THE ECONOMIC BENEFITS OF HISTORIC PRESERVATION IN WASHINGTON STATE

TECHNICAL REPORT

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Introduction

The cultural and historic resources of a community tell the story of its past and make any single community distinct from other places. These resources provide tangible connections to the people and events that have shaped our communities and our collective histories. Preserving the physical reminders of our past creates a sense of place and community pride. Historic preservation also generates a wide range of economic benefits including those associated with the rehabilitation and adaptive reuse of historic buildings and heritage tourism, as well as the impacts that historic designation has on neighborhood character and property values. Other benefits include the role that historic preservation plays in economic development and downtown revitalization.

Historic Rehabilitation

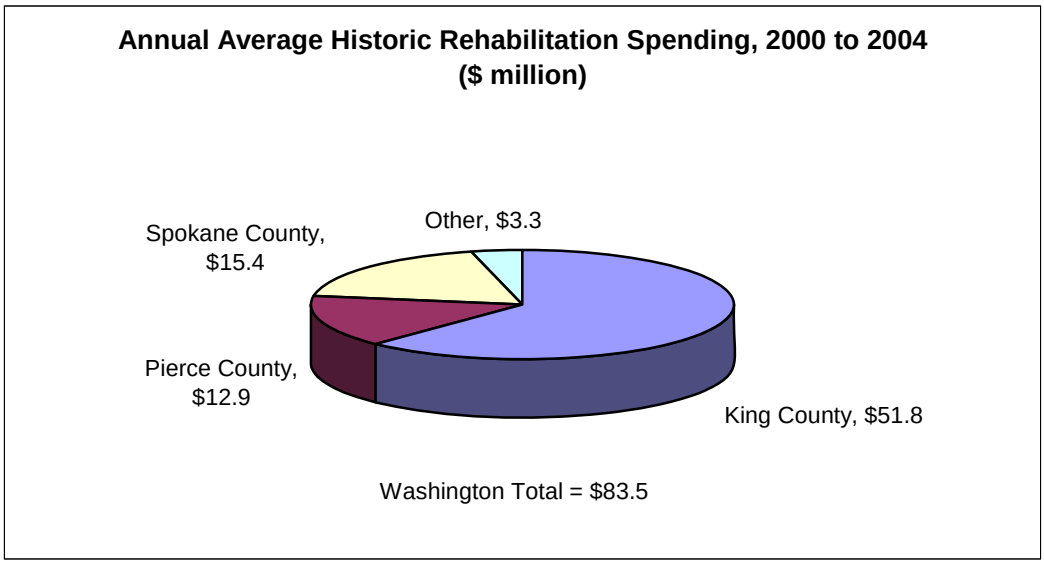
The U.S. Secretary of the Interior defines historic rehabilitation as: "the process of returning a property to a state of utility, through repair or alteration, which makes possible an efficient contemporary use while preserving those portions and features of the property which are significant to its historic, architectural, and cultural values."

Data compiled on Washington state projects taking advantage of federal and state historic rehabilitation tax incentive programs indicate that historic rehabilitation activities qualifying under these programs from 2000 to 2004 involved average spending of $83.5 million each year. These investments generate direct impacts through the purchases of goods and services. Expenditures also generate indirect and induced activity in other parts of the economy through related spending at local businesses by supporting industries and local households.

In Washington State, the initial annual investment of $83.5 million generated total sales of $221 million, supported 2,320 jobs in a variety of economic sectors, and paid $87 million in wages and salaries each year. This economic activity generated an estimated $8.9 million in state sales and Business and Occupation (B&O) taxes, as well as local sales tax revenues (which are not included in this total).

Much of this initial investment took place in King, Pierce, and Spokane counties and was concentrated in the largest city in each county (Seattle, Tacoma, and Spokane) largely because the federal and state tax incentive programs are currently most active in these areas. This concentration also reflects the number of designated buildings within these jurisdictions The majority of these expenditures (about 70 percent) involved commercial buildings. Historic rehabilitation activities in King County generated total sales of $105.6 million, supported 1,230 jobs, and generated about $43.1 million in wages and salaries each year. Historic rehabilitation generated total sales of $28.7 million and $34.0 million in Pierce and Spokane counties, respectively, supported 325 jobs and paid $11.1 million in wages and salaries in Pierce County, and supported 400 jobs and paid $13.7 million in wages and salaries in Spokane County.

These totals underestimate the true extent of statewide and county investments in historic rehabilitation because they are based only on projects that qualify under the federal and state tax incentive programs. These programs do not capture historic rehabilitation spending by governments and tax-exempt organizations or the money spent by individuals restoring their historic homes, if those homes are not individually listed in the National Register of Historic Places or part of a listed Historic District. Examples of recent government historic rehabilitation



projects include renovations to city and county administration buildings, historic schools, libraries, and parks.

Washington Main Street Program

The Washington Main Street Program helps communities revitalize traditional downtown and neighborhood commercial districts. Revitalization typically involves investment in existing buildings and also involves attracting and supporting new and existing businesses. Building renovations often involve historic properties and businesses in designated Main Street districts, including downtown Port Townsend, serve heritage tourists in a variety of ways. Building renovations and new business activity within the nine designated local Main Street program communities generated $165 million in sales (output) each year from 2000 through 2004, supported 2,625 jobs, and generated $67 million in labor income. These activities generated about $8.8 million in state sales and B&O taxes each year, as well as local sales tax revenues (which are not included in this total).

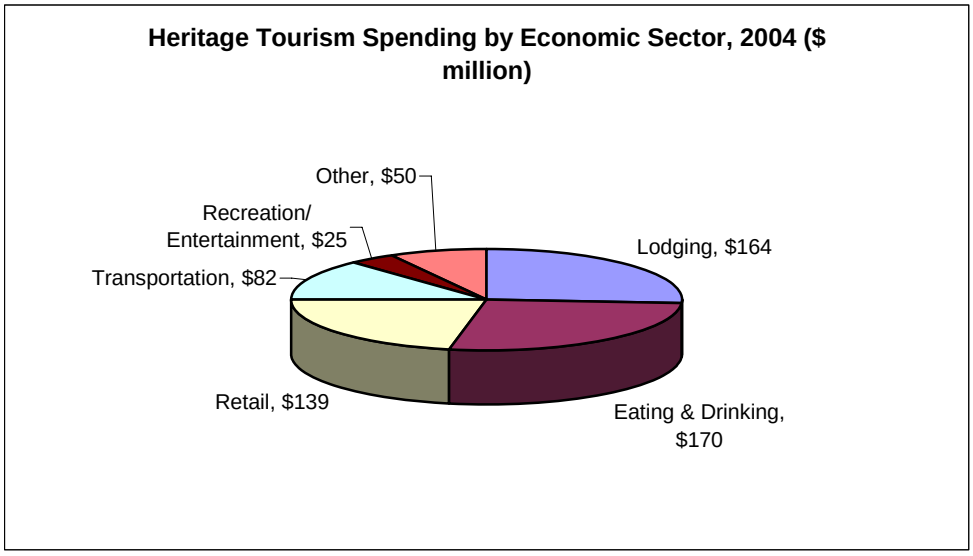
Heritage Tourism

The National Trust for Historic Preservation defines "cultural heritage tourism" as traveling to experience the places, artifacts and activities that authentically represent the stories and people of the past and present. Heritage tourism sites in Washington range from historic house museums staffed by volunteers, such as the Keller House in Colville, to publicly owned historic sites such as Fort Simcoe State Park near Yakima and Seattle's Klondike Gold Rush National Historic Park. Local historic districts and downtown areas also serve as important heritage tourism attractions. This is the case, for example, with downtown Ellensburg and Snohomish.

Heritage and other forms of tourism generate economic benefits for local economies because visitors to the area spend money on entrance fees, food and drink, transportation, gas, and lodging, among other things. These direct expenditures represent new money for the area and support local jobs and income, as well as generating additional employment and income through local multiplier effects.

Heritage tourists spent an estimated 8.7 million visitor days in Washington State in 2004, spending an average of $72.40 per day. This resulted in total annual spending statewide of about

$630 million, with much of this spending concentrated in the lodging, eating and drinking, and retail sectors. These expenditures generated total sales of $1.3 billion, supported 20,000 jobs in a variety of economic sectors, and paid $510 million in wages and salaries each year. This economic activity generated an estimated $66.5 million in state sales and B&O taxes, as well as local sales tax revenues (which are not included in this total).



Almost half (48.5 percent) of all visitor spending in Washington was in King County in 2004, with about 6.2 percent in Pierce County and 5.9 percent in Spokane County. Heritage tourism spending generated approximately $514 million in total output in King County, supported approximately 8,470 jobs, and generated about $210 million in labor income. Heritage tourism also generated about $67 million and $62 million in output in Pierce and Spokane counties, respectively, supported 1,100 jobs and generated $26.8 million in labor income in Pierce County and supported 1,050 jobs and generated $25.5 million in labor income in Spokane County.

Comparison with Other Economic Sectors

Historic rehabilitation and heritage tourism have relatively high levels of job creation per dollar of spending. The ratios of jobs per $1 million spent are higher in these industries than those in many other key economic sectors in Washington State, including wood products and food manufacturing. In addition, rehabilitation activities have higher job creation impacts than is the case in the overall construction industry.

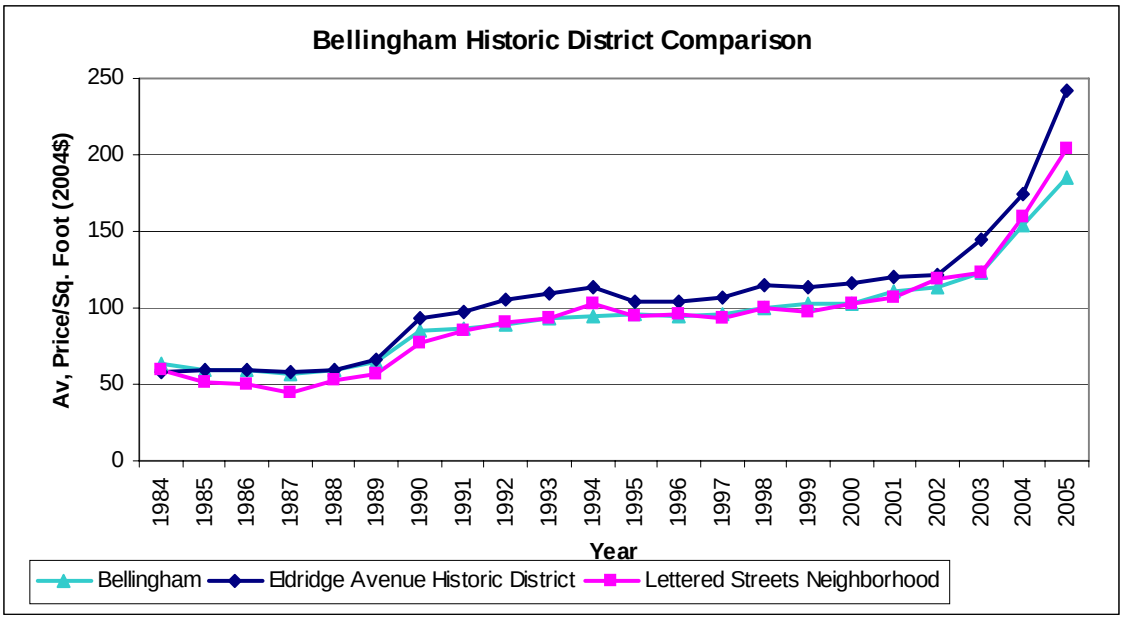
Economic Sector	Jobs (per $1 million of Final Demand)	Labor Income ($ per $ of Final Demand)
Health Services	36.31	1.185
Retail Trades	33.87	0.962
Heritage Tourism	**31.66**	**0.807**
Historic Rehabilitation	**27.50**	**1.026**
Finance and Insurance	26.73	0.978
Construction	26.45	0.908
Wood Products Manufacturing	26.39	0.920
Food Products Manufacturing	21.72	0.705
Aerospace Manufacturing	10.60	0.452

Historic Designation and Property Values

Designating a neighborhood a historic district protects future neighborhood quality and preserves historic amenities and characteristics valued by local residents and others. There have been numerous studies of the effects of historic designation on property values over the past two decades. While the results of these studies are mixed, historic designation is generally thought to have a positive impact on property values.

This study evaluated the effects of historic designation on single-family residential properties in four Washington cities: Bellingham, Ellensburg, Spokane, and Tacoma. In Bellingham and Tacoma average sale values for homes in the study historic districts increased at a faster rate than they did for similar homes located in comparable neighborhoods that do not have a historic designation.

The graph below compares average sale value (adjusted for inflation and expressed in average price per square foot) for Bellingham's Eldridge Avenue Historic District with sale values in the Lettered Streets neighborhood, which shares many characteristics with the Eldridge Avenue Historic District, but does not have a historic designation at this time. The graph also compares sales in these two neighborhoods with sales in the city as a whole.



Data for a sample of properties in Ellensburg and Spokane were more difficult to interpret because small sample sizes made it difficult to establish trends, but suggest that property values for homes in historic districts have increased at generally comparable rates to similar structures not located in a historic district.

