

South Lake Union Streetcar

Capital Financing and Operating and Maintenance Plan

April 13, 2005

Prepared for:
Seattle City Council

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The City of Seattle, in cooperation with the U.S Department of Transportation Federal Transit Administration (FTA), proposes to construct a new streetcar line to serve the downtown, Denny Triangle and South Lake Union areas of Seattle. This line would provide local transit service, connect to the regional transit system, accommodate economic development, and contribute to neighborhood vitality. The project elements and construction are discussed in detail in the *South Lake Union Streetcar Project Description Memo* (Parsons Brinckerhoff, March 2005).

The proposed South Lake Union Streetcar would begin in the vicinity of the intersection of Westlake Avenue and Olive Way/5th Avenue in downtown Seattle (see Figure 1-1). It would extend north through the Denny Triangle and South Lake Union neighborhoods and terminate in the vicinity of Fairview Avenue N and Ward Street near the Fred Hutchinson Cancer Research Center. The line would connect these neighborhoods and destinations with the regional transit hub at Westlake Center, which will be a major connection point for light rail, buses and monorail. The length of the proposed streetcar line is approximately 1.3 miles in each direction (2.6 track miles total) and the tracks and stops would be constructed entirely within existing right-of-way. The project would include three new traffic signals.

The streetcar would share the street with automobile traffic. Initially, the streetcar is expected to operate for 15 hours per day (roughly 6 a.m. to 9 p.m.), with fifteen minutes between cars. Ultimately, the system is expected to operate for 18 hours per day (roughly 5 a.m. to 11 p.m.), with ten minutes between cars.

As shown in Figure 1-1, streetcar stops would typically be side-platform, corner-curb bulbs located within the parking lane at the far side of an intersection. Two stops would be center platform configurations: one within Fairview Avenue N at the Fred Hutchinson campus and one in the railbank north of Valley Street adjacent to South Lake Union Park.

Bi-directional, low-floor, single-car, articulated streetcars are proposed. They are typically 66 feet long, 11.5 feet high and 8 feet wide and run on standard-gauge tracks. The streetcar would be powered by an overhead electrical system similar to those used by streetcars in cities such as Tacoma, Wash. and Portland, Ore. The low-floor car technology is designed to meet all requirements of the Americans with Disabilities Act and to maximize ease of boarding and alighting for all passengers. To assure wheelchair access, curb heights at the accessible doorways will be 10 inches high. These curbs are higher than standard, but will not preclude joint streetcar/bus stops.

Fare collection is expected to be via “proof of payment” with riders being required to have monthly passes, tickets, or other prepaid fare instruments. Validated tickets for the streetcar will be sold by ticket vending machines on the vehicle, eliminating the need for wayside fare vending equipment. Regular transit fares would be collected for all SLU streetcar trips; only the southern terminus is within the current “ride free zone.” Fare inspection will be required to ensure that riders have paid their fare.

