voter approval or issued separately. General Obligation Bonds can be supported through the City's property tax base or through the transit District's tax base. The City has specified limits that bonding not exceed $2.42 per thousand dollars of the City's property tax authority.

City General Funds

The City of Salem general fund is a combination of numerous revenue sources; property tax revenue comprises approximately 45 percent of annual general fund revenues. Franchise fees, fees for services and other city earnings, rents and fine revenues also contribute. General funds support a wide variety of city services ranging from Police to Parks to Building and Safety. As in most communities, there is significant competition for general funds. It could be challenging to justify new city spending on streetcar operations when weighed against funding for police and fire department programs or city recreation programs.

Transit District Sales Tax Receipts

In 1996, voters in the Salem Area Mass Transit District approved a property tax measure that provide increased financial support for the operation of transit services. The District has made good use of that support increasing service substantially and growing patronage by over 50 percent. However, with the subsequent growth in District population and demand for services, marginal increases in property tax revenue has not kept up with demand for new services. The District would not be able to support the operation of a new streetcar service using existing property tax revenues or without cutting existing bus services.

If, in the near future, the District considers going to the voters to increase local property tax revenues for transit, streetcar could be considered as an element of the overall funding package. In fact, a new rail service may provide an added dimension to a ballot measure proposal, which otherwise may be difficult to sell to the voting public.

Tri-Met provides funding for approximately two-thirds of Portland Streetcar's annual operating cost. These revenues come directly from Tri-Met's regional payroll tax assessment.

Off-Street Parking Revenues

The City of Salem Urban Renewal Division controls four major downtown parking garages: Chemeketa, Liberty, Marion and Pringle Parkades. The Urban Renewal Division could consider creating a fee for customer use of off-street parking and/or an increase in employee permit fees. This revenue could either support a cash payment or back a bond measure for streetcar capital construction costs. Structured as a simple annual cash payment, this revenue source could provide annual operating fund assistance to the streetcar. The city could also use the bond increase to support a bond for construction. For the RiverPlace streetcar extension, the City of Portland raised over $22 million dollars in funds by bonding a rate increase of $0.20 on the downtown garages.

Salem residents' and downtown employees are accustomed to low cost or free parking. Any across-the-board parking fee increase will be contended; however, parking costs in Salem are well below peer averages and rate increases may be more acceptable if tied directly to the construction of a new and important downtown amenity. It is also worth noting that a recent study recommended the formation of Downtown Salem Economic Improvement District (EID), funded in part through parking revenues.

Parking Meter Revenues

A recent report prepared by Leland Consulting for the Downtown Salem Strategy Steering Committee estimated that the implementation of a $0.75 per hour meter fee for on-street stall in the downtown would raise $1 million per year. A portion of this revenue could be allocated to streetcar capital or operation. Additionally, the proposed rate could be raised to $1.00 per hour, creating approximately $330,000 in additional revenue for a streetcar project. While implementing parking fees may initially be a contentious issue, most cities comparable in size to Salem charge for parking in the downtown business district. Well-allocated parking fee revenue can help to enliven a business district rather than detract from its appeal. Communities such as Missoula, Montana and Pasadena, California provide excellent examples of how public improvements tied to newly implemented meter fees increased downtown patronage and activity.

On June 1, 2004, the Board of Portland Streetcar, Inc., adopted a resolution that included a recommendation that an additional $300,000 annually in new parking meter revenues be allocated for enhanced streetcar operations. The allocation is expected to cover one-third of the annual operating cost for enhanced service commencing on July 1, 2006, and will be conditioned on an increase in the use of the streetcar. Portland Streetcar, Inc. (PSI) has accepted the condition that Streetcar ridership must increase by at least 9 percent within 24 months from the time that enhanced service begins in order to continue receiving the funds for enhanced service. Portland Department of Transportation has agreed to provide ridership survey results to the City Council on a yearly basis in order to measure progress. If ridership numbers are not met, the City Council will determine how the $300,000 will be spent, with a preference going to Transportation Maintenance backlog.

Economic Improvement District (EID)

A recent study commissioned by the Downtown Salem Partnership has recommended that an EID be formed in downtown Salem. An EID is a business assessment district designed to further economic development activities and management of a particular area, in this case Downtown Salem.[4] Funds from the EID cannot be used for capital; but can be used for operations. EID funds can, however, be used to leverage other capital sources by replacing otherwise allocated City capital improvement funds.

A very limited amount of capital funding for streetcar could be leveraged through the development of an EID in Downtown Salem, if assessment funds could be swapped with the City or other agency operating funds. More likely it would be a tool to supplement ongoing operations of a streetcar line.

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[4] See the January 2004 Report: Strategy for a Downtown Salem Partnership, for more detailed information on the formation and operation of an EID.

Summary of Funding Options

Figure 27 provides a tabular summary of all potential capital and operating revenue sources discussed in this section. The table provides a description of the source, the process for application and/or approval and the likelihood of securing funds.