ACKNOWLEDGEMENTS

This study relied on the assistance and expertise of numerous members of the Washington State historic preservation community. We especially thank Greg Griffith of the Washington Department of Archaeology and Historic Preservation (DAHP) and the other members of the project steering committee who oversaw this project and provided thoughtful direction, advice, and suggestions at key stages of the project. Members of the project steering committee included:

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Reuben McKnight, City of Tacoma, Historic Preservation Officer
Lisa Melton, Interim Landmarks Coordinator, King County Historic Preservation Program

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1. INTRODUCTION

1.1 Study Purpose and Approach

The cultural and historic resources of a community tell the story of its past and make any single community distinct from other places. These resources provide tangible connections to the people and events that have shaped our communities and our collective histories. Preserving the physical reminders of our past creates a sense of place and community pride. Historic preservation also generates a wide range of economic benefits in Washington State. Economic benefits include those associated with the rehabilitation and adaptive reuse of historic buildings and heritage tourism, as well as the impacts that historic designation has on neighborhood character and property values. Other benefits include the role that historic preservation plays in economic development and downtown revitalization.

To date, the economic benefits of historic preservation have been the subject of statewide studies conducted for at least 15 other states. These studies were reviewed as part of this project and are incorporated in the following discussions and analyses, as appropriate. This report, in common with the majority of other statewide studies, focuses on the economic impact of three key aspects of historic preservation: rehabilitation of historic buildings, heritage tourism, and the effects of historic designation on property values. In addition, information is presented on the economic impacts of the Washington Main Street Program.

This study measures the economic impacts of historic rehabilitation and heritage tourism on Washington State and also provides separate assessments of these effects for King, Pierce, and Spokane counties. Economic impacts are also estimated for the nine Washington Main Street communities. These impacts are measured using the Washington State input-output model, with separate county-specific models developed to assess the impacts for each of the three counties. Impacts are assessed in terms of total output (sales), employment, labor income, and tax revenues. The input-output model is discussed further in Section 1.3 below.

Historic rehabilitation, heritage tourism, and the Main Street Program are evaluated separately in the following analysis, but it is important to recognize that these activities are connected. Heritage tourists are, for example, often attracted to historic neighborhoods, business districts, and individual buildings that have undergone rehabilitation work. In this analysis historic rehabilitation and heritage tourism are evaluated separately and the results may be added together. The Main Street Program, however, includes elements of both historic rehabilitation and heritage tourism. The Main Street analysis evaluates the economic impacts of downtown investments, which include historic rehabilitation expenditures, and local downtown employment, including retail and service employment that is, in part, supported by heritage tourism. As a result, the Main Street program analysis likely includes some of the expenditures evaluated in the other study components. Therefore, these results should not be directly added to the historic rehabilitation and heritage tourism estimates.

The effects of historic designation on property values are assessed for four single-family, residential Historic Districts in four cities: Bellingham, Ellensburg, Spokane, and Tacoma. These effects are assessed using a paired comparison approach that compares the values of properties within the subject Historic District with similar properties in other comparable neighborhoods that have not received historic district designation. The four Historic Districts were selected for analysis following consultation with the steering committee established for this project.

1.2 Report Organization

The remainder of this report is organized into four chapters:

Historic Rehabilitation—This chapter assesses the economic impacts of historic rehabilitation on the Washington State economy, as well as King, Pierce, and Spokane counties. Impacts are evaluated in terms of total sales (output), employment, labor income, and tax revenues.

Main Street Program—This chapter assesses the economic impacts of the nine Washington Main Street communities using the Washington State input-output model. Impacts are assessed based on building renovation investments and employment increases experienced by each community from 2000 to 2004.

Heritage Tourism—This chapter assesses the economic impacts of heritage tourism on the Washington State economy and also estimates these impacts for King, Pierce, and Spokane counties. Impacts are presented in terms of the total sales (output), employment, labor income, and tax revenues that are supported by heritage tourism expenditures.

Historic Designation and Property Values—This chapter assesses the effects of historic designation on property values based on a comparative analysis of property value trends in four single-family, residential historic districts.

The remainder of this chapter (Section 1.3, below) provides a general overview of the methodology used in this analysis to assess the economic impacts of historic rehabilitation, heritage tourism, and the Main Street Program.

1.3 Methodological Overview

The following discussion is divided into three sections that describe how economic impacts are measured (direct, indirect, and induced), the input-output models used in this analysis, and the methods used to estimate tax revenue impacts.

Types of Economic Impact

Any economic activity that involves money changing hands generates a "direct" economic impact through the purchase of goods or services. This is the case with historic preservation-related economic activities that involve spending on historic rehabilitation or spending by heritage tourists. These direct or initial expenditures are, however, just part of the total economic impact. Total economic impacts include these direct expenditures and also indirect and induced impacts.

The *direct impact* component consists of expenditures made specifically for the preservation activity, such as construction labor and building materials for a rehabilitation project or gas and lodging expenditures by heritage tourists. These direct expenditures generate economic activity in other parts of the economy through what is known as the *multiplier* effect, with direct spending generating indirect and induced economic impacts.

Indirect impacts consist of spending on goods and services by industries that produce the items purchased for the historic preservation activity, such as the purchases by the mill that made the lumber used in the rehabilitation project.

Induced impacts include expenditures made by the households of workers involved either directly or indirectly in historic preservation-related activity, such as the construction labor involved in rehabilitating a historic building or the workers at the mill that supplied lumber for the project.

The analysis discussed here estimates the total (direct, indirect, and induced) economic impact of historic rehabilitation expenditures in the State as a whole and King, Pierce, and Spokane counties in particular. These impacts are measured in terms of output (sales), jobs, income, and tax revenues. Output in this context represents the total (direct, indirect, and induced) sales generated as a result of the initial expenditures.

Input-Output Model

The following chapters of the report explain how the direct expenditures associated with the rehabilitation of historic buildings (Section 2), the Washington Main Street Program (Section 3), and heritage tourism (Section 4) were estimated for this analysis. Once these direct expenditures were identified, the indirect and induced impacts were estimated through use of an input-output model. Input-output models are widely used in economic impact analysis and are the main modeling tool employed in all of the existing statewide historic preservation economic impact studies. The following statewide analyses for Washington State employ an updated version of the 1997 Washington State input-output model (Office of Financial Management, 2004). Effects to King, Pierce, and Spokane counties are estimated using modified versions of the state model scaled to the King, Pierce, and Spokane county economies. These sub-state economic impact models were developed using the location quotient approach to coefficient adjustment (see Appendix A).

The measures of impact derived from the input-output model include the value of industrial output, employment (number of jobs), and labor income. Output in this context represents the total (direct, indirect, and induced) sales generated as a result of the initial expenditures. Job estimates are expressed in Full-time Equivalents (FTEs) or "job-years," which represent one full year of work and may involve more than one worker. A construction project may, for example, employ four people full-time for the six months it takes to complete the project. Four people each employed for six months represents two job-years or two FTE jobs. Labor income refers to earnings from work, including wages, salaries, and self-employment income.

Tax Revenues

Historic rehabilitation, heritage tourism, and expenditures associated with Main Street program communities generate tax revenues in Washington through state sales and Business and Occupation (B&O) taxes. These revenues are estimated based on the output and labor income estimates generated by the input-output analysis, the most recent annual reports of tax revenue compiled by the Washington State Department of Revenue, and estimates of the composition of personal income developed by the U.S. Bureau of Economic Analysis. The estimates presented in this report do not include revenues generated by local sales taxes, which range from 0.5 percent to 1.7 percent of the state base rate of 6.5 percent and vary by jurisdiction.

Input-output analysis and the models used for this project are discussed in more detail in Appendix A to this report.

2. HISTORIC REHABILITATION

2.1 Introduction

Historic rehabilitation is defined by the U.S. Secretary of the Interior (1992) as "the process of returning a property to a state of utility, through repair or alteration, which makes possible an efficient contemporary use while preserving those portions and features of the property which are significant to its historic, architectural, and cultural values."

Rehabilitation of historic buildings generates economic benefits for local communities and the state as a whole through direct expenditures for labor, materials, and services. The following analysis assesses the total economic impacts of these expenditures on the Washington State economy, as well as King, Pierce, and Spokane counties. These impacts are measured in terms of final output (sales), jobs, labor income, and tax revenues.

The economic impacts of historic rehabilitation expenditures are important to recognize, but it is also important to understand that these benefits represent only one part of the economic impact equation as it pertains to historic rehabilitation. Historic rehabilitation, depending on the project or projects involved, may have other positive economic effects that are more difficult to quantify and may extend beyond the rehabilitated structure or structures in question and continue into the future. These include benefits that accrue to individuals and property owners, such as increased property values, and benefits that are shared by the broader community, such as improved quality of life, sense of place, and community pride, as well as increases in property and sales tax revenues (Rypkema, 2005). These types of effects, which have real economic and social benefits, are not captured in the following analysis.

Historic preservation also plays an important role in economic development strategies in towns and cities throughout the United States, and historic rehabilitation is often a key element of these strategies. The use of historic preservation as a development tool is clearly evident in those communities—typically small towns—that use the National Trust for Historic Preservation's Main Street approach to development (there are nine such communities in Washington, see Section 3). It is also a strategy employed by larger communities and cities in Washington. Development plans for the cities of Centralia and Tacoma, for example, emphasize historic preservation as an important development strategy (City of Centralia, 2006; Tacoma Economic Development Department, 2002). Historic preservation and rehabilitation contributes to economic development in a number of ways, which include attracting tourists and visitors from elsewhere and providing space for small businesses, as well as contributing to local quality of life factors that attract and retain residents. The role of historic rehabilitation in attracting visitors to Washington State and selected counties is implicitly addressed in the heritage tourism analysis presented in Section 4.

The following discussion is divided into six sections:

Study Methodology—This section discusses the methodology used in the following analysis and provides an overview of the methods and results of a number of studies conducted for other states.

Historic Rehabilitation Expenditures in Washington State—This section presents and discusses the statewide data used for this analysis.

Statewide Economic Impacts and *Economic Impacts in Selected Washington Counties* —These sections present the results of the economic impact analysis for the state as a whole and for King, Pierce, and Spokane counties, respectively.

Government and Tax-Exempt Organizations—This section discusses the role of government and tax-exempt organizations in historic rehabilitation and includes some example projects that are not captured in the main portion of this analysis.

Concluding Comments—This section compares the findings of this analysis with similar studies conducted for other states and compares the economic impact of historic rehabilitation with other sectors in the Washington economy. The final part of this section identifies some of the limitations with the current analysis and discusses possible future research directions.

2.2 Study Methodology

A number of studies completed for other states have estimated the economic impact of statewide expenditures on historic rehabilitation. Measured in terms of total jobs supported per year, the results of these analyses have ranged from about 300 jobs in West Virginia to 10,443 jobs in Florida (Table 2-1). This large variation may be, in part, due to differences in the amount of historic rehabilitation by state, but it is also due to differences in the methodology employed to estimate direct historic rehabilitation expenditures. The studies summarized in Table 2-1 employ two main types of approach.

The first approach estimates total historic rehabilitation expenditures based on project-specific data collected by historic preservation programs. The estimates developed for the first four studies identified in Table 2-1 took this approach and are based on data collected by a number of different programs, including federal and state rehabilitation tax incentive programs, state historic

Table 2-1. Economic Impact of Historic Rehabilitation in other States

State	Methodology[1/]	Timeframe	Average Annual Expenditures ($ million)[2/]	Annual Total Jobs	Total Jobs/ $ million
Colorado	Program	1981 to 2001	34	1,066	32
Georgia[3/]	Program	1992 to 1996	na	1,510	na
Michigan	Program	1971 to 2001	41	1,013	25
West Virginia	Program	1996	16	304	19
Florida[4/]	Census	2000	350	10,443	30
Missouri[4/]	Census	2000	346	8,060	23
New Jersey[4/]	Census	1994	123	2,316	19
Texas[4/]	Census	1997	192	4,247	22

Notes:
na-not available
1/Program refers to estimates based on data compiled by Federal and state historic preservation programs. Census refers to estimates that are based on a representative sample of communities and extrapolated to the state as a whole based on census data and ratios of rehabilitation to new construction.
2/These are nominal dollar values: they are not adjusted to account for inflation.
3/The direct expenditures used to estimate the economic impacts for Georgia were not reported.
4/The studies for Florida, Missouri, New Jersey, and Texas calculated total economic impacts for the affected state and for the nation as a whole. The $350 million spent in Florida, for example, supported 10,443 jobs within the state and an estimated 4,815 jobs elsewhere in the country. In order to be consistent with the other studies, the annual total job estimates presented here for these four states are for in-state jobs only.
Sources: Clarion Associates et al., 2002; Leithe and Tigue, 1999; Clarion Associates, 2002; Childs et al., 1997; Listokin et al., 2002; Listokin et al., 2001; Listokin and Lahr, 1997; Listokin et al., 1999.

preservation funds, and in some cases (Georgia and West Virginia) expenditures associated with state Main Street programs. The other four studies, which were all conducted, at least in part, by the Center for Urban Policy Research at Rutgers University, used a different approach that involved collecting rehabilitation data for a representative sample of communities and extrapolating these data based on U.S. Census data and the ratio of rehabilitation work to new construction in the sample communities.