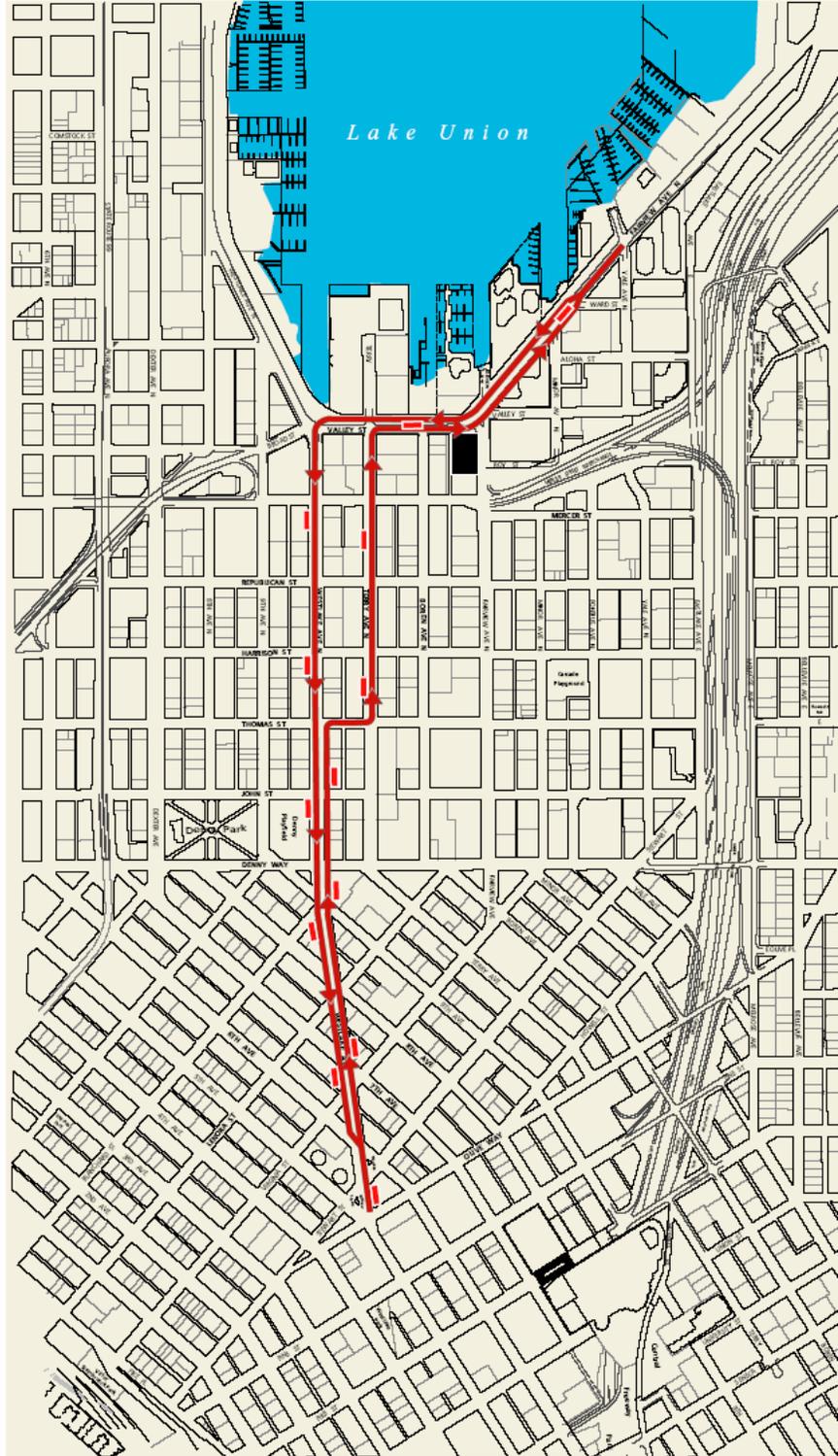
A maintenance facility at the southwest corner of Fairview Avenue N and Valley Street is also planned as part of this project. The maintenance facility building would be approximately 100 x 70 feet. Two additional yard storage tracks would also be provided. Daily vehicle maintenance and inspections and minor repairs would be completed at the facility.

In the typical construction method for the streetcar track system, the top 12 to 18 inches of pavement would be removed and replaced with rail-embedded reinforced concrete slabs within a trench approximately eight feet wide. This project would also involve upgrading the stormwater detention system, relocation of utilities, and installation of traction power substations.

1.1 Figure 1

LEGEND

- Proposed Streetcar Alignment
- Proposed Station Locations
- Proposed Maintenance Facility



▲ NORTH Scale: 0 200 400



SOUTH LAKE UNION STREETCAR
PROJECT AREA



The total capital cost to construct the South Lake Union Streetcar is estimated at \$47.5 million (2006 dollars)¹. The city of Seattle proposes to fund this project through a combination of public and private sources. At 30 percent of design and engineering, nearly 85 percent of the total capital cost has been identified with a private sector contribution of 58 percent of the total capital costs.

2.1 Private Sector Contribution: Local Improvement District

One reason that streetcar systems have become attractive modes of urban transportation is their ability to attract private sector contributions. The 2004 *Seattle Streetcar Network and Feasibility Analysis* completed by Parsons Brinckerhoff identified this ability as a characteristic of streetcars.

Streetcars often attract private funding. Private property owners have contributed to capital costs through various means, including the formation of a Local Improvement District ... thus reducing the public's share of the capital cost.

