

**Potential Economic and Fiscal Impacts
of South Lake Union Development**

Final Report

July 13, 2004

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Introduction

This report assesses potential impacts to the City of Seattle, and other public entities in Washington State, from the development that is underway and proposed for the South Lake Union area. The boundary of the area included in this study starts at the intersection of Interstate 5 and Denny Way, follows Denny Way to Aurora Avenue, Aurora to Galer St., Galer to Lake Union, around Lake Union to E. Nelson Pl., and E. Nelson to I-5. In 1994, this area was designated a Hub Urban Village in the City of Seattle's Comprehensive Plan.

This report was released in draft form in December 2003. A peer review generated suggestions for changes to the draft. Their changes are reflected in this final report.

The Neighborhood Plan for the area was completed in 1998. That plan focused on development of South Lake Union Park, traffic mitigation, and pedestrian improvements in the area. Subsequently, in response to growing development pressures, the City of Seattle commissioned a study of South Lake Union to evaluate the development potential within current zoning. In April, 2002, the consultant – Heartland – produced a report¹ estimating the development potential in the area. The Heartland estimates form the core assumptions for the financial projections in this report.

In the 2002 report, Heartland described a potential net increase of 7.2 million square feet of commercial space in the area from the baseline year 2000 to 2020, providing a potential of more than 23,000 new jobs. At the same time the report estimated that the number of dwelling units in the area could increase by 10,963 in the same period (this report uses 10,000). The consultants assumed that new and expanding biotech facilities would be the core of the new development, and estimated that 35% of the new square footage would be for that use.

Since the completion of that study in 2002, property owners have begun construction or announced projects in the South Lake Union area that total more than 3 million square feet of new development. Biotech is, in fact, a dominant use in that new development, suggesting that the original concept of developing a major biotech center in South Lake Union is feasible.

This report deals only with the financial consequences to the City of Seattle and Washington State public agencies from the redevelopment of the South Lake Union area. It is based on the projections generated in the 2002 Heartland study. Development to date suggests that those projections are likely to be realistic estimates. In addition, the report takes advantage of information about development underway in the region, projects that started or entered the planning process after the completion of the Heartland report.

¹ *Permit review and mobility pilot: South Lake Union*. Progress report by Heartland for City of Seattle Strategic Planning Office, April 2002.

The potential growth outlined in that study was adopted as a basis for creation of a model to estimate the economic impacts of the anticipated development, including changes in employment and output within the South Lake Union region as well as employment and development stimulated by the South Lake Union projects. The associated tax revenue to the City constitutes the economic impact summarized in this report. The City and statewide revenue is estimated from 2005 to 2025 in current dollars and in net present value terms.

Methodology

This analysis is based on the Heartland scenario, taking into account what is actually going on in the neighborhood to date. Redeveloped space is translated into job impacts using ratios of the number of employees per square feet of commercial space, and assumptions about the type of tenant occupying the space. Biotechnology laboratory tenants have different space requirements than an office or retail use, so an average of these different uses is used in this report. These new business activities in South Lake Union will stimulate further development in the region through the multiplier process that results from the purchases of South Lake Union businesses as well as their payrolls. The many details about current and projected development, space requirements, and multiplier effects are discussed in this section.

Phase I and Phase II

The revenues described below are estimates at this point, but the first phase of development is in the planning stages and major tenants are lined up for many of these projects. The impacts of this phase of development are reasonably predictable.

Given that, this report first estimates the potential City revenue from development now planned “**Phase I**”, and then looks at the total revenue expected from the total potential development described in the Heartland report. The difference between the final total assumed in Heartland and the Phase I development now underway is called “**Phase II**” in this report. The Phase II development is assumed to occur evenly between 2008 and 2020.

Phase I development is completed, underway, or well into the planning stages. The probability is quite high that all of the Phase I developments will be completed and put into service by 2008. Phase II development is less certain since no firm projects have been announced. Accordingly, two scenarios for Phase II are analyzed in this report. A **full build-out** scenario is considered in which the final Heartland totals are reached by 2020. In addition, a very conservative **partial build-out** scenario is analyzed, assuming that only 50 percent of the full build-out scenario of Phase II is realized by 2020. The two scenarios – partial build-out and full build-out – cover the likely range of build-out outcomes.

The degree of build-out in Phase II may be affected by whether the City of Seattle and other governmental units invest in the infrastructure in the area, including transportation

improvements, expansion of electrical capacity, and park investments. These and other proposed infrastructure improvements would make the neighborhood more functional, accessible and attractive, thereby increasing the likelihood that private sector developers will be able to identify potential tenants to justify the construction of the substantial amount of new space implied in Phase II.

Direct and Indirect Impacts

This study includes both **direct impacts**: the current and projected development in the area and the likely increases in employment as these buildings come into service, and **indirect impacts**: the multiplier impact of the direct impacts resulting from the purchases of goods and services by the business occupants of the new buildings, as well as the purchases of goods and services by the workforce employed in the businesses occupying these new buildings. An input-output model of the state and local economy is used to estimate the indirect impacts.² Adding up direct and indirect impacts yields estimates of **total impacts**.

Use of the input-output model requires some additional key assumptions. First, in using this model, it is necessary to assume that the underlying inter-sector business relationships captured in the model have not changed in the years since the model was estimated. Given the pace of technological change in the last 17 years, this assumption could be challenged, but it is necessary in order to have any estimate of indirect impacts. There is no available model based on more recent data concerning the structure of the economy. The degree of potential error in the indirect and total impact estimates is therefore higher than for the direct impacts.

Second, a key issue is how much of the indirect impact will occur within the City of Seattle itself. The model estimates indirect impacts within King County only, from which indirect impacts in Seattle are extrapolated (below). This report does not attempt to capture indirect impacts outside the City of Seattle. A large portion of the impact comes through purchases from the services sectors by either businesses or consumers. Neither business nor consumers typically reach far beyond their local marketplace to find service providers except in the special case of services delivered over the Internet (e.g., customer service is increasingly provided for businesses by distant companies).