This difference in methodology is clearly reflected in the resulting estimates, with average annual direct expenditures for the first four studies ranging from $16 million to $41 million (in nominal dollars) compared to expenditures ranging from $123 million to $350 million for the other four studies (Table 2-1). The large variation in results, which is, at least in part, due to the differences in methodology, speaks directly to the difficulty of developing a comprehensive statewide estimate of historic rehabilitation expenditures. This difficulty arises because there is no centralized, comprehensive source of building rehabilitation expenditures in most states.

In common with the states identified in Table 2-1, there is no centralized, comprehensive source of building rehabilitation expenditures in Washington. As a result, the following analysis is based on capital expenditure data from the Federal and Washington State historic preservation tax incentive programs, as discussed in the following section. The main advantage of this approach is that it measures only qualified rehabilitation expenditures that meet the requirements of these tax incentive programs and, unlike approaches that involve extensive extrapolation, is directly related to specific buildings. The main disadvantage of this approach is that a substantial amount of rehabilitation activity in Washington is not captured under these programs and is, therefore, not included in the following estimates.

These programs do not include historic rehabilitation projects conducted by government and tax-exempt organizations. Nor do they include money spent by individuals restoring their historic homes if those homes have not received any formal historic designation. Projects only qualify under the Federal program if the property involved is income producing (i.e., not an owner-occupied residence) and the cost of the project is equal to or greater than the adjusted base value of the building itself. The State program does allow owner-occupied residences to take advantage of the incentives. However, qualified expenditures must be equal to or greater than 25 percent of the pre-rehabilitation assessed value of the property, and this is also the case for commercial and multi-family properties.

The following section discusses the Federal and State tax incentive programs further and presents the data used to estimate the direct historic rehabilitation expenditures for this analysis.

2.3 Historic Rehabilitation Expenditures in Washington State

2.3.1 Historic Rehabilitation Tax Program Data

Statewide data in Washington State are compiled through two main programs: the Federal Historic Investment Tax Credit (ITC) Program and Washington State Special Valuation for Historic Properties Program. Data compiled from these programs are used for the following statewide and sub-state economic impact analysis.

Federal Historic Investment Tax Credit Program

Program Overview

This program, administered by the National Park Service (NPS) in cooperation with the Internal Revenue Service (IRS) and the Washington State Historic Preservation Officer (SHPO),

encourages private investment in the rehabilitation of historic structures through Federal tax credits. This incentive is a 20 percent tax credit for the substantial rehabilitation of a certified historic structure.

In Washington, this program is available for buildings that are listed in the National Register of Historic Places. In order to be eligible to take advantage of this tax incentive, National Register properties must be income-producing, which may, in this context, include uses such as commercial, retail, or office, as well as residential rental properties. This tax incentive is not available for listed residential properties that are exclusively owner-occupied. To qualify, a project must be "substantial" and carried out in accordance with the Secretary of the Interior's Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings. A project is considered a "substantial" rehabilitation when the amount spent on qualified project work is equal to or greater than the adjusted value of the building itself. This value usually equals the cost of the property, less the portion of the cost attributable to land, plus previously made capital improvements, less depreciation.

This program involves a three stage application process with the first and second parts of the application submitted before the rehabilitation begins. Part 1 is the evaluation of significance, which is required for properties located within a historic district and not individually listed. Buildings that are individually listed in the National Register are automatically certified and considered significant for the purposes of this program. Part 2 of the application provides a description of the rehabilitation and includes pictures that illustrate the architectural and historical features of the building in its current state, as well as a description of the proposed work. Part 3 notifies the SHPO and NPS that the project is complete and ready to be reviewed for certification. Projects are certified if the work is consistent with the plan described in Part 2 and the Secretary's Standards.

Qualified rehabilitation expenditures include work undertaken on the historic building, as well as architectural and engineering fees, site survey fees, legal expenses, development fees, and other construction-related costs. Expenses associated with property acquisition, new additions that expand the building, new construction, or other facilities related to the building do not qualify.

Study Data

Data were compiled for this analysis from the ITC Program database maintained by the Washington Department of Archaeology and Historic Preservation (DAHP). The data used for this analysis are the total qualified rehabilitation expenditures for projects that were completed between 2000 through 2004. A total of 29 projects were completed over this period with total qualified expenditures of $131 million (Table 2-2). More than half of these projects by value (56 percent) were located in Seattle, with 24 percent located in Tacoma and 15 percent in Spokane.

Table 2-2. Federal Historic Investment Tax Credit Program Qualified Rehabilitation Expenditures, 2000 to 2004 ($000s)

Location	2000	2001	2002	2003	2004	Total
Bellingham	0	0	0	1,400	197	1,597
Centralia	0	0	0	1,200	0	1,200
Ellensburg	0	0	232	0	0	232
North Bend	0	0	1,005	0	0	1,005
Olympia	0	0	0	0	1,348	1,348
Port Townsend	0	0	0	1,118	0	1,118
Seattle	7,200	28,559	25,530	0	12,254	73,543
Spokane	6,000	0	4,773	240	9,000	20,013
Tacoma	0	15,088	6,062	9,855	0	31,004
Total	**13,200**	**43,647**	**37,602**	**13,813**	**22,798**	**131,060**

Note:
1. Expenditures are presented in nominal dollars: they are not adjusted for inflation.
Source: Washington DAHP, 2005. Certified Rehabilitation Projects in Washington (Access Database)

Washington State Special Valuation for Historic Properties Program

Program Overview

This program is a locally adopted property tax incentive program authorized by state law that allows applicants to deduct the rehabilitation costs of a designated property from the new assessed valuation after the rehabilitation is completed. Qualified properties include buildings that are either listed individually in the National Register of Historic Places or a local register of historic places, or contribute to a National Register or locally designated historic district. Property taxes are based on this special valuation, which is the new assessed value of the property less the rehabilitation costs, instead of the full assessed value, for 10 years following the rehabilitation.

Although authorized as state law, local jurisdictions are required to adopt an ordinance in order to allow property owners to take advantage of the tax deduction. Local governments adopting this ordinance subsequently identify the types of properties that are eligible for special valuation and designate a local review board to review applications. To date, 37 local jurisdictions have implemented this program.

To qualify for the Special Valuation Program, a project must have been conducted within two years prior to the application and be equal in value to at least 25 percent of the assessed value of the property prior to rehabilitation. Rehabilitation work must adhere to the Secretary of Interior Standards for Rehabilitation and be reviewed by a local historic preservation review board. Properties must retain their historic character after rehabilitation to be eligible for this program. Qualified rehabilitation expenditures include improvements made to the building within its original perimeter, architectural and engineering fees, permit and development fees, loan interest, state sales tax, and other expenses incurred during rehabilitation. Expenses associated with property acquisition or new construction are not eligible. The local review board in each jurisdiction decides exactly which expenditures qualify.

Study Data

Data on the projects that qualify for this program are collected by the Certified Local Governments (CLGs) that administer the program within their jurisdiction. DAHP compiles summary data for the program as a whole, but these data only identify the number of projects and

total qualified rehabilitation expenditures for each jurisdiction. DAHP does not maintain data at the project-level.

Although there are currently 37 CLGs administering the Special Valuation Program, only 18 CLGs had qualified projects during the study period (2000 to 2004). Data were compiled for each qualified project over this period. A total of 203 projects were identified with total qualified expenditures of approximately $342 million (Table 2-3). More than half of these projects by value (63 percent) were located in Seattle, with 16 percent located in Tacoma and 15 percent in Spokane. The 203 projects involved a total of 189 buildings.

2.3.2 Estimated Direct Expenditures

Direct Qualified Historic Rehabilitation Expenditures

Data compiled from the Federal and State programs were used to estimate total statewide historic rehabilitation expenditures from 2000 through 2004. The qualified expenditures identified in Tables 2-2 and 2-3 were associated with 29 and 203 projects, respectively. Twenty-one of the projects that qualified for the Federal program also qualified for the special valuation program over this period. Two of the remaining eight projects with qualified expenditures under the Federal program were located in Bellingham, which was not a participating Certified Local Government at the time and four of the others had qualified special valuation expenditures prior to 2000.

Table 2-3. Washington State Special Valuation Program Qualified Rehabilitation Expenditures, 2000 to 2004 ($000s)

CLG	2000	2001	2002	2003	2004	Total
Centralia	0	0	0	0	758	758
Chehalis	98	0	0	0	0	98
Clark County	0	239	0	0	0	239
Dayton	0	0	0	18	95	113
Ellensburg	0	0	139	0	0	139
Everett	123	0	0	1,447	0	1,570
King County	446	1,064	871	0	0	2,380
Olympia	680	587	760	1,486	1,673	5,185
Pierce County	212	0	0	212	1,336	1,760
Port Townsend	0	319	436	0	270	1,025
Roslyn	0	0	0	0	281	281
Seattle	69,258	61,378	19,284	24,662	42,226	216,807
Shelton	0	0	0	730	0	730
Spokane	4,984	4,583	27,353	13,149	5,332	55,401
Spokane County	0	129	0	0	0	129
Tacoma	20,274	12,047	8,594	9,983	2,254	53,153
Walla Walla	0	0	0	0	379	379
Wenatchee	388	290	400	603	339	2,020
Total	**96,462**	**80,637**	**57,835**	**52,291**	**54,942**	**342,168**

Notes:
CLG—Certified Local Government
1/Expenditures are summarized here in nominal dollars: they are not adjusted for inflation.
Source: Washington DAHP provided data for Centralia, Chehalis, and Shelton. Data for the other 15 jurisdictions shown above were provided by the appropriate Certified Local Government.

Adjusting the total project count to account for the inclusion of 21 projects under both programs and the inclusion of 12 buildings in more than one year under the special valuation program, indicates that projects involving 197 buildings had qualified expenditures under one or both programs between 2000 and 2004. For the purposes of analysis, it was also necessary to adjust the total qualified expenditures over this period to account for the inclusion of 21 projects under both programs. The two programs have different timelines and different guidelines with respect to the project expenditures that are considered qualified historic expenditures. As a result, in a number of cases, projects that qualified under both programs qualified in different years and had different total expenditure values. For this analysis we selected the highest value in each case and subtracted the lower value from the overall totals. In cases where the project qualified in different years, we used the year with the highest expenditure. The qualified expenditure values were higher under the Federal program for 13, or 62 percent, of the 21 projects that qualified under both programs.

Adjusting the data to account for projects that were included under both programs and adjusting the remaining values to account for inflation resulted in total expenditures of approximately $417 million in 2004 dollars, an annual average of approximately $83.5 million (Table 2-4). More than half of the total qualified expenditures, approximately 61 percent occurred in Seattle, with Tacoma and Spokane accounting for 15 percent and 18 percent of the total, respectively. Eight buildings each had total qualified expenditures (in 2004 dollars) over $10 million and together accounted for about 43 percent of the total qualified expenditures over this period. Seven of these buildings were located in Seattle.

Table 2-4. Total Qualified Rehabilitation Expenditures, 2000 to 2004 ($000s) (2004$)

Jurisdiction	2000	2001	2002	2003	2004	Total	Annual Average
Bellingham	0	0	0	1,442	197	1,639	328
Centralia	0	0	0	1,236	758	1,994	399
Chehalis	108	0	0	0	0	108	22
Clark County	0	256	0	0	0	256	51
Dayton	0	0	0	19	95	114	23
Ellensburg	0	0	244	0	0	244	49
Everett	135	0	0	1,490	0	1,625	325
King County	491	1,138	914	0	0	2,543	509
Olympia	747	628	798	267	3,020	5,461	1,092
Pierce County	233	0	0	218	1,336	1,787	357
Port Townsend	0	342	0	1,152	270	1,763	353
Roslyn	0	0	0	0	281	281	56
Seattle	66,053	95,644	26,054	24,846	43,898	256,496	51,299
Shelton	0	0	0	752	0	752	150
Spokane	10,344	4,904	33,732	13,544	14,332	76,855	15,371
Spokane County	0	138	0	0	0	138	28
Tacoma	16,252	18,669	11,717	13,887	2,254	62,780	12,556
Walla Walla	0	0	0	0	379	379	76
Wenatchee	427	310	420	621	339	2,117	423
Total	**94,790**	**122,029**	**73,879**	**59,474**	**67,160**	**417,332**	**83,466**

Notes:
1. These data compiled from the Federal ITC and Washington State Special Valuation programs (see Tables 2-2 and 2-3) were adjusted to avoid double counting projects that qualified under both programs.
2. Expenditures are adjusted for inflation and presented in 2004 dollars. The data in Tables 2-2 and 2-3 are, in contrast, unadjusted, or nominal, values.

Type of Rehabilitation

A total of 197 buildings and 211 projects had qualified historic rehabilitation expenditures from 2000 through 2004, accounting for annual average expenditures of approximately $83.5 million in constant 2004 dollars (Table 2-4). These projects ranged from renovations of single family homes to conversions of warehouse and industrial buildings into office and residential uses, with qualified expenditures ranging (in 2004 dollars) from a $19,000 historic home renovation project in Dayton, Columbia County to the $30 million dollar renovation of Smith Tower in downtown Seattle. The direct expenditures associated with these projects vary considerably, based on the type of structure and the nature of the project.