The city's experience with the Waterfront Streetcar confirms this premise. In 1981, waterfront businesses formed a local improvement district (LID) to contribute \$1.1 million to the construction of the waterfront streetcar.

The proposal to develop a streetcar in South Lake Union has also attracted property owner support. Area property owners formed a group called Build the Streetcar to advocate for and support creating a \$25 million LID to contribute to the construction of this system.

The city of Seattle is currently in the process of establishing this LID through a City Council-initiated special benefits study.² The Council is following the steps identified in the Municipal Research Services Center's Local Improvement District manual. A milestone in this process the determination that an LID is feasible.

When the probable increased market value range derived from this preliminary analysis is greater than the proposed assessment, the LID project is concluded to be feasible without modification.³

¹ Page 6, South Lake Union Streetcar Project: Preliminary Engineering Capital Cost Report, Parsons Brinckerhoff, April 13, 2005.

² Seattle City Ordinance 121567, passed August 16, 2004.

³ Ordinance 121567, Attachment A: Special Benefit Study description from the Municipal Research Services Center's Local Improvement District Manual

An initial assessment by appraiser Peter Shorett in 2002 concluded that the increase in property value due to the streetcar would be in excess of \$25 million, and therefore, an LID could be feasible. Shorett's initial analysis, combined with the Council-initiated special benefit study should lead to determining that the LID is feasible. This proposed financing plan includes a \$25 million property owner LID as a component of the capital financing plan.

2.2 Private Sector Contribution: Joint Development of Maintenance Base

An innovative model of private sector involvement is the joint development or sale of development rights above the maintenance base. The Center for Transit Oriented Development report (Appendix A) notes that "the development potential from transit extends beyond the station areas to land adjacent to and above the transit maintenance facilities." Los Angeles, Chicago and Tampa, Fla. are using development rights associated with transportation maintenance facilities as mechanisms to fund transit projects.

In South Lake Union, the candidate maintenance base is located at the southwest corner of Fairview Avenue N and Valley Street. The lot is approximately 32,000 square feet (132 x 240 feet). The maintenance facility building would be 100 x 70 feet, with 9,000 square feet of usable space, including 2,000 square feet of space located on a second level.

The city of Seattle commissioned a report by Heartland to determine the market value of the development rights above this proposed maintenance facility. Heartland analyzed this development potential for both a typical commercial and residential project (Appendix B). The consultants concluded that a residential development would be the highest and best use and that "a residential developer could likely pay from \$2.7 to \$3.4 million" for these development rights.⁴ This proposed financing plan includes \$2.5 million from the sale of development rights above the maintenance facility for the South Lake Union Streetcar.⁵

⁴ Page 4, Heartland Memorandum March 29, 2005 (Appendix B).

⁵ The total value of the development rights was reduced to reflect the build-out scenario for the maintenance facility.

2.3 Public Sector Contribution: State and Federal Grants

The South Lake Union Streetcar has demonstrated success in attracting federal and state funds. To date, \$12.34 million of state and federal funds have been secured for this project. These include:

Grants Secured	
Grant (Source)	Amount
PSRC (FTA Formula 5307 2003-2004)	\$1,274,490
Federal Appropriation (FHWA FY2004)	\$3,000,000
PSRC (FTA Formula 5307 2005-2006)	\$1,219,048
PSRC (FTA Competitive 5307 2006)	\$2,850,000
Federal Appropriation Request FY 2005	\$1,000,000
State Budget Appropriation	\$3,000,000
Total Secured	\$12,343,538

In addition, the city of Seattle is continuing to work with our state and federal partners to construct the South Lake Union Streetcar. Current funding requests or planned grant applications total more than \$6 million. These include:

Grants Pending/Future		
Grant (Source)	Amount	Comment
PSRC (FTA Competitive 5307 2006)	\$150,000	Contingent Upon Level of Regional Apportionments
Federal Appropriation (FY2006)	\$3,000,000	Pending Congressional Approval of 2006 Appropriations
2006 EDA Grant	\$3,000,000	SDOT will resubmit project in 2005
Total Pending	\$6,150,000	

2.4 Public Sector Contribution: City Property Sale Proceeds

In 2001, the city of Seattle sold eight surplus properties in South Lake Union for \$20.2 million. In June of 2001, the City Council adopted policy guidelines for the distribution of these proceeds. These guidelines directed the city to allocate approximately \$9 million to “transportation improvements in the South Lake Union area.”⁶ In Resolution 30334, the Council established the criteria for selecting a transportation project:

- Cost-effectiveness of project;

⁶ Resolution 30334, passed 7-2, June 25, 2001.