Figure 27 Funding Options and Revenue Potential Summary Table

FUNDING SOURCE	FUNDING PURPOSE	USE OF FUNDS	APPLICATION/ APPROVAL PROCESS	EST. ANNUAL YIELD	LEAD TIME	COMMENTS	LIKELIHOOD FOR SUCCESS
Federal Programs							
Federal Earmarks/ Demonstration Projects	Direct Earmark of Federal Funds procured by Congressional Delegation	Capital	Work Directly with Congressional Delegation	Up to $15 million	1 year +	According to representatives of Congressional delegates it will be challenging to obtain earmark for $12 to $15 million (20% of capital costs)	Difficult
Federal Transit Act Formula Funds	Federal program to fund region's capital improvement program	Vehicle purchases	Through ODOT	Unknown	1 year +	Limited funds cover extensive regional needs	Difficult - highly competitive
Federal Transit Act Fixed Guideway Funds	Rail service must be in place for seven years before eligible	Capital	Federal application process	Varies	7 years	Funds not available for start-ups	Very Difficult - highly competitive
Transportation and Community System Preservation Pilot Program (TCSP)	Available for transit projects that coordinate transportation and land use	Capital projects only	Federal application process	$25 million /year nationally	1 - 2 years	TEA-21 program that favors projects with public/private sector partnership.	Difficult - highly competitive
Transportation Enhancement Activities (TEA)	Small-scale non-routine projects (e.g., Ped/bike/ transit)	Capital projects only	Application process through DOT	Unknown	1 -2 years	Under TEA-21, program designed for alternative transportation projects without other funding sources.	Difficult - highly competitive
Transportation for Livable Communities	Promotes safe, multi-modal connections to transit. Requires local business community collaboration	Capital projects only	Federal application process	Unknown	1-2 years	No guarantee this program will be continued under SAFETEA	Difficult - highly competitive
Federal Transit Act New Starts/Small Starts Program	Discretionary Funds for large scale capital projects	Capital projects only	Congressional Earmark	Varies tremendously. Could be up to $75 million available nationwide	1 year	20% match requirement	Moderate to Difficult
Housing and Urban Development Funds	Non-traditional Federal source, but have been know to earmark funds for streetcar projects	Capital projects only	Congressional Earmark	Up to $500,000	1 year	20% match requirement	Moderate to Difficult

FUNDING SOURCE	FUNDING PURPOSE	USE OF FUNDS	APPLICATION/ APPROVAL PROCESS	EST. ANNUAL YIELD	LEAD TIME	COMMENTS	LIKELIHOOD FOR SUCCESS
State Programs							
State Transportation Improvement Program	Varied	Transit capital projects, excluding revenue vehicles	Application process through ODOT	Unknown	1 year	Securing these funds for transit is highly competitive	Difficult - highly competitive
Governor's Budget – Connect Oregon	Discretionary funds for transportation projects	Capital construction	Submit request to Governor's Office	$6 million ($100 million available statewide)	1 year	SKT has submitted a request for $6 million of the Salem Streetcar	Moderate
Oregon State Lottery Funds	Not typical source for transit projects, but was used for Washington County Commuter Rail	Capital construction, vehicle purchase	Direct request to state	Unknown	1 year +		Moderate to Difficult
Regional and Local Programs							
Local Improvement District	Required contribution by property owners who stand to benefit from streetcar line	Capital construction of purchases only	City Council resolution with buy-in from property owners and business community	$2.5 to $5 million one time yield	1 year	Yield could vary based on property owners willingness to assess fee on their properties. LID can be paid as one-time fee or spread over 5, 10 or 20 years.	Good to Moderate
City General Fund (Property Tax Revenues, franchise fees, etc.)	Allocation of City General Funds to streetcar	Operations or capital	City Council Approval	Depends on City Budget Process	1 year	General Funds are very competitive and strong case for broad public benefit would need to be established	Difficult
Economic Improvement District	Self assessed tax for downtown businesses to support parking garages and streetscape. City EID study provides more specific discussion of revenue potential	Operations	City Council resolution with buy-in from business community	Support for streetcar would likely be small % of assessment revenues	2 years	City is examining EID for other downtown improvement projects. Estimate revenues are portion of total EID revenue.	Good
Transit District Property Tax Receipts	Increase in Transit District Property Tax used to fund streetcar	Operations or capital	Transit District Board Approval, Ballot Measure Process	Depends on levy increase	2 years	This would need to go to the voters and could be a difficult sell given the limited geographic scope of project	Moderate to Good

FUNDING SOURCE	FUNDING PURPOSE	USE OF FUNDS	APPLICATION/ APPROVAL PROCESS	EST. ANNUAL YIELD	LEAD TIME	COMMENTS	LIKELIHOOD FOR SUCCESS
Off Street Parking Revenues	Portion of increase off-street parking charges used to support streetcar operations	Operations or capital	City Council Approval	$200,000 to $500,000	2 years	Revenues depend on level of fee	Low to Moderate – will be controversial
Parking Meter Revenues	Portion of new on-street meter fee used to support streetcar operations	Operations or capital	City Council Approval	Up to $330,000	2 years	Based on $0.25 cents from a $1.00 per hour fee	Low to Moderate – will be controversial
Advertising and Sponsorships	Sale of advertising and corporate sponsorship of stops, facilities and vehicles	Operations	No process required	$25,000 to $100,000 first year	None	Advertising and sponsorship is likely to grow with system implementation and success	Good
Fares	Assumes that streetcar fares would be the same as SKT bus fares	Operations	No process required	$102,000 to $128,000	First year of operation	These estimates are based on ridership estimates generated in this report and are conservative.	Very Good - Definite if fare is charged
Retail and Hospitality Contributions	Direct participation from businesses	Primarily small capital projects	Negotiations with associations and individual companies	Unknown	1 – 2 years	Merchants may be interested to fund small scale amenities such as shelters or signs in exchange for advertising	Low to Moderate - requires significant ongoing effort and cooperation.

CONCLUSIONS AND NEXT STEPS

All three alignments offer Salem a unique opportunity for improved circulation in a developing downtown. Of the three alignments considered, Alignment 2, operating between Broadway and Market and the Amtrak station appears to offer a slightly better combination of costs and benefits than the other options, providing good quality service to the largest existing attractions in downtown Salem while also serving areas with potential for new development.

At present, no single funding option has been developed to pay for streetcar implementation. As a next step, streetcar supporters, City and transit officials should work together to identify private and local public funding sources while preparing for federal reauthorizations that could support this project.