The following analysis distinguishes between three types of rehabilitation expenditure, based on the categories used in the Preservation Economic Impact Model (PEIM) developed for the NPS and used in a number of other statewide historic preservation economic impact studies. This distinction recognizes that the mix of goods and services purchased as direct inputs to a rehabilitation project varies based on the type of building. Qualified expenditures were classified for the purposes of analysis as commercial, multi-family, or single-family. Buildings were classified based on their original use, with, for example, warehouses that have been converted to residential lofts identified as commercial rather than multi-family structures. Hotels were classified as multi-family, rather than commercial buildings.

The majority of the adjusted qualified expenditures in Washington were associated with commercial buildings (approximately 70 percent), with the remainder divided for the purposes of analysis between multi-family (about 25 percent) and single-family (about 6 percent) residential properties (Table 2-5). This distribution varied by location with over 80 percent of the qualified expenditures from 2000 through 2004 in King County associated with commercial buildings, compared to just 31 percent in Spokane County. Approximately 98 percent of the qualified commercial rehabilitation expenditures in King County were made in Seattle, with the majority of these expenditures on projects located downtown or in Pioneer Square. In Spokane County, the qualified multi-family expenditures were primarily in downtown Spokane, with the Davenport Hotel rehabilitation accounting for slightly more than half of the total qualified multi-family expenditures from 2000 to 2004.

Table 2-5. Distribution of Adjusted Qualified Expenditures by Building Type and Location, 2000 to 2004

Location	Total Adjusted Expenditures ($ million)[1/]	Expenditure Distribution by Building Type (Percent)[2/]		
		Commercial	Multi-Family	Single Family
King County	259	83	11	6
Pierce County	65	65	34	2
Spokane County	77	31	66	4
Other	17	58	21	21
Washington Total	**417**	**70**	**25**	**6**

Notes:
1/These data compiled from the Federal ITC and Washington State Special Valuation programs (see Tables 2-2 and 2-3) were adjusted to avoid double counting projects that qualified under both programs. Dollars are for 2000 through 2004, adjusted for inflation, and presented in 2004 dollars.
2/Data may not sum due to rounding.

Assigning Total Expenditures to Economic Sectors

The mix of goods and services purchased as part of a rehabilitation project typically varies based on the type of building involved. This analysis distinguishes between three types of building (commercial, multi-family residential, single-family residential) and identifies separate spending distributions by economic sector for each building type based on the distributions identified for Washington State in the PEIM. The distributions used in the PEIM are based on a detailed evaluation of almost 60 projects involving close to $100 million in rehabilitation expenditures. Data were gathered from developers active in historic preservation, project files for historic rehabilitation projects receiving federal tax preservation credits, and information on other projects receiving public funding (Listokin et al., 2002). These data were then converted into purchases of goods and services by industrial sector and used to calibrate the PEIM, which was used in at least four statewide economic studies (New Jersey, Florida, Texas, and Missouri) and subsequently developed for the NPS.

2.4 Statewide Economic Impacts

Direct, Indirect, and Induced Economic Impacts

The Washington State input-output model was used to estimate the total impact of the $83.5 million in direct annual expenditures identified in Table 2-4 on the state economy. These results indicate that historic rehabilitation activities generated approximately $221 million in output, supported approximately 2,323 jobs, and generated about $87 million in labor income (Table 2-6). In other words, the $83.5 million in annual rehabilitation spending supported approximately 2,323 jobs and those workers were paid a total of $87 million. These direct expenditures also resulted in total sales of $221 million.

About half of these sales (51 percent) were concentrated in the manufacturing and construction sector. This sector and the services sector each accounted for about 43 percent of the employment supported by historic rehabilitation in Washington. Labor income was also concentrated in these sectors, with manufacturing and construction accounting for 43 percent and services accounting for 45 percent (Table 2-6).

Table 2-6. Annual Average Historic Rehabilitation Total (Direct, Indirect and Induced) Impacts in Washington, 2000 to 2004

	Output ($ millions)	Employment	Labor Income ($ millions)
Natural Resources & Utilities	10.126	58	2.199
Manufacturing & Construction	111.647	988	37.674
Wholesale and Retail Trade	20.692	285	7.827
Services	78.349	993	39.056
Total	**220.814**	**2,323**	**86.756**

Multipliers

The majority of qualified historic rehabilitation expenditures (about 70 percent) over the study period involved commercial buildings. Table 2-7 presents estimates of multipliers for historic rehabilitation of commercial buildings in Washington State.

The output multiplier of 2.6 means that for every dollar in direct rehabilitation spending $1.60 is spent elsewhere in the State economy for a total impact of $2.60 in sales (or output). The employment multiplier is expressed in terms of total jobs per $1 million in final demand. Historic rehabilitation of $1 million supports 28 total (direct, indirect, and induced) jobs and total labor income of $1,026,000.

Table 2-7. Washington Historic Rehabilitation Multipliers

Output (sales/direct $)	2.6
Employment (jobs/$million final demand)	28
Labor Income ($/direct $)	1.026

The multipliers estimated for the statewide historic rehabilitation of single-family and multi-family residential buildings using the spending distributions from the PEIM were slightly higher and lower than the estimates for commercial structures, respectively.

Tax Revenues

Total annual average historic rehabilitation-related tax revenues accruing to Washington State were approximately $8.9 million from 2000 to 2004 (Table 2-8). The state B&O tax revenue estimates were calculated by multiplying sector-specific B&O tax rates by estimated output in each sector in the state input-output model. Direct state sales taxes were estimated as a function of output in the construction sector. Indirect sales taxes were estimated as a fraction of labor income earned directly and indirectly due to historic rehabilitation activity. These estimates do not include revenues generated by local sales taxes, which range from 0.5 percent to 1.7 percent of the state base rate of 6.5 percent and vary by jurisdiction.

Table 2-8. Annual Average Washington State Historic Rehabilitation Tax Revenues, 2000 to 2004

Type of Tax	**Tax Revenues ($ million)**
State B&O	1.3
Direct State Sales Tax	4.6
Indirect Sales Tax (Labor income)	3.0
Total[1/]	**8.9**

Note:
1/These estimates include state sales and B&O taxes. They do not include revenues generated by local sales taxes, which range from 0.5 percent to 1.7 percent of the state base rate of 6.5 percent and vary by jurisdiction.

2.5 Economic Impacts in Selected Washington Counties

Direct, Indirect, and Induced Economic Impacts

The majority of the historic rehabilitation spending identified above (96 percent) took place in King (62 percent), Pierce (15 percent), and Spokane (18 percent) counties and was concentrated in the largest city in each county (Seattle, Tacoma, and Spokane) largely because the federal and state tax incentive programs are currently most active in these areas. In Pierce County, for example, 97 percent of total historic rehabilitation spending was in Tacoma. (Table 2-4).

Annual average qualified expenditures are presented for King, Pierce, and Spokane counties in Table 2-9. These expenditures ranged from $12.9 million in Pierce County to $51.8 million in King County.

The data presented in Table 2-9 were converted into purchases of goods and services by economic sector for the purpose of analysis. This conversion was based on the type of building and the associated spending distributions developed for the PEIM. Total impacts for King, Pierce, and Spokane counties were estimated using modified versions of the Washington State model, which was scaled to the King, Pierce, and Spokane county economies using the location quotient approach to coefficient adjustment (see Appendix A).

Table 2-9. Annual Average Qualified Expenditures for King, Pierce, and Spokane Counties, 2000 to 2004 ($ million)

County	Commercial	Multi-Family	Single Family	Total
King	43.007	5.498	3.303	51.808
Pierce	8.370	4.336	0.208	12.914
Spokane	4.708	10.112	0.579	15.399
Other	1.933	0.715	0.698	3.346
Total	**58.018**	**20.661**	**4.788**	**83.466**

Notes:
1/ These data are based on the total adjusted expenditures and building distribution presented in Table 2-5. Total expenditures were divided by 5 to get the annual average values presented here.

Qualified historic rehabilitation activities generated approximately $106 million in total sales (output) in King County, supported approximately 1,230 jobs, and generated about $43 million in labor income each year (Table 2-10). Historic rehabilitation generated about $29 million and $34 million in output in Pierce and Spokane counties, respectively, and supported 325 jobs in Pierce County and 400 jobs in Spokane County (Table 2-10). This spending also generated $11.1 million in labor income in Pierce County and $13.7 million in Spokane County.

Table 2-10. Annual Average Total (Direct, Indirect and Induced) Historic Rehabilitation Impacts for King, Pierce, and Spokane Counties, 2000 to 2004

	King	Pierce	Spokane
Output ($ millions)			
Natural Resources & Utilities	2.995	1.020	1.141
Manufacturing & Construction	57.314	16.629	18.683
Wholesale and Retail Trade	8.870	2.606	3.458
Services	36.419	8.404	10.735
Total	**105.598**	**28.658**	**34.016**
Employment			
Natural Resources & Utilities	8	4	4
Manufacturing & Construction	558	150	177
Wholesale and Retail Trade	118	36	47
Services	546	135	173
Total	**1,230**	**325**	**400**
Labor Income $ millions			
Natural Resources & Utilities	0.504	0.192	0.216
Manufacturing & Construction	21.013	5.667	6.741
Wholesale and Retail Trade	3.370	0.984	1.311
Services	18.181	4.265	5.470
Total	**43.067**	**11.108**	**13.737**

Multipliers

The historic rehabilitation multipliers estimated for commercial buildings in King, Pierce, and Spokane counties are summarized in Table 2-11. These multipliers are lower than for the state as a whole, because there are greater leakages of expenditures at the county level, with a larger share of spending going toward goods and services produced outside the respective county and not generating indirect and induced impacts within the local (county) economy.

Table 2-11. Historic Rehabilitation Multipliers for King, Pierce, and Spokane Counties

	King	Pierce	Spokane
Output (sales/direct $)	2.020	2.216	2.179
Employment (jobs/$million final demand)	24	25	26
Labor Income ($/direct $)	0.824	0.856	0.879

Tax Revenues

Estimated state tax revenues accruing to the State of Washington from qualified historic rehabilitation activities in King, Pierce, and Snohomish counties are summarized in Table 2-12. These estimates were developed using the same methodology as the statewide estimates presented in Table 2-8. Total historic rehabilitation-related tax revenues accruing to Washington State were approximately $4.9 million in King County and $1.3 million and $1.5 million in Pierce and Spokane counties, respectively (Table 2-12). These estimates do not include revenues generated by local sales taxes, which range from 0.5 percent to 1.7 percent of the state base rate of 6.5 percent and vary by jurisdiction.

Table 2-12. Annual Average Historic Rehabilitation Tax Revenues for King, Pierce, and Spokane Counties, 2000 to 2004

	Tax Revenues ($ million)		
Taxes	**King**	**Pierce**	**Spokane**
State B&O	0.6	0.2	0.2
Direct State Sales Tax	2.8	0.7	0.8
Indirect Sales Tax (Labor income)	1.5	0.4	0.5
Total[1/]	**4.9**	**1.3**	**1.5**

Note:
1/These estimates include state sales and B&O taxes. They do not include revenues generated by local sales taxes, which range from 0.5 percent to 1.7 percent of the state base rate of 6.5 percent and vary by jurisdiction.

2.6 Government and Tax-Exempt Organizations

Historic rehabilitation activities conducted by government and tax-exempt organizations are not captured under the Federal and State tax incentive programs discussed above. No centralized source of data exists for these types of activities, but it is likely that the associated expenditures are considerable, as suggested by the examples provided in the following sections.

2.6.1 Government Organizations

Public sector historic rehabilitation activities are not taxed in the same way as private projects and are, as a result, not eligible for the Federal or State tax incentive programs. In Washington, there are a wide range of public historic rehabilitation projects, with investments made at all levels of government, ranging from local municipalities to the Federal government. These projects include renovations to historic public facilities, such as city and county administration buildings, schools, libraries, and parks, and range from relatively small interior renovations to extensive remodeling projects. Funding for these projects comes from a variety of sources, including regular operating budgets, matching grant programs, and voter-approved levies.

The following sections provide a brief summary of some recent and ongoing government historic rehabilitation projects and provide an indication of the likely economic impacts of these projects[1].

[1] Economic impacts are estimated for these projects using the Washington input-output model and multipliers developed for the historic rehabilitation of civic structures. These multipliers were estimated based on the spending distributions for this category for Washington State in the PEIM. These impacts are expressed in terms of total (direct, indirect, and induced) jobs and labor income.

Historic County Courthouse Rehabilitation Grant Program

Following a statewide historic county courthouse study completed in 2003, the Washington legislature appropriated $5 million to begin a program to help local governments maintain their courthouses. Awards were made to eight counties in November 2005 for projects ranging from the replacement of courthouse doors to comprehensive rehabilitation (Table 2-13). Together with matching funds raised locally, these awards are expected to generate approximately $15.3 million in direct rehabilitation spending around the state, with two-thirds of this spending associated with the Franklin County Courthouse (Table 2-13). Statewide, these projects will support approximately 428 jobs and $15.7 million in labor income.

Table 2-13. Historic County Courthouse Rehabilitation Program

County Courthouse	Project Summary	Total Project Cost ($)
Cowlitz	Cooling tower replacement	165,110
Douglas	Entryway door replacements	7,500
Franklin	Comprehensive rehabilitation	10,200,000
Jefferson	Clock tower rehabilitation	3,400,000
Lewis	Various exterior rehabilitation work	571,000
Pacific	Window and door rehabilitation; roof drainage project	637,026
San Juan	Roof replacement; various exterior rehabilitation work	74,346
Stevens	Roof replacement	246,606
Total		**15,301,588**

Source: Washington Trust for Historic Preservation, 2006.