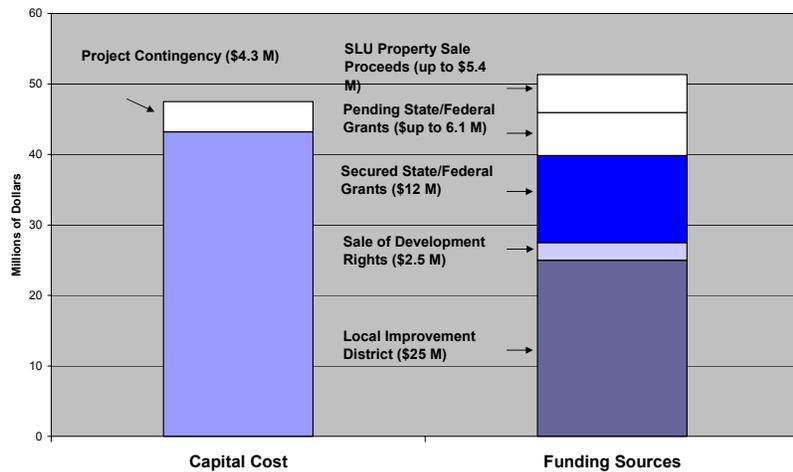
- Consistency with the public policy goals in Resolution 30080;⁷
- The benefits to the neighborhood;
- The benefits to the broader region;
- Consistency with the neighborhood plan; and
- The degree to which the project leverages outside funds.

Of the \$9 million, \$5.4 million of the South Lake Union property sales proceeds remains to be obligated for transportation. The Executive proposes to utilize a portion of these funds to fill any remaining capital gap after state and federal sources are exhausted.

2.5 Summary of Capital Financing Plan

The city has identified just under \$40 million of the \$47.5 million needed to build the streetcar. The remaining \$7.7 million gap will be filled primarily through additional state and federal grants and appropriations. A secondary source to fill any remaining gap will be a portion of the city’s South Lake Union property sale proceeds which were directed to be invested in South Lake Union. In total, the Executive has identified \$11.5 million in potential capital sources to fill the current \$7.7 million gap. In accordance with Ordinance 121565, none of these sources require the use of city of Seattle general funds.

Chart 2.1: Capital Funding Sources for SLU Streetcar



⁷ Among the public policy goals identified in Resolution 30080 are “h) to encourage alternative forms of transportation including public transit,” and “o) to catalyze economic development and revitalization in the area, consistent with the neighborhood plan.”

This operations and maintenance financing plan assumes that the South Lake Union Streetcar system will be operated by King County Metro. While Metro will operate the line, the streetcar will require investment from the city and other agencies or organizations to cover operating costs. Initially, service would operate every 15 minutes over a 15-hour service day, from approximately 6 a.m. to 9 p.m. The initial year's cost of operations and maintenance is expected to be \$1.51 million (2004 dollars), while subsequent years at this service level will cost \$1.37 million (2004 dollars).⁸

The Operations and Maintenance Financing Plan is an innovative partnership between the City of Seattle, King County Metro and the private sector. This plan is divided into two phases. Phase one will begin in mid-2007 with the initial SLU Streetcar service. Phase two will begin when in the summer of 2009, when Sound Transit's LINK Light Rail or the Seattle Monorail Project's Green Line establish transit service in Seattle.

3.1 Phase One Overview

During the first phase of operations, the city of Seattle will contract with King County Metro to operate and maintain the South Lake Union Streetcar. It is the intent of the city of Seattle and King County Metro to enter into an interlocal agreement which will define the specific details of the operations and maintenance plan.⁹

For this analysis, the city of Seattle assumes that the initial year of operation, from mid-2007 to mid-2008, will cost \$1.6 million.¹⁰ The second year of phase one, from mid-2008 to mid-2009, will cost \$1.5 million for operations and maintenance. The total cost of service from 2007 to mid-2009 is estimated at \$3.18 million.