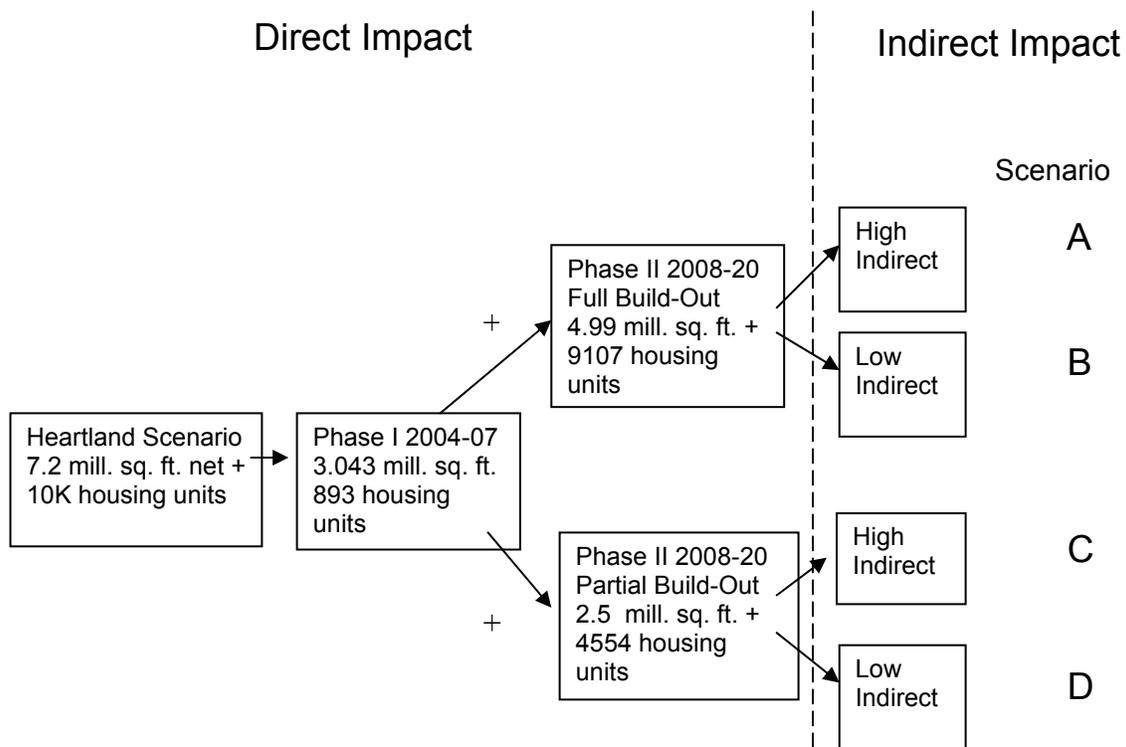
Since there are no published data on the geographic distribution of services purchases by Seattle businesses and residents, a sensitivity analysis approach is taken in this report. The results from the King County model are apportioned to Seattle in two ways. A lower bound estimate of indirect impact (**low indirect impact** scenarios) is derived based on Seattle's proportion of total King County population (32.1%). For **high indirect impact**

² Chase, Robert A. , Philip Bourque, and Richard S. Conway. *The 1987 Washington State Input-Output Study*. Report for Washington State Office of Financial Management, by Graduate School of Business, University of Washington, Seattle, September 1993. An unpublished version of the input-output model that estimates impacts within King County is used in this analysis; this version was created by Prof. William Beyers at University of Washington.

scenarios, these low-end estimates are doubled on the assumption that a higher proportion of services are purchased from local in-city suppliers (64.2%). This higher indirect impact estimates provide a high end, but still reasonably conservative estimate of indirect impact. It is conservative in that one could argue that essentially all service purchases by Seattle businesses and consumers will go to nearby firms and that many specialized providers will be found only in the largest city in the region.

With two build-out scenarios and two indirect impact scenarios, a total of four scenarios are considered in the analysis that follows. The chart below shows the definition of these four scenarios, labeled and defined as below:

- A** Full build-out; High indirect impact
- B** Full build-out; Low indirect impact
- C** Partial build-out; High indirect impact
- D** Partial build-out; Low indirect impact



Build-out and Indirect Impact Scenarios

The public sector financial benefit estimates presented below are based on the development in Phases I and II (2000 – 2020), followed by a five-year period (2020-2025) of full occupancy, but no further growth. Current tax rates are then applied to estimated employment levels under each of the four scenarios defined above. The resulting tax revenue estimates are presented for the City of Seattle and for all public jurisdictions benefiting from South Lake Union development (City, King County, Washington State, Seattle School District, and Port of Seattle).

Assumptions

Commercial and Residential Development

The first set of projects in the South Lake Union area announced by property owners (Phase I) will provide space for University of Washington research laboratories, other research institutions desiring expansion space, commercial biotech companies, an architectural design company, an international retailer, office space for other tenants, restaurants and other retail, and a number of residential units. Some of these projects are in the planning phases or have permit applications in with the City; others are under construction. The buildings will be completed and enter service by 2007, including several as early as 2004. They will add over 3 million square feet of commercial, retail and residential space to the area.

Sometime after the completion of these projects, a second phase of development is expected to begin in the South Lake Union area (Phase II). The projected build-out of Phase II (with the existing Phase I buildings) will total a net increase of 7.2 million square feet of commercial space, 35 percent of which is assumed to be designed for biotechnology research and development uses, with the remainder in a mix of commercial office (55%) and retail uses (10%).

In addition to the commercial development, 10,000 residential units are projected to be constructed in the South Lake Union area through the development of 7.7 million square feet of new housing units during Phases I and II. Estimates for both commercial and residential development are clearly speculative for Phase II, but they are based on the best information currently available.

The table on the next page shows the estimated new development in Phase I, and in Phase II under both full and partial build-out scenarios. The 3 million square feet completed in Phase I will be followed by a total of 11.8 million of commercial and residential space under the full build-out scenarios, or 6.7 million square feet in the partial build-out scenarios.