Seattle Public Libraries, Libraries for All Capital Projects

Seattle voters approved the "Libraries for All" bond measure to upgrade The Seattle Public Library system in November 1998. This bond measure was designed to pay for improvements to all 22 existing neighborhood branches of the library, five new branches, and the new central library in downtown Seattle. There have been recent or ongoing capital improvements to ten existing Seattle libraries that are either Seattle Historic Landmarks or in the National Register of Historic Properties. The overall combined project budget of $26.9 million, includes both new construction and historic rehabilitation, with approximately $5.6 million associated with historic rehabilitation over a period of four years (Table 2-14). These direct historic rehabilitation expenditures ($5.5 million) will support approximately 153 FTE jobs and $5.7 million in labor income in Washington State.

Table 2-14. Seattle Public Libraries Historic Rehabilitation

Library Branch	Actual/ Proposed Capital Costs	Completion Date
Fremont Branch	$749,267	2005
Green Lake Branch	$1,103,780	2004
Queen Anne Branch	$652,145	2007
University Branch	$791,950	2007
West Seattle Branch	$2,257,664	2004
Total	**$5,554,806**	**na**

Notes:
na—not applicable
1/Includes only libraries identified as Seattle Historic Landmarks or in the National Register of Historic Places
Source: Seattle Public Libraries, 2006.

Seattle Public Schools, Building Excellence Program Phase II

Seattle voters approved a tax levy in February 2001 for the Seattle Public Schools' Building Excellence II program, which includes new construction, renovation, or additions at 17 school facilities and involves an investment of $398 million over six years (Seattle Public Schools, 2006). Four of these schools are City of Seattle Landmarks with total estimated construction costs of $275 million (Seattle Public Schools, 2006). Approximately $141 million of this total is expected to be spent on historic rehabilitation activities (Gilmore, 2006) (Table 2-15). These direct historic rehabilitation expenditures will support approximately 3,860 FTE jobs and $145 million in labor income.

Table 2-15. Seattle Public Schools Historic Rehabilitation

School	Historic Renovations	Estimated Cost	Completion Date
Cleveland High School	Historic renovation of the remaining portions that have significant facades. Modernize the 1927 building.	$30,500,000	2007
Garfield High School	Historic renovation of 1923 and 1929 building	$43,650,000	2008
Madison Middle School	Historic renovation of 1929 building and 1931 addition.	$22,440,000	2005
Roosevelt High School	Historic renovation of the 1922 and 1928 buildings.	$44,750,000	2006
Total	**na**	**$141,340,000**	**na**

Notes:
na—not applicable
1/Includes only those schools that are City of Seattle Landmarks.
Source: Gilmore, 2006; Seattle Public Schools, 2006.

Ellensburg City Hall

The city of Ellensburg renovated the former Washington Elementary School for use as its City Hall in 2004. The city purchased the building in February 2002 and began design work on the project in early 2003. Construction took place in 2004 and the city moved into the renovated structure in December of that year. Total project cost was approximately $4.8 million, including $3.1 million spent on renovation activities and $350,000 on architectural and related services (City of Ellensburg, 2006). These direct construction-related costs of approximately $3.5 million supported approximately 96 jobs and $3.57 million in labor income.

Washington State Parks

The Washington State Parks and Recreation Commission (State Parks) manages a system of 120 parks that include a variety of historic resources and attractions, including early settlements, historic houses, and Civilian Conservation Corps structures, as well as eight coastal military forts. State Parks operates on a biennial (two-year) budget of about $90 million and the current biennium extends from July 1, 2005 to June 30, 2007. The State Parks budget for this period includes approximately $2.4 million for historic preservation in parks located throughout the state, as well as approximately $2 million for preservation activities at Fort Worden State Park. About $0.5 million of these budgets are for program management and other non-construction-related activities and a further $330,000 is for new construction. The remaining $3.5 million is for historic preservation-related activities, including roof and other structural repairs, rehabilitation of the historic hospital at Fort Flagler State Park, and renovation of the JFK building at Fort Worden (Table 2-16). These expenditures will support about 97 jobs and $3.6 million in labor income.

Table 2-16. Washington State Parks Historic Rehabilitation Funds, 2005 to 2007

State Park	County	Allotted Funds
Fort Worden	Jefferson	1,399,532
Fort Columbia	Pacific	810,272
Cape Disappointment	Pacific	299,497
Millersylvania	Thurston	394,605
Fort Flagler	Jefferson	350,760
Riverside	Spokane	77,167
Iron Horse	Various	177,549
Total	**na**	**3,509,382**

na—not applicable
Source: Washington State Parks and Recreation Commission, 2006a.

State Parks budget for the last biennium (July 2003 through 2005) included approximately $3.8 million (including program management costs) for Fort Worden and other historic rehabilitation projects, including some of those identified in Table 2-16. The majority of these allotted funds were spent with approximately $350,000 unallocated at the end of that two-year period (June 2005) (Washington State Parks and Recreation Commission, 2005).

2.6.2 Tax-Exempt Organizations

Historic rehabilitation activities conducted by tax-exempt, non-profit organizations are also not captured in the Federal or state tax incentive programs. There are numerous examples of historic rehabilitation projects funded and managed by non-profit organizations throughout the state, with non-profit organizations ranging from organizations formed to protect a particular historic resource to established membership organizations with relatively broad mandates and public development authority status.

In many cases, non-profit organizations develop around the desire to preserve and rehabilitate specific historic buildings that are important community resources and provide benefits to the wider community beyond the economic impact of the expenditures for labor and materials necessary to preserve them. In some cases rehabilitation projects carried out by non-profit organizations may be ongoing for a number of years, with different project elements undertaken as funding becomes available. Projects may also include volunteer labor and donated materials that are not captured in an expenditure based analysis, but still have economic impacts. As noted with respect to government rehabilitation projects, there is no centralized source of information for these types of projects in Washington State, but it is likely that the associated expenditures make important contributions to many communities, as well as the state as a whole.

In Washington, non-profit local organizations have been very active in preserving and restoring historic theatres and railroad depots in communities throughout the state. Completed and ongoing theater restoration projects include Everett Theater in Everett, Mount Baker Theater in Bellingham, Lincoln Theatre in Mount Vernon, Capitol Theater in Yakima, Columbia Theater in Longview, the Pantages and Rialto Theaters in Tacoma, and the Seventh Street Theater in Hoquiam. Railroad depot restoration projects have been completed or are ongoing in Centralia, Morton, Yakima, Anacortes, Snoqualmie, Dayton, Cle Elum, and Ritzville. Brief summaries of the Everett Theater, Mount Baker Theater, and Cle Elum Depot are provided below as examples of non-profit historic rehabilitation projects.

Everett Theater

The Everett Theater renovation has been ongoing for almost 10 years and has involved approximately $2 million in direct expenditures over this period, as well as thousands of

volunteer hours and corporate and private donations of materials (Gunderson, 2005). The direct expenditures, which mainly occurred in 1998/1999 and 2000/2001, supported approximately 59 jobs and generated $2 million in labor income.

Mount Baker Theater

Mount Baker Theater is a registered non-profit corporation that is governed by a volunteer Board of Directors and manages the theater through a contract with the owner, the city of Bellingham. The theater has been undergoing restoration for the past decade and in 2004, Mount Baker Theater reacquired space on the west side of the building and converted it to theater support, added an additional small performance space (Studio Theater), replaced the final third of the roof, and refurbished the cupola gutter system and tiles. Total expenditures over the past decade have been approximately $6.8 million (Burdick, 2006). These expenditures supported approximately 190 jobs and generated $7 million in labor income.

Cle Elum Depot

Approximately $1 million of appropriations, grants, contributions, and in-kind contributions has gone into the South Cle Elum Depot project since 1999, supporting approximately 29 jobs and generating about $1 million in labor income over this period. Other costs that are not measured in this total include volunteer labor and travel costs, as well as expenditures by volunteers in the local community, and money and labor provided by State Parks (Gray, 2005).

2.7 Concluding Comments

The following discussion is divided into three parts. The first part compares the results of this analysis with the findings of other statewide historic rehabilitation economic impact studies. The second part compares historic rehabilitation with other sectors of the Washington economy. The third and final part discusses some of the limitations with the current analysis and identifies possible future research directions.

Comparison with Past Studies

The findings of a number of historic rehabilitation economic impact studies prepared for other states are summarized in Table 2-1. Four of these studies (Colorado, Georgia, Michigan, and West Virginia) employed the same general approach used in this study. The other four studies took a different approach that involved extrapolating data from a limited sample of communities and resulted in much larger estimates.

Total annual direct qualified rehabilitation expenditures for Washington State were at least twice as high (in nominal dollars) as those identified for the three similar studies that provided this information (Colorado, Michigan, and West Virginia), approximately $83.5 million versus $41 million in Michigan (the highest of the three other studies). As a result, the estimate of total jobs supported by historic rehabilitation in Washington is larger than that estimated in the other similar studies. The employment multiplier developed for commercial building rehabilitation in Washington State as part of this study was approximately 28 jobs per $1 million (jobs/$ million) spent. This value is near the upper end of the range of values established in past studies, which ranged from 19 jobs/$ million in West Virginia to 32 jobs/$ million in Colorado.

Comparison with Other Economic Sectors

Historic rehabilitation measures up quite favorably against other Washington industries in terms of jobs and income supported per $1 million of final demand (in this case rehabilitation expenditures). Multipliers for historic rehabilitation and a selection of other industries of importance to the Washington economy are reported in the following table. These data show that the jobs and labor income multipliers for historical rehabilitation are relatively high. Historic

Rehabilitation has a higher multiplier than general construction, reflecting the relatively labor-intensive nature of this type of construction activity. The historic rehabilitation multiplier is also higher than a number of important manufacturing sectors in Washington State, including food, wood, and aerospace manufacturing. Historic rehabilitation activity in Washington State has multipliers that are similar to the key retail trade, finance and insurance, and health services sectors.

Table 2-17. Comparison of Historic Rehabilitation with Other Economic Sectors

Economic Sector	Jobs (per $1 million of Final Demand)	Labor Income ($ per direct $)
Health Services	36.31	1.185
Retail Trades	33.87	0.962
Historic Rehabilitation	**27.50**	**1.026**
Finance and Insurance	26.73	0.978
Construction	26.45	0.908
Wood Products Manufacturing	26.39	0.920
Food Products Manufacturing	21.72	0.705
Aerospace Manufacturing	10.60	0.452

The multipliers shown in Table 2-17 indicate that viewed in terms of jobs per $1 million in final sales, aerospace makes a relatively small contribution to the Washington State economy. The aerospace industry buys a very small share of its inputs from industries and other suppliers located in Washington State, which results in relatively low multipliers when compared to other sectors like wood products or agriculture that purchase the majority of their inputs locally. The overall contribution of aerospace to the Washington economy is, however, very large because of the size of the sector.

Future Research Directions

The results of the preceding analysis indicate that historic rehabilitation measured in terms of sales (output), jobs, and income makes an important contribution to the Washington State economy, as well as the local economies in King, Pierce, and Spokane counties. The following sections identify some of the limitations of this analysis and discuss possible future research directions.

Identifying Historic Rehabilitation Spending

The historic rehabilitation impact estimates presented in this report are based on project-specific information compiled from the Federal and State tax incentive programs. These data produce conservative estimates because these programs only capture part of the expenditures associated with historic rehabilitation activities in Washington.

Rehabilitation activities that do not qualify for these programs include historic rehabilitation projects conducted by government and tax-exempt organizations and money spent by individuals restoring their historic homes, if these homes are not individually listed in the National Register of Historic Places or part of a listed Historic District. There are currently no centralized sources of data for these types of projects. This problem is not limited to Washington and has been noted by a number of studies conducted for other states (see Section 2.2). Nevertheless, more comprehensive sources of data are needed to more fully evaluate the total contribution of historic rehabilitation construction spending to Washington State.

Some Washington counties maintain data on construction permits and the availability of these data is constantly improving as more counties take advantage of the internet to make this type of information available to the public. In King County, for example, data are available on permitted construction by property and it is possible to cross-reference this information with the age of the property structures to develop an estimate of annual construction spending on buildings 50 years or older. The annual average amount spent renovating homes 50 years or older from 2000 to 2004 in King County was about $115 million, higher than annual average qualified historic rehabilitation spending for the entire state over the same period ($83.5 million).

The King County data are, however, for all buildings 50 years or older and it is likely that much of this spending is not related to historic rehabilitation and, further, many of the properties involved are not likely to be eligible for historic designation for a variety of reasons. The data compiled by King County do not identify the type of permitted improvement involved and the types of activities included in this category likely vary by community (Roe, 2006). This type of data may be used in the future to develop more comprehensive estimates of rehabilitation spending, but these data would need to be collected and compiled on a consistent, statewide basis with more detail provided on the permitted improvements involved.