2007	\$814,176
2008	\$1,592,649
2009	\$777,118
Total Phase One	\$3,183,943

The operations of this service will be funded through three sources. In accordance with Ordinance 121565, none of these sources requires the use of city of Seattle general funds.

⁸ Page 5-4, South Lake Union Streetcar Project Preliminary Engineering Operating and Maintenance Plan, April 13, 2005, Parsons Brinckerhoff.

⁹ See Draft Memorandum of Intent between the city of Seattle and King County Metro (Appendix C).

¹⁰ This first year of operations is higher due to start-up costs. Operations and maintenance costs are escalated at 2.44% per year from 2004 to 2007 to estimate year one operations.

- Farebox recovery. The farebox recovery is based upon the ridership projections. Initial ridership is estimated between 330,000 and 380,000. By the time that South Lake Union is fully developed, between 1.1 and 1.2 million riders are projected to use the system. The South Lake Union Streetcar will be fully integrated into the Metro fare system, which is currently \$1.25 for a one-zone, off-peak fare. For this O&M Financing plan, an average fare per boarding of 75 cents is used.
- FTA Formula Funds. As the owner of the South Lake Union Streetcar, Seattle will be eligible for Federal Transit Administration 5307 and 5309 formula funds. Based on projections, the South Lake Union Streetcar will generate \$125,000 in 2007.¹¹
- South Lake Union Streetcar Operations Fund. This fund will be capitalized through a combination of the sale of sponsorships and the bulk purchase of streetcar passes.

3.2 Private Sector Contribution: Streetcar Sponsorship for the South Lake Union Streetcar Operations Fund

The South Lake Union streetcar is expected to attract hundreds of thousands of citizens, commuters and tourists. The Executive proposes to leverage this interest into additional private sector support of the streetcar service. According to the Center for Transit Oriented Development, “increasingly cash-strapped government entities are using corporate sponsorships, naming rights and other forms of advertising to raise revenues for capital and operating expenses”¹² of transit projects.

The most notable example in the nation is the Las Vegas Monorail which expects to raise more than \$6 million per year through the sponsorship and naming rights of monorail trains and stations. Other examples across the country may be more in scale with Seattle’s South Lake Union Streetcar project.

In Tampa, Fla., a 2.3-mile streetcar line which opened in 2001, raised \$2.3 million in sponsorship sales. The streetcar sold the naming rights to the



¹¹ FTA funds are calculated by PRSC as a percentage of overall transit trips. The South Lake Union Streetcar is estimated to serve 0.15% of the regional transit trips.

¹² Page 4, Summary of Financing Options for Seattle South Lake Union Streetcar, Center for Transit-Oriented Development, April 4, 2005 in Appendix A.

entire system for \$1 million, the sponsorship of vehicles for \$250,000 and the sponsorship of stations for \$100,000. The Tampa streetcar planners structured these 10-year contracts so that the payment for these sponsorships came within the first three years, and these revenues were invested in an operations endowment.

The Central Arkansas Transit Authority’s Little Rock Streetcar is also raising funds through the sponsorship of the system, streetcars and stations. According to an analysis completed by the Center for Transit Oriented Development, the city of Seattle could “generate up to \$260,000 per year”¹³ on sponsorships for the South Lake Union Streetcar.

The Executive proposes two options for raising operating funds through the sale of sponsorships for the SLU Streetcar line. Option one would allow an entity to purchase the naming rights to the entire system and to advertise on the vehicles. Option two would separate the sponsorship of the entire line and the sponsorship of each of the three vehicles.

These sponsorships would be structured similar to Tampa with three year payment plans for ten-year terms. Either of these options would provide the needed funds to operate and maintain the South Lake Union Streetcar for phase one, from mid-2007 to mid-2009.