**Estimated Net New Additions to Developed Space in South Lake Union Neighborhood
 by Phase
 (million square feet – net new)**

Industry/Use	Full Build-Out Scenarios A & B			Partial Build-Out Scenarios C & D	
	Phase I (2000-2007)	Phase II (2008-2020)	Total (2000-2020)	Phase II (2008-2020)	Total (2000-2020)
Scenario	All	A&B	A&B	C&D	C&D
Biotech	1.382	1.138	2.520	0.569	1.951
Office	0.708	3.252	3.960	1.626	2.334
Retail & hotel	0.120	0.600	0.720	0.300	0.420
Commercial Sub-Total	2.210	4.990	7.200	2.495	4.705
Residential	0.833	6.830	7.663	4.215	5.048
Total square feet	3.043	11.820	14.863	6.710	9.753

Other key assumptions were derived from development companies and prior studies of the South Lake Union area. These assumptions include:

- Average assessment value of biotechnology research space--\$251 per square foot
- Average assessment value of commercial space--\$201 per square foot
- Average assessment value of residential space--\$100 per square foot
- Residential units will average--750 square feet
- Land costs represent 15% of total development costs. This 15% is not subject to the sales tax on construction.
- Phase II development will be completed in even annual increments and will enter service (and enter the tax base) from 2008 to 2020.
- Future inflation rates are unknown and the analysis is conducted in 2005 dollars, with a real discount rate of 3% used to discount future impacts; this discount rate reflects the long-term growth potential of the economy³.
- Tax rates and utility fees will not change and therefore current yields per square foot or per employee in comparable space can be used to estimate the City's future tax and fee revenues.⁴

³ City financial policies call for the use of a discount rate that approximates the inflation-adjusted marginal pre-tax rate of return on an average investment in the private sector. The local economy has historically grown faster than the nation in recent decades, and it may tend to do so once the current recessionary period ends. Also, the long term growth rate of the national economy may have increased from a historical trend rate as a consequence of new technology and higher productivity growth rates as seen in the late 1990s.

⁴ Data from City of Seattle Finance Dept. and *Commons/South Lake Union development fiscal impact analysis*, report for the City of Seattle Office of Management & Budget by Gibson Economics Inc., November 1994.

- For a mix of biotech, commercial office, and retail, an average of 3.29 employees will occupy each 1,000 square feet of space as assumed by Heartland in their 2002 study of the South Lake Union area.
- Each million dollars of construction will require approximately 7 construction workers; this assumption is derived from the input-output table. These jobs end when construction ends in 2020.
- With 35% of the 7.2 million square feet of development assumed to be biotech research and development space, the remainder will be 55% office and 10% retail space; these assumptions reflect the pattern established in Phase I to some degree and are consistent with the Puget Sound Regional Council's long range projections for the area and surrounding neighborhoods.

Any of these assumptions could be easily modified by analysts who wish to consider alternative scenarios for future development of the South Lake Union region. The value of this study is in setting up an analytic framework that can be used in sensitivity studies to explore the implications of alternative assumptions, or to assess the impact of changing development patterns as market conditions unfold over the next 16 years.

Direct Impacts

Direct impacts include employment and the fiscal impacts to city and other governmental units benefiting from the projected development within the South Lake Union neighborhood. Using the assumptions above, the following direct impacts are projected.

Employment

Employment in biotechnology research, business services offices, and retail establishments located in new buildings within the South Lake Union region is projected to increase by 6,409 as a consequence of the first phase of development from the present to 2007. By 2020, employment within future new facilities in this area is projected to increase to a total of 23,710 under the full build-out scenarios. Under the 50 percent partial build-out scenarios, employment increases to 15,059 by 2020. These employment growth estimates reflect only direct impacts. Indirect impacts and associated employment are discussed later.

An average of 628 construction workers will be needed for three years for buildings coming on line between 2004 to 2007; this average for Phase I includes the entire workforce required to build the Phase I structures even if construction started prior to 2004. A construction workforce of 753 is assumed for each year from 2008-2020 for full build-out. In the partial build-out scenario, the construction workforce is projected to be 376 from 2008-2020.

Job Creation Estimates for New South Lake Union Buildings

Scenario Industry	All Phase I: 2004-07	Full Build-Out Scenarios A & B		Partial Build-Out Scenarios C & D	
		Phase II: 2008-20	Total 2020	Phase II: 2008-20	Total 2020
Biotech	3,159	3,141	6,300	1,571	4,730
Office (Business Services, Financial, Real Estate)	2,518	12,213	14,731	6,107	8,625
Retail	732	1,946	2,678	973	1,705
Total permanent jobs	6,409	17,301	23,710	8,650	15,059
Construction (per year)	628	753		376	
Total: construction + permanent	7,037	18,054	25,091	9,026	16,063

Fiscal Impacts

Fiscal impacts are estimated using current tax rates. Estimates are run out to the year 2025. The City of Seattle relies on revenues from **property, business and occupation, sales, and utility taxes.**

Other levels of government also impose taxes of these types. Only the State, in addition to the City, receives revenue from B&O and utility taxes, but many local government units receive a share of the sales and property tax receipts.

The estimates below show the projected City of Seattle revenues, and statewide receipts, that is, the receipts to all governmental units including the City itself.

Property Taxes

New development increases property tax collections, and will increase revenue to public jurisdictions. The Washington State legislature has established various specific exemptions from the property tax for specific activities (independent of property ownership). These include, for example, nonprofit cancer research – Fred Hutchinson receives this exemption – and nonprofit hospitals under some conditions. General biotech research or clinic facilities, even if undertaken by nonprofits, are not eligible. Possible exemptions have been considered in these projections.

State and local government may see a cumulative net present value total of \$185 million in increased property tax revenues by 2025 due to current and projected South Lake Union development under the full build-out scenarios. Of this cumulative total, the City is projected to receive \$51.0 million (net present value) based on an assessment rate of \$2.94 per thousand dollars of assessed value. Under the partial build-out scenarios, the cumulative totals are projected to reach \$33.9 million for the City and \$122.9 million for all governmental units including the City.

Property Tax Revenues
 (Cumulative value, 2005-2025)

<i>City of Seattle</i>	NPV, millions \$
Full Build-Out (Scenarios A&B)	51.0
Partial Build-Out (Scenarios C&D)	33.9
<i>Statewide</i>	
Full Build-Out (Scenarios A&B)	185.1
Partial Build-Out (Scenarios C&D)	122.9

B&O Tax

The business and occupation tax is levied on the gross receipts of businesses, with differing rates depending on the industry classification of each business. Various credits applicable to high technology businesses make it likely that no significant B&O revenues will come from biotechnology companies located in South Lake Union.