The lack of consistent comprehensive construction data is just part of the problem. In addition, at this point, there is no one database that provides a comprehensive list of historic buildings in Washington State that could be cross-referenced with this type of construction data. Structure inventories of historic and potentially eligible structures have, however, been completed in many Washington communities and are underway in others. The database information compiled on these structures should be consistent across communities and include parcel numbers so that this information can be easily cross-referenced with other sources of data.

Historic Rehabilitation versus New Construction

This study used secondary data compiled for the PEIM by the Center for Urban Policy Research at Rutgers University to identify employment and labor income multipliers for historic rehabilitation-related construction activities. These multipliers were higher than the multipliers for the overall construction sector (see Table 2-17).

This illustrates the relatively labor intensive nature of this type of construction, but the overall construction sector in the Washington input-output model includes more than just new building construction and, as a result, the comparison in Table 2-17 is not a direct comparison between historic rehabilitation and new construction. The overall construction sector (NAICS Sector 23) includes the construction of buildings and engineering projects (e.g., highways and utility systems), as well as establishments primarily engaged in subdividing land into building sites.

Other studies have supported the idea that historic rehabilitation is more labor intensive than similar new construction and tends to involve more skilled craftsmen. Rypkema (2005), for example, suggests that between 60 and 70 percent of the cost of a typical historic rehabilitation project goes toward labor compared to about 50 percent of new construction expenditures. He notes that the skilled labor typically required for historic rehabilitation tends to be hired locally and specialized materials, such as replacement doorknobs, panes of glass, or sections of custom wood trim, are more likely to be purchased locally than steel beams and the other large materials required for new construction. As a result, the local economic benefits (and multipliers) associated with historic rehabilitation are generally thought to be higher than those for new construction.

This makes intuitive sense and there is some data that appears to support this position. Future research in Washington State should, however, consider collecting more detailed information on both historic rehabilitation projects and comparable new construction, to allow a more precise comparison between these types of construction.

Historic Rehabilitation and Economic Development

Historic rehabilitation spending generates economic benefits for local economies and Washington State as a whole, but the economic benefits of historic rehabilitation often go beyond the spending involved in construction activities. These include benefits that accrue directly to property owners, increases in local property and sales tax revenues, and benefits that are shared by the broader community, such as improved quality of life, sense of place, and community pride (Rypkema, 2005). Historic preservation also plays an important role in economic development strategies in towns and cities throughout Washington State, and historic rehabilitation is often a key element of these strategies.

Data on building renovations, new business starts and relocations, and new jobs are compiled for the nine Main Street program communities in Washington (see Section 3). These data provide a useful insight into the economic development aspects of the Main Street program. This sort of data is not currently available for other communities that emphasize historic preservation as an important element of their economic development strategies. Future research could involve a series of case studies designed to illustrate the ongoing economic benefits of historic rehabilitation elsewhere in the state. Case studies could also be used to illustrate the relationship between historic rehabilitation and heritage tourism, which is likely an important source of income to many businesses and communities.

Tax Incentives and Historic Rehabilitation

Anecdotal information suggests that tax incentives play an important role in stimulating historic rehabilitation activities in Washington State and may be the difference between a project that is economically viable and one that is not. Non-profit organizations in Washington State have, for example, been known to develop for-profit organizations to execute projects specifically in order to take advantage of federal and state tax credits. This point was also made in a recent newspaper article about the conversion of historic office buildings into residential condominiums in downtown Seattle (Boyer, 2005). Tax incentives benefit developers and preservation organizations and in many cases there are also benefits for the broader community, including increases in property tax revenues due to increased property values. Data on increases in property values for projects that qualify for the ITC Program could be used to evaluate the fiscal effectiveness of this program and the results of this evaluation could, in turn, be used to promote the program's effectiveness to the State legislature and local communities, as necessary. A recent study evaluated the economic and fiscal impact of the Rhode Island Historic Preservation Investment Tax Credit Program and found that Rhode Island's initial investment in historic rehabilitation tax credits was more than recouped via construction-related taxes, real property taxes, and post-construction sales and income taxes (Lipman Frizzell & Mitchell, 2005).

3. MAIN STREET PROGRAM

3.1 Introduction

The Washington State Downtown Revitalization/Main Street Program has been helping communities revitalize their commercial districts using the Main Street approach since 1984. The Main Street approach was developed by the National Trust for Historic Preservation in the late 1970s and the National Main Street Center was established in 1980. The Main Street approach to commercial district revitalization is based on historic preservation and grassroots-based economic development. According to the National Main Street Center (2006), which was renamed the National Trust Main Street Center in 2004, from 1980 to 2004, there was a cumulative net investment of $23 billion in Main Street communities, with an average reinvestment of $12.4 million per community, and a net gain of 67,000 new businesses and 308,000 new jobs in communities participating in the Main Street Program.

The Washington Main Street Program, which is operated by the Washington State Department of Community, Trade and Economic Development (CTED), helps communities develop strategies to stimulate long-term economic growth in their downtown commercial districts. Although each community develops its own strategy based on that community's unique heritage and character, these strategies are all based on the Main Street approach, which has four key components: design, organization, promotion, and economic restructuring. The Washington State Main Street Program helps communities revitalize the economy, appearance, and image of their traditional business districts by providing a range of services and assistance and also provides access to information and community support and guidance to organizations interested in downtown revitalization.

The Washington Main Street Program offers a three-tiered approach to participation in the program: Downtown Affiliate level, Start-Up Affiliate level, and full Main Street designation. Communities seeking full Main Street designation are encouraged to participate as a Start-Up community first, with access based on available space in the program and specific eligibility and threshold criteria. There are currently nine certified Main Street communities in Washington: Auburn, Bainbridge Island, Kennewick, Kent, Port Angeles, Port Townsend, Puyallup, Walla Walla, and Wenatchee. There are also six Start-Up level communities and numerous Downtown Affiliates (CTED, 2005).

3.2 Building Renovations and Main Street Employment

The nine certified communities submit detailed reports to the Washington Main Street Program that describe, among other things, business starts and failures, expenditures on building renovations, and investments in public improvements. Investments in public improvements, which include such things as road construction and repair, sewer work, and public playground improvements, are not part of the following assessment, which focuses on Main Street community businesses and building renovations. Total building renovation expenditures are presented in Table 3-1 for 2000 through 2004. These expenditures are adjusted for inflation and presented in constant 2004 dollars.

These expenditures include all building renovation investments in the areas included in each community's Main Street program and may be considered historic preservation-related because the revitalization strategies for these areas often include historic preservation goals. Building investments include interior remodels, roof repairs, exterior painting, and adding signs, as well as new construction, and often contribute to the overall economic well-being of the communities involved. There have also been a number of larger projects over the past five years, as illustrated

by some of the larger annual totals in Table 3-1. These include $25 million spent renovating the Marcus Whitman Hotel in Walla Walla in 2001, $9 million spent building a new trauma center for the St. Mary Medical Center in Walla Walla in 2004, and $6.2 million for a Sound Transit parking garage in Auburn in 2001 (totals not adjusted for inflation).

Table 3-1. Main Street Community Building Renovations, 2000 to 2004 ($000s) (2004$)[1/]

Main Street Community	2000	2001	2002	2003	2004	Total	Annual Average
Auburn	1,101	10,073	2,374	2,168	987	16,704	3,341
Bainbridge Island	490	34	759	85	5,077	6,445	1,289
Kennewick[2/]	0	0	0	179	6,812	6,990	3,495
Kent	2,371	37	26	700	1,146	4,281	856
Port Angeles	527	1,802	3,371	632	2,411	8,743	1,749
Port Townsend	664	216	1,734	129	1,521	4,264	853
Puyallup	483	118	554	0	2,200	3,355	671
Walla Walla	5,368	33,343	1,819	596	12,239	53,365	10,673
Wenatchee	1,817	655	713	1,559	3,312	8,056	1,611
Total	**12,820**	**46,278**	**11,351**	**6,048**	**35,705**	**112,202**	**24,538**

Notes:
1/ Expenditures are adjusted for inflation and presented in 2004 dollars.
2/ Kennewick became a certified Main Street community in April 2003. As a result, there are no data for 2000 through 2002 and the $179,000 invested in 2003 was spent in the latter part of the year.
Source: Washington Main Street Program, 2005.

The business starts and failure data collected by the Washington Main Street Program includes estimates of jobs added and lost. The numbers of new jobs added in the Main Street communities from 2000 to 2004 are summarized by year and community in Table 3-2. Many of these jobs were associated with small, locally-owned retail concerns (37 percent) and restaurants and bars (22 percent). Other businesses included accountants, lawyers, and architects, as well as other downtown services, such as banking. In Walla Walla, for example, the Marcus Whitman Hotel employed 35 more people following its renovation. In addition, three internet companies employing a total of 100 people were established in Walla Walla in 2001. Larger employers moving to or expanding in downtown Port Angeles in 2000 and 2001 included State and local community service providers.

Table 3-2. Main Street Community New Employees, 2000 to 2004[1/]

	2000	2001	2002	2003	2004	Total	Annual Average
Auburn	113	69	49	67	108	406	81
Bainbridge	47	25	70	60	85	287	57
Kennewick	0	0	0	59	21	80	40
Kent	111	83	52	44	56	346	69
Port Angeles	153	194	75	63	96	581	116
Port Townsend	22	20	15	41	27	125	25
Puyallup	15	20	51	22	51	159	32
Walla Walla	185	84	88	44	119	520	104
Wenatchee	96	66	76	87	60	385	77
Total	**742**	**561**	**476**	**487**	**623**	**2,889**	**578**

Notes:
1/ These totals represent jobs associated with new business starts, business relocations to the downtown area, and business expansions within or into downtown.
2/ Kennewick became a certified Main Street community in April 2003.
Source: Washington Main Street Program, 2005.

The net change in jobs is summarized for the nine certified Main Street communities in Table 3-3 for 2000 through 2004. The net change totals represent the number of new jobs added less jobs associated with businesses that closed or relocated. In all cases, the Main Street communities experienced a net increase in downtown employees over this period and there was a net annual increase in all communities, with the exception of Port Townsend, which experienced a net decrease in jobs in 2001 (Table 3-3). This was an unusual year for Port Townsend, with 50 of the 72 jobs lost through business closure or relocation from 2000 and 2004 lost in this one year (2001).

Table 3-3. Main Street Community Net Gain in Employees, 2000 to 2004[1/]

Main Street Community	2000	2001	2002	2003	2004	Total	Annual Average
Auburn	65	29	32	31	63	220	44
Bainbridge Island	15	13	47	22	53	150	30
Kennewick[2/]	0	0	0	41	13	54	27
Kent	71	71	40	37	43	262	52
Port Angeles	103	127	24	17	61	332	66
Port Townsend	20	-30	5	36	22	53	11
Puyallup	11	14	46	8	12	91	18
Walla Walla	144	79	70	24	89	406	81
Wenatchee	68	37	28	30	26	189	38
Total	**497**	**340**	**292**	**246**	**382**	**1,757**	**351**

Notes:
1/These totals represent jobs associated with new business starts, business relocations to the downtown area, and business expansions within or into downtown less jobs associated with businesses that closed or relocated.
2/Kennewick became a certified Main Street community in April 2003.
Source: Washington Main Street Program, 2005.

3.3 Statewide Economic Impacts

The Main Street Program includes elements of both historic rehabilitation and heritage tourism. The following analysis evaluates the economic impacts of downtown investments, which include historic rehabilitation expenditures, and local downtown employment, including retail and service employment that is in part supported by heritage tourists. As a result, the following impact estimates complement the historic rehabilitation and heritage tourism estimates and likely include some of the same impacts.

Building Renovation Expenditures

The Washington State input-output model was used to estimate the total impact of the $24.5 million in direct annual average expenditures for Main Street building renovations on the state economy (see Table 3-1). The results presented in Table 3-4 indicate that these expenditures generated approximately $64 million in total sales (output), supported approximately 680 jobs, and generated about $25.4 million in labor income each year. In other words, the $24.5 million spent renovating buildings in Main Street communities supported approximately 680 direct, indirect, and induced jobs and these workers were paid a total of $25.4 million. These expenditures also generated approximately $2.6 million in Washington State tax revenues (Table 3-5). These tax revenue estimates do not include revenues generated by local sales taxes, which range from 0.5 percent to 1.7 percent of the state base rate of 6.5 percent and vary by jurisdiction.

Table 3-4. Annual Average Main Street Building Renovations Total (Direct, Indirect and Induced) Impacts, 2000 to 2004

	Output ($ millions)	Employment	Labor Income ($ millions)
Natural Resources & Utilities	2.757	15	0.572
Manufacturing & Construction	32.787	293	11.198
Wholesale and Retail Trade	6.598	88	2.505
Services	22.242	281	11.17
Total	**64.383**	**677**	**25.444**

Table 3-5. Annual Average Main Street Building Renovations Tax Revenues, 2000 to 2004

Type of Tax	Tax Revenues ($ million)
State B&O	0.375
Direct State Sales Tax	1.388
Indirect Sales Tax (Labor income)	0.881
Total[1/]	**2.644**

Note:
1/These estimates include state sales and B&O taxes. They do not include revenues generated by local sales taxes, which range from 0.5 percent to 1.7 percent of the state base rate of 6.5 percent and vary by jurisdiction.

Business Operations

Investments in Main Street community buildings generate positive construction-related benefits, as shown above. There are also direct, indirect, and induced impacts associated with the operation of the businesses that occupy these structures. These impacts are assessed in this section in terms of total and net annual increases in jobs in the nine Main Street Program communities.