Sponsorship	Option 1	Option 2
Streetcar Line (including car wraps)	\$1,500,000	
Streetcar Line		\$1,000,000
Vehicle (3 @ \$250K)		\$750,000
Station (13 @ \$100K)	\$1,300,000	\$1,300,000
Total	\$2,800,000	\$3,050,000

3.3 Private Sector Contribution: Bulk Pass Purchases for the South Lake Union Streetcar Operations Fund

The businesses along the South Lake Union Streetcar corridor are also potential contributors to the operations and maintenance costs of the system. As in Portland, Ore., the city of Seattle will provide for a mechanism for area businesses to purchase bulk passes for employees, patrons and visitors.

According to the Center for Transit-Oriented Development, bulk sale of passes could generate \$100,000 or more per year.¹⁴

¹³ Page 4, Summary of Financing Options for Seattle South Lake Union Streetcar, Center for Transit-Oriented Development, April 4, 2005 in Appendix A.

¹⁴ Page 2, Summary of Financing Options for Seattle South Lake Union Streetcar, Center for Transit-Oriented Development, April 4, 2005 in Appendix A.

The Executive proposes to use the revenues from bulk sale of passes to supplement the South Lake Union Streetcar operations fund. The bulk sales are estimated to generate net revenue of \$28,000 in 2007, and \$117,500 total for phase one.

3.4 Phase One: Summary of Sources and Uses

The following table summarizes the revenue sources for phase one of the South Lake Union Streetcar operations and maintenance financing plan.

Table 3.3 Sources for Phase One Operations and Maintenance

	2007	2008	2009 (Jan-Jun)	Total Phase One
O&M Expense	814,176	1,592,649	777,118	3,183,943
Revenue Sources				
Farebox Recovery	123,750	286,318	163,053	573,120
FTA 5307/5309	63,000	131,040	68,141	262,181
Operations Fund	627,426	1,175,292	545,924	2,348,641
Total O&M Revenue	814,176	1,592,649	777,118	3,183,943

The South Lake Union Streetcar operations fund will generate revenue from the two sources identified above—sponsorships and bulk pass sales. The following table identifies those sources and provides a cash flow analysis to ensure that the operations fund will be able to purchase the amount of service required.

Table 3.4 Cash Flow Analysis for Operations Fund in Phase One

	2007	2008	2009 (Jan-Jun)	Total Phase One
Operations Fund Sources				
Streetcar Line Sponsorship	\$500,000	\$500,000	\$500,000	\$1,500,000
Station Sponsors (13 @ \$100,000)	\$429,000	\$429,000	\$442,000	\$1,300,000
Bulk Passes	\$28,000	\$57,500	\$32,000	\$117,500
Cash Flow				
Beginning Balance	\$957,000	\$1,316,074	\$1,114,782	
Expenses	\$627,426	\$1,175,292	\$545,924	
Ending Balance	\$329,574	\$140,782	\$568,859	

As the table shows, the operations fund should maintain a conservative cash position for the first years of operation. At the conclusion of phase one, in mid-2009, the operations fund should have more than \$550,000 on hand.

3.5 Phase Two Overview

During phase two of operations, the city of Seattle will partner with King County Metro to operate and maintain the South Lake Union Streetcar. As this phase begins, King County Metro will be initiating service in their 2008-2014 Six-Year Plan. During this six-year plan, three important transportation projects are scheduled to occur in Seattle—Sound Transit’s LINK Light Rail service will begin, the Seattle Monorail Project’s Green Line will begin service and the Alaskan Way Viaduct and seawall project will be initiated. These three transportation projects will have a substantial impact on transit delivery in Seattle. During this period, King County Metro will be able to redeploy transit service in the corridors that LINK and the Green Line operate in. A top priority for new, incremental service in the Seattle sub-area will be for transit links to the LINK Light Rail and Seattle Monorail systems. The South Lake Union Streetcar provides this important feeder service to both systems at the Westlake multi-modal hub.

For this analysis, the city of Seattle assumes that phase two will begin in the summer of 2009. The analysis is extended to 2016, the tenth year of streetcar service. The initial six months of operations will cost \$777,000 and the first full year of operation in phase two will cost \$1.59 million. Each additional year’s operations expense is escalated at 2.44 percent.