The tax revenue estimates below assume no B&O revenue from biotechnology companies. However, the retail, service, and financial sector businesses that move into South Lake Union will be liable for B&O taxes.

The non-biotech businesses are projected to yield revenues to the City with a net present value of \$46.9 million, and \$128.7 million statewide by 2025 under the full build-out scenarios. Under the partial build-out scenarios, the projected totals are \$32.9 million for the city and \$90.6 million statewide.

B&O Tax Revenues
 (Cumulative value, 2005-2025)

<i>City of Seattle</i>	NPV, millions \$
Full Build-Out (Scenarios A&B)	46.9
Partial Build-Out (Scenarios C&D)	32.9
<i>Statewide</i>	
Full Build-Out (Scenarios A&B)	128.7
Partial Build-Out (Scenarios C&D)	90.6

Sales Tax

Sales tax revenues will accrue from the projected development in two ways. First, this tax is applied to construction costs, with an exemption applied to laboratory construction and equipment used for research and development. Second, retail products sold by any business located in the area will also be subject to the sales tax.

Construction Sales Tax

The net present value of the tax yield to the City of Seattle from the construction-related sales taxes is estimated at \$11.9 and \$123.2 million statewide under the full-build-out scenarios. Under the partial build-out scenarios, the sales tax from construction in the South Lake Union area is projected at \$6.9 million for the City of Seattle and \$71.1 million statewide.

Construction Sales Tax Revenues (Cumulative value, 2005-2025)	
<i>City of Seattle</i>	NPV, millions \$
Full Build-Out (Scenarios A&B)	11.9
Partial Build-Out (Scenarios C&D)	6.9
<i>Statewide</i>	
Full Build-Out (Scenarios A&B)	123.2
Partial Build-Out (Scenarios C&D)	71.1

Retail Sales

Taxable retail sales by businesses located in South Lake Union are projected to add a cumulative net present value of \$101.1 million statewide by 2025, of which \$9.8 million would accrue to the City under the full build-out scenarios. Under the partial build-out scenarios, the City’s revenues would reach \$6.3 million from the retail sales tax, and statewide revenues would total \$64.8 million.

Retail Sales Tax Revenues (Cumulative value, 2005-2025)	
<i>City of Seattle</i>	NPV, millions \$
Full Build-Out (Scenarios A&B)	9.8
Partial Build-Out (Scenarios C&D)	6.3
<i>Statewide</i>	
Full Build-Out (Scenarios A&B)	101.1
Partial Build-Out (Scenarios C&D)	64.8

Utility Taxes

The City and State impose taxes on all utility revenues (water, sewer, telephone, electric, gas, and garbage), whether a private company or the City itself provides the service. These taxes are separate from utility rates, and, in the case of the City, go directly to the

General Fund without restriction on their use. The revenues from taxes on public and private utilities can be estimated on a per-square-foot basis for the commercial businesses and residential units projected in the South Lake Union area.

Biotech research laboratories are especially intensive users of electricity, water/ sewer, and garbage services. These differences and their impacts on utility tax revenues have been estimated through data provided by the Fred Hutchinson Cancer Research Center.

By 2025, the cumulative net present value of these revenues is estimated at \$34.5 million for the City and \$57.3 million statewide under the full build-out scenarios. Under the partial build-out scenarios, the City would receive \$23.8 million and the statewide total would be \$39.4 million.

Utility Tax Revenues	
(Cumulative value, 2005-2025)	
<i>City of Seattle</i>	NPV, millions \$
Full Build-Out (Scenarios A&B)	34.5
Partial Build-Out (Scenarios C&D)	23.8
<i>Statewide</i>	
Full Build-Out (Scenarios A&B)	57.3
Partial Build-Out (Scenarios C&D)	39.4

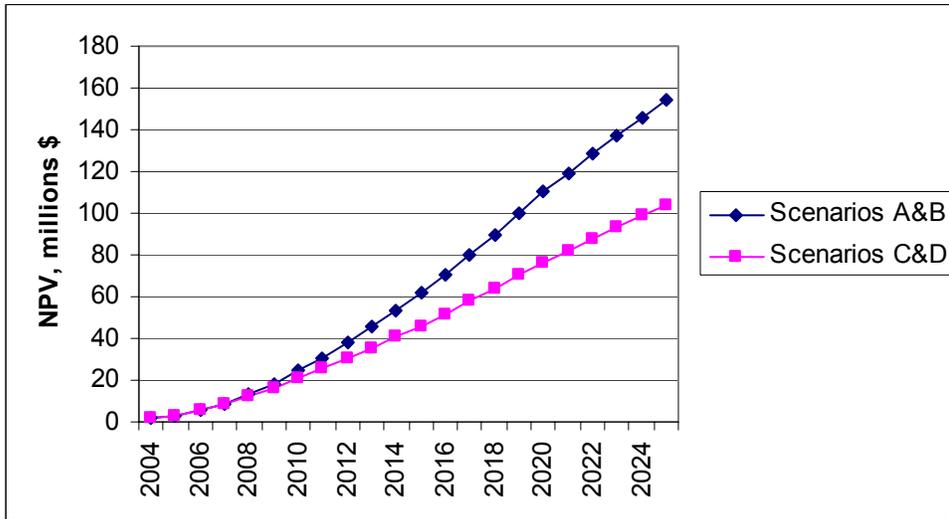
Summary: Direct Tax Revenue Increases

The net present value of the cumulative increase in the City from tax receipts from the South Lake Union region by 2025 is \$154.1million under the full build-out scenarios, and \$103.8 million under the partial build-out scenarios. Statewide under the full build-out scenarios, the cumulative total by 2025 is projected to reach \$595.5 million and \$388.8 under the partial build-out scenarios.