Total Increase in Jobs

From 2000 to 2004, there were a total of 578 new jobs established in the nine Main Street Program communities (Table 3-2). The total (direct, indirect, and induced) impacts of the growth in business activity represented by these increases in employment are estimated in Table 3-6. These impacts were estimated by multiplying the average output per employee by affected sector by the number of new jobs in that sector, and using the resulting increases in output by sector to estimate the indirect and induced effects. Overall, these business expansions supported $101 million in final sales (output), 1,950 jobs, $42 million in labor income, and $6.2 million in tax revenues to state government (Tables 3-6 and 3-7).

Table 3-6. Annual Average Main Street Business Operation (New Employment) Total (Direct, Indirect and Induced) Impacts, 2000 to 2004

	Output ($ millions)	Employment	Labor Income ($ millions)
Natural Resources & Utilities	3.977	20	0.771
Manufacturing & Construction	9.261	61	2.423
Wholesale and Retail Trade	22.061	334	7.966
Services	65.636	1,531	30.39
Total	**100.936**	**1,948**	**41.55**

Table 3-7. Annual Average Main Street Business Operation (New Employment) Tax Revenues, 2000 to 2004

Type of Tax	Tax Revenues ($ million)
State B&O	0.685
Direct State Sales Tax	4.035
Indirect Sales Tax (Labor income)	1.439
Total[1/]	**6.160**

Note:
1/These estimates include state sales and B&O taxes. They do not include revenues generated by local sales taxes, which range from 0.5 percent to 1.7 percent of the state base rate of 6.5 percent and vary by jurisdiction.

Net Increase in Jobs

From 2000 through 2004, there was a net annual gain of about 350 jobs in the nine Main Street Program communities (Table 3-3). The net change totals represent the number of new jobs added less jobs associated with businesses that closed or relocated. Overall, the operation of these businesses measured in terms of net employment gains supported $65 million in final sales (output), 1,201 jobs, $27 million in labor income, and $3.3 million in tax revenues to state government (Tables 3-8 and 3-9).

Table 3-8. Annual Average Main Street Business Operation (Net Employment) Total (Direct, Indirect and Induced) Impacts, 2000 to 2004

	Output ($ millions)	Employment	Labor Income ($ millions)
Natural Resources & Utilities	2.539	13	0.494
Manufacturing & Construction	6.008	40	1.569
Wholesale and Retail Trade	10.43	156	3.802
Services	45.875	992	20.791
Total	**64.852**	**1,201**	**26.656**

Table 3-9. Annual Average Main Street Business Operation (Net Employment) Tax Revenues, 2000 to 2004

Type of Tax	Tax Revenues ($ million)
State B&O	0.454
Direct State Sales Tax	1.923
Indirect Sales Tax (Labor income)	0.923
Total[1/]	**3.300**

Note:
1/These estimates include state sales and B&O taxes. They do not include revenues generated by local sales taxes, which range from 0.5 percent to 1.7 percent of the state base rate of 6.5 percent and vary by jurisdiction.

Total Direct, Indirect and Induced Impacts

Building renovations and new business activity (measured in terms of total new employment) within the nine designated local Main Street program communities averaged $165 million each year from 2000 through 2004, supported 2,600 jobs, and generated $67 million in labor income. These activities generated about $8.8 million in state sales and B&O taxes each year, as well as local sales tax revenues (which are not included in this total).

Table 3-10. Total Annual Average Main Street Total (Direct, Indirect and Induced) Impacts, 2000 to 2004

	Output ($ millions)	Employment	Labor Income ($ millions)
Natural Resources & Utilities	6.734	35.000	1.343
Manufacturing & Construction	42.048	354.000	13.621
Wholesale and Retail Trade	28.659	422.000	10.471
Services	87.878	1,812.000	41.560
Total	**165.319**	**2,625.000**	**66.994**

Note:
1/These totals are the Building Renovation impacts (Table 3-4) plus the Business Operation (New Employment) (Table 3-6) impacts.

Table 3-11. Total Main Street Tax Revenues

Type of Tax	Tax Revenues ($ million)
State B&O	1.060
Direct State Sales Tax	5.423
Indirect Sales Tax (Labor income)	2.320
Total	**8.804**

Note:
1/These totals are the Building Renovation tax revenue estimates (Table 3-5) plus the Business Operation (New Employment) (Table 3-7) estimates.

4. HERITAGE TOURISM

4.1 Introduction

The National Trust for Historic Preservation defines "cultural heritage tourism" as traveling to experience the places, artifacts and activities that authentically represent the stories and people of the past and present (http://www.nationaltrust.org/heritage_tourism). This is a broad definition, but it's fair to say that the interests of heritage travelers generally include visits to historic districts and privately-owned historic buildings, including hotels and bed and breakfasts, as well as museums and sites with guided tours and central admissions. Heritage sites in Washington range from historic homes that are entirely staffed by volunteers and open only part of the year or by request to large federally-funded National Historic Sites run by the NPS. Local historic districts and downtown areas also serve as important heritage tourism attractions.

Heritage and other forms of tourism generate economic benefits for local economies because visitors to the area spend money on entrance fees, food and drink, transportation, gas, and lodging, among other things. These expenditures represent new money for the area and support local jobs and labor income, as well as generating additional employment and income through local multiplier effects. The following analysis is primarily concerned with identifying the total (direct, indirect, and induced) economic impacts associated with spending by heritage tourists visiting Washington State, with separate estimates developed for King, Pierce, and Spokane counties. There are, however, other economic impacts not captured by this type of analysis, which does not, for example, account for the economic impacts (spending and jobs) associated with the operation of heritage tourism sites or the value of the volunteer hours or donated income used to manage and operate these sites. Further, while visitor expenditures represent an important aspect of heritage tourism, heritage sites and programs often provide other benefits that are more difficult to quantify. Other benefits include the contribution of heritage sites and programs to historic and cultural preservation, education, quality of life, and community identity.

The following discussion is divided into six sections:

Study Methodology—This section discusses the methodology employed for this study and provides an overview of the methods and results of a number of similar studies conducted for other states.

Heritage Tourism in Washington State—This section presents the statewide data used for this analysis.

Statewide Economic Impacts and *Economic Impacts in Selected Washington Counties* —These sections present the results of the economic impact analysis for the state as a whole and for King, Pierce, and Spokane counties, respectively.

Washington Heritage Tourism Sites—This section discusses heritage tourism in Washington State with reference to visitation data from the NPS and Washington State Parks.

Concluding Comments—This section compares the findings of this analysis with similar studies conducted for other states and compares the economic impact of heritage tourism with other sectors in the Washington economy. The final part of this section identifies some of the limitations with the current analysis and discusses possible future research directions.

4.2 Study Methodology

A number of studies completed for other states have estimated the economic impact of statewide heritage tourism. Measured in terms of total jobs supported per year, the results of these analyses have ranged from about 500 jobs in West Virginia to 107,600 jobs in Florida (Table 4-1). The range of estimates likely reflects differences in the amount of heritage tourism by state. It is also due to differences in the methodology employed to estimate the number of visitors and associated expenditures.

Table 4-1. Economic Impact of Heritage Tourism in other States

State	Timeframe	Annual Trips (millions)		Annual Expenditures		Total Heritage Jobs[3/]	Total Jobs/$ million
		Heritage (million)	Total (million)	Heritage ($ million)	Heritage as a % of Total[2/]		
Colorado*	1999	4.6	20.8	1,400	19.4	55,300	40
Florida*	2000	na	na	3,721	7.3	107,607	29
Missouri*	1995-1999	3.2	32.1	660	10.7	20,077	30
New Jersey*	1993-1995	9.1	167	432	3.7	8,445	20
South Carolina	2001	na	na	326	na	9,097	28
Texas*	1996	40.7	366	1,434	4.5	32,647	23
West Virginia	1996	na	na	na	na	520	na

Notes:
Na—not available.
* These analyses are based on secondary statewide survey data compiled either by Longwoods International (Colorado, New Jersey), TravelScope (Florida, Missouri), or D.K. Shifflets (Texas).
1/These are nominal dollar values: they are not adjusted to account for inflation.
2/These percentages represent total heritage tourism expenditures as a share of total visitor expenditures. The estimate for Colorado is based on total heritage trips (both primary and multipurpose) and is not directly comparable with the other studies, which use all primary and a share of multipurpose trips.
3/Total heritage jobs include direct, indirect, and induced jobs supported by heritage tourism.
4/ The studies for Florida, Missouri, New Jersey, and Texas calculated total economic impacts for the affected state and for the nation as a whole. In order to be consistent with the other studies, the annual total job estimates presented here for these four states are for in-state jobs only.
Sources: Clarion Associates et al., 2002; Childs et al., 1997; Listokin et al., 2002; Listokin et al., 2001; Listokin and Lahr, 1997; Listokin et al., 1999; Lennox and Revels, 2000.

Past studies have estimated statewide heritage tourism in two main ways. One approach is to estimate total visitation based on visitor count data from actual heritage tourism sites. There are a number of difficulties associated with this approach. These include problems with developing a definitive list of heritage tourism sites and obtaining visitor counts in cases where use is not monitored. In other cases, visitors may be counted, but the site in question may also offer other non-heritage values that attract visitors. Most of the past studies that have used actual visitor counts have limited their impact analyses to specific examples, rather than trying to extrapolate their findings to the whole state. One exception is the West Virginia study, which estimated statewide heritage tourism based on travel brochure requests and limited visitation data from specific heritage tourism sites (Childs et al., 1997).

A second approach is to identify the share of total state tourists who visit heritage sites based on statewide visitor surveys, rather than counts at specific sites. This approach is typically based on the results of existing statewide "visitor profile" surveys that are not specifically focused on heritage tourism, but ask survey respondents the primary reason for their trip, activities engaged during their trip, and other similar questions that make it possible to estimate numbers of heritage tourists. The number of heritage tourists may, for example, be estimated as a share of total visitation based on the number of visitors who identified "visit historic site" as the primary

motivation for their trip. This approach was used in five (Colorado, Florida, Missouri, New Jersey, and Texas) of the seven past studies that developed statewide heritage tourism estimates (Table 4-1).

The following analysis for Washington takes the second approach and is based on statewide visitor survey data, as well as the results of past heritage tourism studies, as appropriate. Heritage tourism economic impacts are also estimated for King, Pierce, and Spokane counties. In addition, visitation data are presented for specific heritage tourism sites.

4.3 Heritage Tourism in Washington State

This analysis assesses the economic impact of heritage tourism based on estimated visitor spending and uses the Washington State input-output model to estimate total statewide impacts. Modified versions of this model are used to estimate the impacts for King, Pierce, and Spokane counties. In order to conduct this analysis it was necessary to develop an estimate of the total number of heritage tourists, their average expenditures, and the distribution of their expenditures by economic sector. These tasks are discussed in turn in the following sections.

4.3.1 Number of Heritage Tourism Visitors

Washington State Tourism routinely commissions recreation and tourism-related studies from a number of organizations, including Dean Runyan Associates (Dean Runyan), Longwoods International (Longwoods), and Jim Lillstrom & Associates. To date, there have been no statewide surveys in Washington specifically designed to evaluate heritage tourism. As a result, the following analysis estimates the number of heritage tourists based on existing statewide surveys and the results of the national Historic/Cultural Traveler profile developed for 2002 by the Travel Industry Association of America (TIA, 2003).

Dean Runyan has assessed the economic impact of the Washington State travel industry on an annual basis for more than a decade, with annual estimates currently available by county from 1991 through 2004. Their most recent study (2004) identified 119.1 million visitor days, with visitors spending an average of $85.42 per visitor day (Dean Runyan, 2005). The study also found that 53 percent of the travelers in Washington State were on day trips, with the remaining 47 percent on overnight trips. The Dean Runyan study is focused on overall visitor economic impacts and does not identify the trip purposes of travelers. This type of information is, however, available from the detailed profiles of Washington visitors prepared by Longwoods for 1999 and 2003. The results of this study indicate that 18 percent of overnight travelers visited landmarks or historic sites in Washington State in 2003, with 26 percent "experiencing" historic areas (Longwoods, 2004).

More detailed information is provided in an earlier visitor profile prepared by Dean Runyan, which identified the percentage of visitors who identified visiting a museum or historic site as one of several activities or the main activity on their trip based on type of traveler (Washington resident/non-resident) and type of trip (day trip versus overnight trip) (Dean Runyan, 1997). Three percent of the surveyed visitors identified visiting a museum or historic site as their main trip activity and 29 percent identified it as one of several activities (Table 4-2). People responding to the Dean Runyan survey were typically engaged in a number of activities on their trips and visits to a museum or historic site represented 5.4 percent of the total citations.

Heritage tourists can be defined in two ways: visitors who include a visit to a museum or historic site among other activities in their trip and the smaller group of these visitors whose primary motivation for taking a trip is to visit a museum or historic site. This distinction is important because the economic impacts are based on visitor expenditures, which are estimated based on

spending per day or spending per trip. The data presented in Table 4-2 suggest that the percent of total visitors to Washington who may be classified as heritage tourists for the purpose of this analysis ranges from 3 percent (main activity) to 29 percent (one of several activities). Based on these distributions it is reasonable to classify the spending associated with 3 percent of all visitors as heritage tourism-related, but only part of the spending by the other 26 percent who visited a museum or historic site may be attributed in this way. Attributing all of the expenditures associated with a trip that involved several different activities, to heritage tourism would result in an overestimate of potential effects. Somebody visiting Seattle for business, for example, may visit the Klondike National Historic Site in Pioneer Square or Pike Place Market during their visit. Only part of that person's expenditures should be considered heritage-related.