Table 3.5 Operations and Maintenance Costs for Phase Two

	2009 July- Dec	2010	2011	2012	2013	2014	2015	2016
O&M Expense	777,118	1,592,158	1,631,007	1,670,804	1,711,571	1,753,334	1,796,115	1,839,940

The operations of the service during phase two will be funded through four sources:

- Farebox recovery. The farebox recovery is based upon the ridership projections. At the beginning of phase two, ridership is estimated at 414,000. It is projected to grow to 712,000 riders by 2016. The South Lake Union Streetcar will be fully integrated into the Metro fare system, which is currently \$1.25 for a one-zone, off-peak fare. For this O&M Financing plan, an average fare per boarding of 75 cents is assumed.
- FTA Formula Funds. As the owner of the South Lake Union Streetcar, Seattle will be eligible for Federal Transit Administration 5307 and 5309 formula funds. Based on projections, the South Lake Union Streetcar will generate \$136,000 in 2007, growing to 179,000 by 2016.
- South Lake Union Streetcar Operations Fund. The fund is projected to have approximately \$568,000 as a balance in the summer of 2009. The city will continue to sell bulk streetcar passes in partnership with the area businesses. The city projects that bulk pass sales will generate \$562,000 during phase two.

- King County Metro. During and subsequent to phase two, King County Metro will dedicate new, incremental service hours to the operations and maintenance of the South Lake Union Streetcar according to an interlocal agreement. It is the intent of the city of Seattle and King County Metro that Metro will contribute 75 percent of the total operation cost minus the farebox recovery during phase two operations.

3.6 Phase Two: Summary of Sources and Uses

The following table summarizes the revenue sources for phase two of the South Lake Union Streetcar operations and maintenance financing plan.

Table 3.6 Sources for Phase Two Operations and Maintenance

	2009 July- Dec	2010	2011	2012	2013	2014	2015	2016
O&M Expense	777,118	1,592,158	1,631,007	1,670,804	1,711,571	1,753,334	1,796,115	1,839,940
Revenue Sources								
Farebox Recovery	163,053	366,888	408,691	451,538	495,457	540,473	586,615	633,910
FTA 5307/5309	68,141	141,733	147,402	153,298	159,430	165,807	172,440	179,337
King County Metro	460,549	918,952	916,737	914,449	912,086	909,645	907,125	904,522
Operations Fund	85,375	164,585	158,177	151,518	144,598	137,408	129,935	122,170
Total O&M Revenue	777,118	1,592,158	1,631,007	1,670,804	1,711,571	1,753,334	1,796,115	1,839,940

During phase two of operations, King County Metro will pay 75% of the operations of the streetcar after farebox recovery. The city of Seattle will pay the remaining 25% through the operations fund and the Federal Transit Administration funds. Given the projections described above for revenue, the operations fund will have a positive balance at the end of the tenth year of operations without the use of city of Seattle general fund revenues.

Table 3.7 Sources for Phase Two Operations and Maintenance

	2009 July-Dec	2010	2011	2012	2013	2014	2015	2016
Operations Fund Sources								
Operation Fund Balance	\$568,859							
Bulk Passes	\$33,000	\$67,000	\$69,680	\$72,467	\$75,366	\$78,381	\$81,516	\$84,776
Cash Flow								
Beginning Balance	\$601,859	\$583,483	\$488,579	\$402,869	\$326,717	\$260,499	\$204,607	\$159,448
Expenses	\$85,375	\$164,585	\$158,177	\$151,518	\$144,598	\$137,408	\$129,935	\$122,170
Ending Balance	\$516,483	\$418,899	\$330,402	\$251,351	\$182,118	\$123,091	\$74,671	\$37,278

3.7 Summary of Operating and Maintenance Financing Plan

This plan addresses two separate phases of operations for the South Lake Union Streetcar.

The cost of operations for phase one, from mid-2007 until mid-2009, is estimated at \$3.18 million. The operations of this phase of service will be funded by farebox revenue, FTA formula funds and an operations fund that will be capitalized by the sale of sponsorships and the bulk purchase of tickets.

The cost of operations, for phase two, from mid-2009 until 2016, is estimated at \$12,772,047 million. The operations of this phase of service will be funded similarly to phase one, with the addition of new, incremental service hours from King County Metro, according to an interlocal agreement.