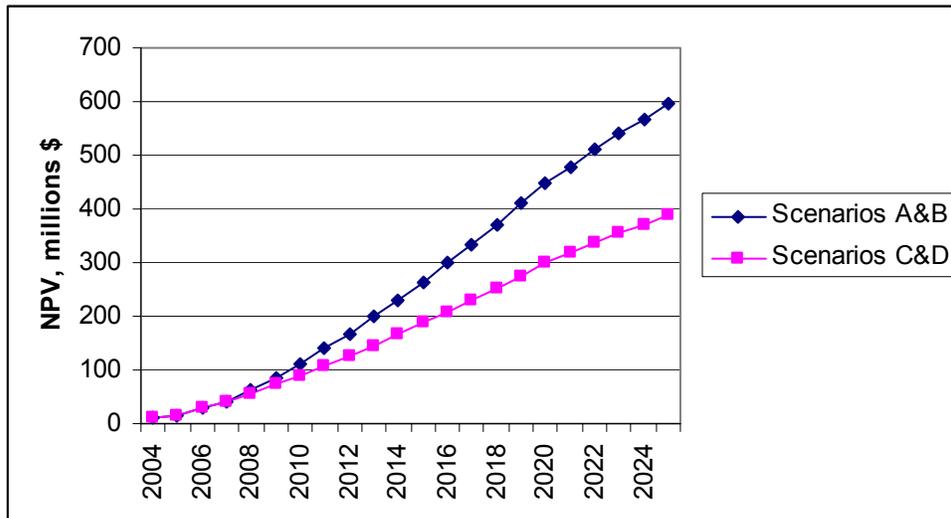
Total Projected Tax Revenues	
due to South Lake Union Re-development	
(Cumulative value, 2005-2025)	
<i>City of Seattle</i>	NPV, millions \$
Full Build-Out (Scenarios A&B)	154.1
Partial Build-Out (Scenarios C&D)	103.8
<i>Statewide</i>	
Full Build-Out (Scenarios A&B)	595.5
Partial Build-Out (Scenarios C&D)	388.8

The two charts below shows the cumulative total projected tax receipts under the full and partial build-out scenarios for both the City and all governmental units benefiting from South Lake Union development.

Projected Direct City of Seattle Tax Revenues Due to South Lake Union Redevelopment



Projected Direct Statewide Tax Revenues Due to South Lake Union Redevelopment



Indirect and Total Impacts

As discussed above, the direct impacts, particularly of the biotech employment coming into South Lake Union, will have multiplier impacts on the entire regional economy. These multiplier or “indirect” effects, when added to the direct impacts, constitute the total economic impacts of the projected development. Scenarios A and C utilize the high indirect impact estimates discussed above in the methodology section, while scenarios B and D are based on the low indirect impact estimates (refer to the chart on page 4).

Employment

As noted above, development in the South Lake Union area may create 23,710 new direct jobs in Seattle if full build-out of Phase II occurs by 2020, or 15,059 direct jobs under the partial build-out scenario. Indirect impacts will add another 18,766 to 30,027 jobs in Seattle under the full build-out scenarios, or 9,383 to 15,014 under the partial build-out scenarios. Thus, total job impacts in Seattle may range from 24,442 to 53,737 as shown below.

Employment Growth Projections

Scenario	Direct	Indirect	Total
A: Full build-out/High indirect	23,710	30,027	53,737
B: Full build-out/Low indirect	23,710	18,766	42,476
C: Partial build-out/High indirect	15,059	15,014	30,073
D: Partial build-out/Low indirect	15,059	9,383	24,442

Indirect and Direct Tax Revenues

The projected total employment increases will result in additional increases in Seattle’s tax revenues. The tables in this section show the estimated net present value of indirect tax revenues, that is, the additional tax revenues stemming from the multiplier impacts of re-development activity in South Lake Union. The statewide indirect impact estimates below are for multiplier impacts that take place within the City of Seattle’s boundaries. The total estimated net present value of these revenues from 2005-2025 is shown in these tables.

The City of Seattle’s **property tax** revenues may increase by \$19.2 to \$55.6 million in cumulative tax receipts (net present value) by 2025 due to South Lake Union re-development. Statewide, all public jurisdictions benefiting from this activity are likely to see revenue increases ranging from \$54 to \$156 million.

Indirect Impact: Property Tax Revenues (NPV, millions \$)

Scenario	Seattle	Statewide
A: Full build-out/High indirect	43.203	156.649
B: Full build-out/Low indirect	29.857	108.257
C: Partial build-out/High indirect	21.601	78.324
D: Partial build-out/Low indirect	14.928	54.128

City of Seattle **B&O revenues** are projected to increase by \$31 to 91 million due to the multiplier effects of South Lake Union re-development. Statewide, all public jurisdictions benefiting from these multiplier impacts will see B&O revenue increases ranging from \$67 to nearly \$195 million.

Indirect Impact: B&O Tax Revenues (NPV, millions \$)

Scenario	Seattle	Statewide
A: Full build-out/High indirect	91.006	194.894
B: Full build-out/Low indirect	62.892	134.687
C: Partial build-out/High indirect	45.503	97.447
D: Partial build-out/Low indirect	31.446	67.344

The multiplier effects of South Lake Union re-development are projected to yield revenue increases from the **sales tax** on construction activity amounting to \$3.6 to 11.16 million for Seattle, and \$37.5 to 115.5 million statewide.

Indirect Impact: Sales Tax on Construction Tax Revenues (NPV, millions \$)

Scenario	Seattle	Statewide
A: Full build-out/High indirect	11.161	115.551
B: Full build-out/Low indirect	7.239	74.950
C: Partial build-out/High indirect	5.581	57.775
D: Partial build-out/Low indirect	3.620	37.475

Utility tax increases due to the multiplier effect are estimated at \$6.8 to 19.7 million for Seattle, and \$10.6 to 30.7 million statewide.

Indirect Impact: Utility Tax Revenues (NPV, millions \$)

Scenario	Seattle	Statewide
A: Full build-out/High indirect	19.723	30.748
B: Full build-out/Low indirect	13.595	21.214
C: Partial build-out/High indirect	9.862	15.374
D: Partial build-out/Low indirect	6.798	10.607

Retail sales tax revenue is projected to increase by \$4.9 to 14.2 million for Seattle and \$49.3 to 142.6 million for all public jurisdictions benefiting from the multiplier impacts of South Lake Union re-development.

Indirect Impact: Retail Sales Tax Revenues (NPV, millions \$)

Scenario	Seattle	Statewide
A: Full build-out/High indirect	14.156	142.617
B: Full build-out/Low indirect	9.758	98.560
C: Partial build-out/High indirect	7.078	71.309
D: Partial build-out/Low indirect	4.879	49.280

Summary

The following tables and charts summarize the direct, indirect, and total impacts on government tax receipts due to South Lake Union re-development and the multiplier impacts projected to occur within Seattle’s boundaries. Total tax revenues of the City of Seattle may increase from \$165 to \$333 million by 2025, and all public jurisdictions benefiting from this activity will see revenue increases ranging from \$637 million to \$1.320 billion.

Total Seattle Tax Revenues Due to South Lake Union Re-Development
 (NPV, millions \$)

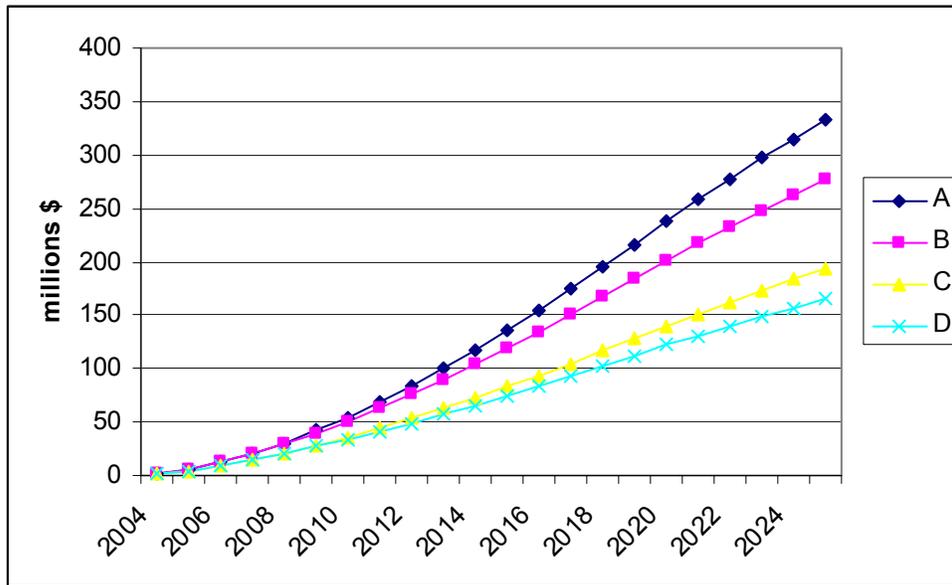
Scenario	Direct	Indirect	Total
A: Full build-out/High indirect	154.148	179.249	333.397
B: Full build-out/Low indirect	154.148	123.341	277.489
C: Partial build-out/High indirect	103.751	89.625	193.376
D: Partial build-out/Low indirect	103.751	61.671	165.422

Total Statewide Tax Revenues Due to South Lake Union Re-Development
 (NPV, millions \$)

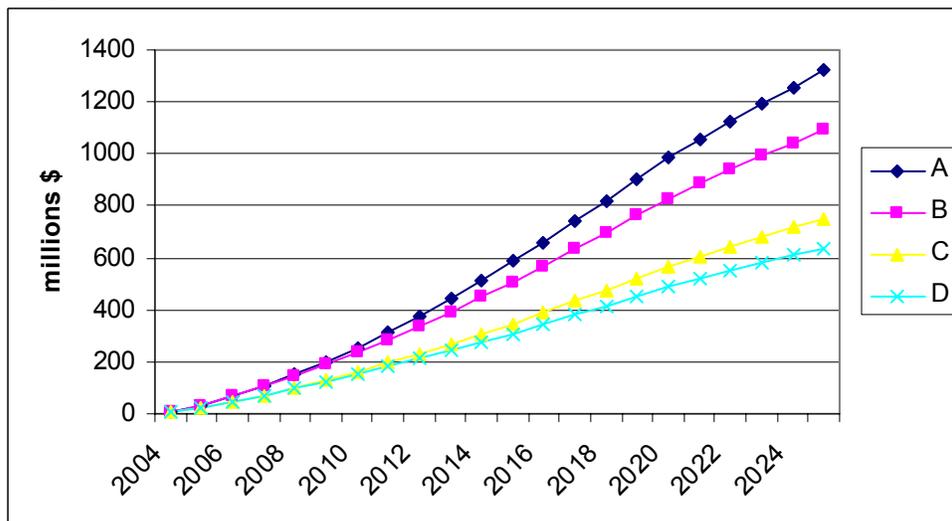
Scenario	Direct	Indirect	Total
A: Full build-out/High indirect	595.483	725.037	1,320.520
B: Full build-out/Low indirect	388.786	496.544	1,092.027
C: Partial build-out/High indirect	388.786	362.518	751.304
D: Partial build-out/Low indirect	388.786	248.272	637.058

The charts below show the accrual of these revenues over time and the variations in total revenue that depend on the extent of Phase II build-out as well as the degree to which indirect impacts occur within Seattle itself. The degree of build-out of Phase II by 2020 has a larger impact on total revenues than the extent to which indirect impacts occur within Seattle's borders (compare the differences between Scenario A and C, as opposed to comparing A to B, or C to D). The difference between the build-out scenarios is three to five times larger than the difference between the indirect impact scenarios.

Projected Total City of Seattle Revenues Due to South Lake Union Re-Development



Projected Total Statewide Revenues Due to South Lake Union Re-Development



Conclusions

South Lake Union is a neighborhood currently experiencing significant growth, and substantial additional growth is projected in this neighborhood, which could lead to sizeable employment gains in Seattle through both direct and indirect jobs. In addition, growth is projected to generate fiscal impacts to the City of Seattle and local governments (City of Seattle, State of Washington, King County, Seattle School District, and Port of Seattle) through a combination of tax sources. Specifically:

The City of Seattle is projected to:

- **Increase its employment base by 24,400 to 53,700 new jobs by 2020**
- **Increase tax receipts by \$165 to \$333 million, in net present value terms, by 2025.**

Similarly, the state and other local units of governments benefiting from the direct and indirect employment increases in Seattle are projected to:

- **Increase tax receipts by \$637 million to \$1.32 billion, in net present value terms, by 2025.**

Of this state and local total, the State of Washington alone is projected to:

- **Increase tax receipts by \$491 to \$772 million, in net present value terms, by 2025.**

Details on the State impacts are shown in the Appendix 1.

This projected range of revenue reflects the variability in two determinant factors:

- the rate of growth in Phase II development, and
- the geographic distribution of indirect impacts.

Of these two factors, the rate of growth in Phase II development is more critical because it has a larger impact on the City's potential revenues. Periodic review of the extent of build-out in South Lake Union is recommended.

Much of this growth is occurring already. The first set of projects include space for University of Washington research laboratories, commercial biotech companies, an international retailer, restaurants and other retail, and a number of residential units. Some of these projects are in the planning phases or have permit applications in with the City; others will be opening this year. They will add over 3 million square feet of commercial, retail and residential space to the area by 2007.

Sometime after the completion of these projects, a second phase of development is expected to begin. This is projected to bring a total net increase of 7.2 million square feet of commercial space, 35% of which is assumed to be designed for biotechnology research and development uses, with the remainder in a mix of commercial office (55%) and retail uses (10%). In addition to the commercial development, it is projected that 10,000 residential units will be constructed in the South Lake Union area.

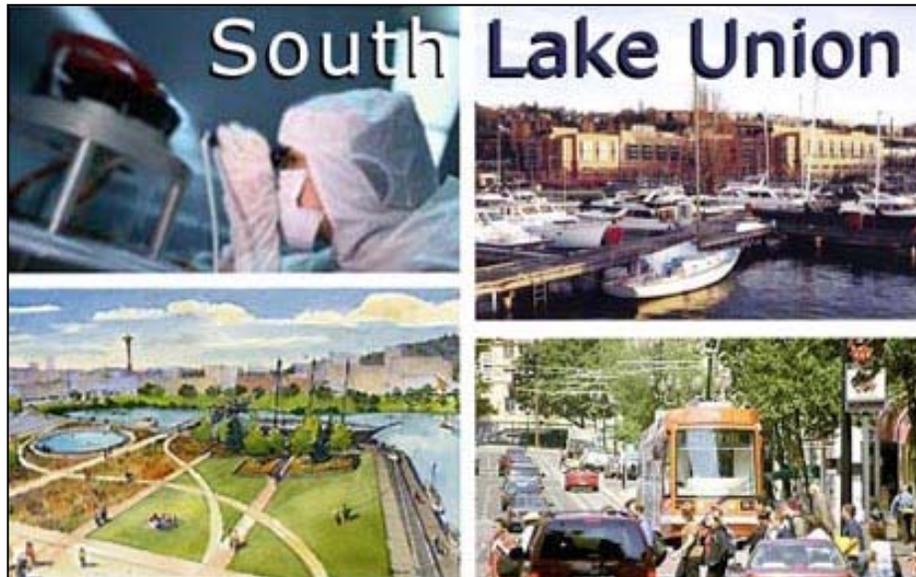
Factors influencing the final level of build-out include:

- The willingness of the commercial biotech sector and other kinds of businesses to lease space in the South Lake Union region. Absorption of space in South Lake Union will depend on the pace of growth in the biotechnology industry as well as

the competition with other locations in the urban area that would like to attract new employers. The likely range of absorption is captured in the full and partial build-out scenarios analyzed in this report.

- The level of infrastructure supporting the increased commercial and residential density, including electrical capacity, open space, transit and pedestrian options, traffic impacts and other considerations. These public infrastructure investments would make the neighborhood more functional, accessible and attractive to potential lessees.

Under either build-out scenario, the City is likely to experience substantial revenue increases stemming from development in the South Lake Union neighborhood. The projections in this report are for total revenue increases of \$165 to 193 million under the partial build-out scenario and total revenues increases of \$277 to 333 million under the full build-out scenario.



Appendix 1

**Potential Economic and Fiscal Impacts
for the State of Washington
from South Lake Union Development**

Purpose

The economic development activity in South Lake Union will generate revenues for many public jurisdictions including the State of Washington. The draft Potential Economic and Fiscal Impacts of South Lake Union Development report identifies the revenue streams to the City of Seattle and to all governmental agencies in Washington State as a total. During the peer review process, the City was asked to compile revenue estimates specifically for the State of Washington. This appendix addresses that question by identifying the specific revenues which will accrue to the State of Washington from the potential development activity in South Lake Union.

Methodology

Phase I and II Development

Revenues flow from current and future development, projections for which are based on a study of redevelopable property in the neighborhood by Heartland. This development is divided into two phases. The first phase of development is in the planning stages and major tenants are lined up for many of these projects. The employment and revenue impacts associated with this phase of development are reasonably predictable. Given that, this report first estimates the potential revenue from development now under construction or planned between now and 2007 (**Phase I**).

Two alternative cases are considered for **Phase II**, defined as the development which is projected to occur between 2008 and 2020. The first case assumes that **full-buildout** of the Heartland scenario will occur by 2020. This assumes that approximately 64 percent of the redevelopable land in the neighborhood will in fact be redeveloped by 2020. Given uncertainty about the pace of overall development in the region, a second case is considered in this report in which only 50 percent of the estimated Phase II growth is in fact developed by 2020. This projection is defined as the **partial build-out** scenario. These two scenarios provide a low and high estimate for potential development in South Lake Union.

This report then calculates the revenue expected from the total potential development of Phase I and Phase II combined, followed by a five-year period (2020 to 2025) of full occupancy, but no further growth. The Phase II development is assumed to occur evenly between 2008 and 2020. The employment and revenue impacts are calculated for the partial build-out and full build-out scenarios described above.

Direct and Indirect Impacts

This study includes both **direct impacts**: impacts generated by the likely increases in employment as the current and projected development in the area comes into service; and **indirect impacts**: the multiplier impact of the direct impacts resulting from the purchases of goods and services by the business occupants of the new buildings, as well as the

purchases of goods and services by the workforce employed in the businesses occupying these new buildings. An input–output model of the state and local economy is used to estimate the indirect impacts.⁵ Adding up direct and indirect impacts yields estimates of **total impacts**.

Assumptions

The following are the summary tables from Potential Economic and Fiscal Impacts of South Lake Union Development regarding the growth and employment projections for South Lake Union economic activity.

Commercial and Residential Development

Estimated Net New Additions to Developed Space in South Lake Union Neighborhood by Phase
 (million square feet – net new)

Industry/Use	Full Build-Out Scenario			Partial Build-Out Scenario	
	Phase I (2000-2007)	Phase II (2008-2020)	Total (2000-2020)	Phase II (2008-2020)	Total (2000-2020)
Biotech	1.382	1.138	2.520	0.569	1.951
Office	0.708	3.252	3.960	1.626	2.334
Retail & hotel	0.120	0.600	0.720	0.300	0.420
Commercial Sub-Total	2.210	4.990	7.200	2.495	4.705
Residential	0.833	6.830	7.663	4.215	5.048
Total square feet	3.043	11.820	14.863	6.710	9.753

Other key assumptions were derived from development companies and prior studies of the South Lake Union area. These assumptions include:

- Average assessment value of biotechnology research space--\$251 per square foot
- Average assessment value of commercial space--\$201 per square foot
- Average assessment value of residential space--\$100 per square foot
- Residential units will average--750 square feet
- Land costs represent 15% of total development costs. This 15% is not subject to the sales tax on construction.
- Phase II development will be completed in even annual increments and will enter service (and enter the tax base) from 2008 to 2020.

⁵ Chase, Robert A. , Philip Bourque, and Richard S. Conway. *The 1987 Washington State Input-Output Study*. Report for Washington State Office of Financial Management, by Graduate School of Business, University of Washington, Seattle, September 1993. Prof. William Beyers of the University of Washington Department of Geography has estimated a version of this model that projects impacts within King County. This unpublished version, made available to the author by Prof. Beyers, has been used in other recent impact studies (maritime and music cluster studies for the Seattle Office of Economic Development).

- Future inflation rates are unknown and the analysis is conducted in 2005 dollars, with a real discount rate of 3% used to discount future benefits; this discount rate reflects the long term growth potential of the economy⁶.
- Tax rates and utility fees will not change and therefore current yields per square foot or per employee in comparable space can be used to estimate the City's future tax and fee revenues.⁷
- For a mix of biotech, commercial office, and retail, an average of 3.29 employees will occupy each 1,000 square feet of space as assumed by Heartland in their 2002 study of the South Lake Union area.
- With 35% of the 7.2 million square feet of development assumed to be biotech research and development space, the remainder will be 55% office and 10% retail; these assumptions generally reflect the pattern established in Phase I and are consistent with the Puget Sound Regional Council's long range projections for the area and surrounding neighborhoods.

Any of these assumptions could be easily modified by analysts who wish to consider alternative scenarios for future development of the South Lake Union region. The value of this study is in setting up an analytic framework that can be used in sensitivity studies to explore the implications of alternative assumptions, or to assess the impact of changing development patterns as market conditions unfold over the next 17 years.

⁶ City financial policies call for the use of a discount rate that approximates the inflation-adjusted marginal pre-tax rate of return on an average investment in the private sector. The local economy has historically grown faster than the nation in recent decades, and it may tend to do so once the current recessionary period ends. Also, the long term growth rate of the national economy may have increased from a historical trend rate as a consequence of new technology and higher productivity growth rates as seen in the late 1990s.

⁷ Data from City of Seattle Finance Dept.

Direct Employment

Direct employment figures are generated by multiplying the projected square foot development from the previous table by an average of 3.29 employees occupying each 1,000 square feet. The construction jobs are listed separately in the table below since they end when the construction process ends in 2020 under both scenarios.

Direct Job Creation Estimates for New South Lake Union Buildings:

Scenario Industry	All Phase I: 2004-07	Full Build-Out Scenario		Partial Build-Out Scenario	
		Phase II: 2008-20	Total 2020	Phase II: 2008-20	Total 2020
Biotech	3,159	3,141	6,300	1,571	4,730
Office (Business Services, Financial, Real Estate)	2,518	12,213	14,731	6,107	8,625
Retail	732	1,946	2,678	973	1,705
Total permanent jobs	6,409	17,301	23,710	8,650	15,059
Construction (per year)	628	753		376	
Total: construction + permanent	7,037	18,054	25,091	9,026	16,063

Total Employment

Indirect employment figures are generated by the input-output model, which estimates the impacts of payrolls and purchases of the businesses implied by the direct job creation tables. These payrolls and purchases stimulate additional business activity in the area. The construction jobs are listed separately, as in the tables above. However, the indirect impact of the construction activity is included in the indirect job estimates below.

Employment Growth Projections			
Scenario	Direct	Indirect	Total
Full build-out	23,710	30,027	53,737
Partial build-out	15,059	15,014	30,073
Construction	628	376	

Fiscal Impacts

Fiscal impacts derive both from construction activity and the subsequent use of new buildings by various kinds of businesses and non-profit organizations. Fiscal impacts are estimated using current tax rates. Estimates are run out to the year 2025. The development occurring in South Lake Union will generate revenues to the State of

Washington through property, business and occupation, sales, and utility taxes. (These revenue streams are fully explained in the main body of the report).

The following are summary tables which estimate the total revenue projections to the State of Washington due to development in South Lake Union, showing both the full build-out and the partial build-out scenarios

Total Tax Revenue to State of Washington
(net present value, 2005-2025 in millions of dollars)

Tax	Full Build-out	Partial Build-out
Property	93.00	54.74
B&O	323.59	182.12
Sales Tax--Retail	170.36	95.16
Sales Tax--Construction	198.32	90.02
Utility	68.36	41.03
Total	853.63	463.07

Summary

The development activity occurring and projected for South Lake Union from now until 2025 will create jobs and add tax revenues to State of Washington's general fund. This analysis presents both a full build-out and a partial build-out scenario, based on the projections of growth in South Lake Union.

This economic activity will create an estimated 16,063 to 25,091 direct jobs in the South Lake Union neighborhood between now and 2020. Furthermore, these direct jobs will generate additional economic activity which will create another 15,014 to 30,027 indirect jobs in the State. The total employment impact of the development in South Lake Union is projected to be between 30,073 and 53,737 new jobs.

The projected tax revenues to the State are estimated to be between \$463 million and \$854 million in cumulative net present value for the 2005-2025 time period.