Table 4-2. Washington State Visitor Profile: Percent Visiting a Museum or Historic Site

	All Trips	Day Trips	Overnight Trips
Activity[1/]			
Washington Residents	22	18	29
Non-resident motor vehicle arrivals	31	29	32
Non-resident airline arrivals	47	na	na
Total (All travel parties)	**29**	**22**	**36**
Main Activity[2/]			
Washington Residents	2	3	0
Non-resident motor vehicle arrivals	7	11	3
Non-resident airline arrivals	1	na	na
Total (All travel parties)	**3**	**6**	**1**

Notes:
1/Visitors who identified visiting a museum or historic site as one of several activities.
2/Visitors who identified visiting a museum or historic site as their main activity.
Source: Dean Runyan Associates, 1997.

Past studies that have used existing statewide surveys have addressed this issue by assuming that all visits that include a heritage component are heritage-related and attributing all of the associated expenditures to heritage tourism (Colorado) or by adjusting the overall estimate to account for the fact that only part of the expenditures associated with multipurpose trips are heritage-related (Florida, New Jersey, Missouri, Texas) (Table 4-1). These adjustments have taken a number of different forms based on the form of the available data. In this case, we addressed this issue by using an estimate of total heritage visits based on the overall share (5.4 percent) of visits identified as visits to a museum or historic site (Dean Runyan, 1997).

This estimate is based on visits, while estimated total visitation in 2004 (Dean Runyan, 2005) is presented in visitor days. One approach would be to assume that there is a constant ratio between visits and visitor days (i.e., 5.4 percent of visits equals 5.4 percent of visitor days). However, the average visit typically varies by trip activity. Data on the average length of visit by activity are not available for Washington, but the TIA nationwide survey suggests that heritage travelers tend to travel longer than travelers as a whole, with an average overnight trip length (adjusted to include daytrips) of 4.6 nights compared to an overall average of 3.4 nights (TIA, 2003). Other state studies that have developed heritage tourist profiles based on secondary survey data have identified a similar relationship. The average heritage trip length in Missouri, for example, was 4.8 days compared to an overall average of 4.1 days, and studies in New Jersey and Texas reported similar findings (Listokin et al., 2001; Listokin and Lahr, 1997; Listokin et al., 1999).

Using the ratio identified in the TIA national analysis, which suggests that the average heritage tourism trip is 1.35 times longer than the average trip (4.6 nights versus 3.4 nights), and the total

visitation estimate of 119.1 million days developed by Dean Runyan for Washington State in 2004, results in an estimated total of 8.7 million heritage tourism visitor days.

4.3.2 Heritage Traveler Expenditures

Data on the average expenditures by heritage tourists are not available for Washington State, but it is possible to estimate these expenditures and their distribution by economic sector based on the results of existing statewide visitor surveys and other studies that have specifically addressed heritage traveler expenditures.

The average distribution of expenditures by economic sector is presented for six studies in Table 4-3. These studies used different data collection and classification schemes and presented the data in a number of different categories, such as local day visitors, non-local day visitors, overnight visitors who stayed in hotels, etc. In general, the distribution of visits between day trips and overnight visits was fairly consistent across studies, with, on average, 53 percent of visits identified as day trips and the remaining 47 percent identified as overnight visits. The data presented in Table 4-3 are average or composite distributions and include both day and overnight visitor expenditures. The distribution presented in the last column of Table 4-3 was developed for this analysis based on existing secondary data, including general visitation estimates developed for Washington State (Dean Runyan, 2004), survey research that addressed heritage-related activities in King and Pierce counties (Beyers and GMA Research, 2005), National Heritage Area visitation estimates developed for the NPS (Stynes and Sun, 2004), and heritage tourism economic impact studies developed for Colorado and New Jersey (Clarion Associates et al., 2002; Listokin and Lahr, 1997). This distribution, like the others presented in Table 4-3, is a composite and includes both day and overnight visitor expenditures.

Table 4-3. Distribution of Expenditures by Economic Sector

	Washington			Other States		
Economic Sector	**All Visitors 2004[1/]**	**ArtsFund 2004[2/]**	**National Heritage Areas[3/]**	**Colorado[4/]**	**New Jersey[4/]**	**Study Distribution[5/]**
Lodging	16	19	32	28	22	26
Eating & Drinking	25	20	26	23	30	27
Retail	20	9	19	24	23	22
Transportation	26	15	12	17	7	13
Recreation/Entertainment	13	1	0	8	3	4
Other	0	37	11	0	15	8
Total	100	100	100	100	100	100

Notes:
1/ These data are for all state visitors (Dean Runyan, 1997; 2005).
2/ The data for the ArtsFund study (Beyers and GMA Research, 2005) have been adjusted to exclude air travel costs because these are not included in the other cost distributions considered here.
3/ These data are based on visitor surveys conducted at eight National Heritage Areas managed by the NPS and located in the Midwest and eastern U.S.
4/ These data are from heritage tourism economic impact analyses for Colorado and New Jersey (Clarion Associates et al., 2002; Listokin and Lahr, 1997)
5/ This distribution was estimated based on the above existing studies.

Existing Washington visitor surveys and other studies that specifically address heritage tourism, also include data on expenditure levels, with data reported in different units and for different years. Adjusting the various estimates for inflation and converting the overnight spending data into spending per capita per day resulted in reasonably consistent estimates of outlays across the different sectors. For the purposes of this analysis, average heritage spending per capita per day

was assumed to be $72.40 based on the TIA historic/cultural traveler analysis, which identified an average per capita per day value of $68.90 for historic/cultural travelers in the western U.S in 2002. This value is lower than the average spending per visitor day ($85.42) identified for all Washington visitors in 2004 (Dean Runyan, 2005) and in this respect is consistent with the findings of the national data compiled by TIA, which found that historic/cultural travelers had, on average, longer visits, but slightly lower average spending per visitor day than travelers as a whole (TIA, 2003).

4.3.3 Estimated Direct Expenditures by Economic Sector

The preceding analysis identified approximately 8.7 million heritage tourism visitor days in Washington in 2004, with average expenditures per day of $72.40. These estimates together result in total annual heritage tourism expenditures of approximately $630 million. The distribution of these estimated expenditures is shown by economic sector in Table 4-4. This estimate is equivalent to 6.2 percent of total Washington visitor expenditures, which were $10,173 million in 2004 (Dean Runyan, 2005). Similar estimates developed for other states found that heritage tourism spending as a percentage of total visitor spending ranged from 3.7 percent in New Jersey to 10.7 percent in Missouri (Table 4-1).

Table 4-4. Washington Heritage Tourism Expenditures by Economic Sector

Economic Sector	Heritage Tourism Spending ($ million)
Lodging	163.8
Eating & Drinking	170.1
Retail	138.6
Transportation	81.9
Recreation/Entertainment	25.2
Other	50.4
Total	**629.9**

Note:
1. This distribution is based on the study distribution presented in the last column of Table 4-3.

4.4 Statewide Economic Impacts

Direct, Indirect, and Induced Economic Impacts

The Washington State input-output model was used to estimate the total impact of the direct expenditures identified in Table 4-4 on the state economy. These data were converted from the consumer expenditure categories shown here to the economic sectors that are used in the input-output model. Retail purchases were assumed to be produced outside Washington State and only retail margins—the portion of the sale price accruing to the retailer—were included in this analysis. The results of this analysis are summarized in Table 4-5. These results indicate that heritage tourism activities generated approximately $1.3 billion in annual sales (output), supported approximately 20,000 jobs, and generated about $510 million in labor income. The majority of this economic activity was concentrated in the services sector, which accounted for approximately 81 percent of total employment and 79 percent of total labor income.

Table 4-5. Washington Heritage Tourism Total (Direct, Indirect and Induced) Impacts

	Output ($ millions)	Employment	Labor Income ($ millions)
Natural Resources & Utilities	55.257	292	10.665
Manufacturing & Construction	137.593	741	29.314
Wholesale and Retail Trade	184.646	2,742	69.072
Services	910.211	16,250	401.122
Total	**1,287.707**	**20,025**	**510.173**

Multipliers

The heritage tourism multipliers estimated for Washington State are presented in Table 4-6. The output multiplier of 2.04 means that for every dollar in heritage tourism spending $1.04 is spent elsewhere in the State economy for a total impact of $2.04 in sales (or output). Heritage tourism spending of $1 million supports about 32 total (direct, indirect, and induced) jobs and generates $807,000 in labor income.

Table 4-6. Washington Heritage Tourism Multipliers

Output (sales/direct $)	2.04
Employment (jobs/$million final demand)	31.66
Labor Income ($/direct $)	0.807

Tax Revenues

Heritage tourism generates tax revenues in Washington State through sales and B&O taxes. The state B&O tax payments are calculated by multiplying sectoral-specific B&O tax rates by estimated output in each sector in the input-output models. Direct state sales taxes are derived from estimated retail expenditures and spending in eating and drinking establishments. Indirect sales taxes are estimated as a fraction of labor income earned directly and indirectly due to heritage tourism spending.

These ratios yield an estimate of $40.5 million in direct State sales tax revenues, $17.7 million in indirect State sales tax revenues, and $8.3 million in state B&O tax collections (Table 4-7). These estimates do not include revenues generated by local sales taxes, which range from 0.5 percent to 1.7 percent of the state base rate of 6.5 percent and vary by jurisdiction.

Table 4-7. Washington State Heritage Tourism Tax Revenues

Type of Tax	Tax Revenues ($ million)
State B&O	8.3
Direct State Sales Tax	40.5
Indirect Sales Tax (Labor income)	17.7
Total[1/]	**66.5**

Note:
1/These estimates include state sales and B&O taxes. They do not include revenues generated by local sales taxes, which range from 0.5 percent to 1.7 percent of the state base rate of 6.5 percent and vary by jurisdiction.

4.5 Economic Impacts in Selected Washington Counties

This section estimates the total (direct, indirect, and induced) economic impacts of heritage tourism for three Washington counties: King, Pierce, and Spokane. Almost half (48.5 percent) of all visitor spending in Washington was in King County in 2004, with about 6.2 percent in Pierce County and 5.9 percent in Spokane County (Dean Runyan, 2005). These percentages were used to estimate heritage tourism spending for each county and resulted in expenditures of

approximately $306 million, $39 million, and $37 million for King, Pierce, and Spokane counties, respectively (Table 4-8).

Table 4-8. Heritage Tourism Expenditures by Economic Sector for King, Pierce, and Spokane Counties

	Heritage Tourism Spending ($ million)		
Economic Sector/County[1/]	**King**	**Pierce**	**Spokane**
Lodging	79.4	10.2	9.7
Eating & Drinking	82.5	10.5	10.0
Retail	67.2	8.6	8.2
Transportation	39.7	5.1	4.8
Recreation/Entertainment	12.2	1.6	1.5
Other	24.4	3.1	3.0
Total	**305.5**	**39.1**	**37.2**

Note:
1/This distribution is based on the study distribution presented in the last column of Table 4-3. Total direct heritage tourism expenditures were calculated for each county based on that county's share of total visitor spending in Washington in 2004 (Dean Runyan, 2005).

The data were subsequently converted from consumer expenditure categories to the economic sectors that are used in the input-output model. Total impacts to King, Pierce, and Spokane counties were estimated using modified versions of the state model, which was scaled to the King, Pierce, and Spokane county economies using the location quotient approach to coefficient adjustment (see Appendix A). Retail purchases were assumed to be produced outside each county and only retail margins were included in this analysis.

Summary impacts from the input-output analysis are presented for each county in Table 4-9. These results indicate that heritage tourism activities generated approximately $514 million in output in King County, supported approximately 8,500 jobs, and generated about $210 million in labor income. The majority of this economic activity was concentrated in the services sector, which accounted for approximately 84 percent of total employment and 81 percent of total labor income.

Heritage tourism activities in Pierce County generated approximately $67 million in output, supported about 1,100 jobs, and generated $27 million in labor income. The majority of this economic activity was concentrated in the services sector, which accounted for approximately 82 percent of total employment and 79 percent of total labor income. The total impacts for Spokane County were similar in size to those in Pierce County, with heritage tourism generating about $62 million in output, supporting almost 1,100 jobs, and generating about $26 million in labor income (Table 4-9).

Table 4-10 presents estimates of heritage tourism multipliers for King, Pierce, and Spokane counties. These multipliers are lower than for the state as a whole, because there are greater leakages of expenditures at the county level, with a larger share of spending going toward goods and services produced outside the respective county and not generating indirect and induced impacts within the local (county) economy.

Table 4-9. Total (Direct, Indirect and Induced) Heritage Tourism Impacts for King, Pierce, and Spokane Counties

	King	Pierce	Spokane
Output ($ millions)			
Natural Resources & Utilities	16.309	2.297	1.986
Manufacturing & Construction	31.235	5.525	3.786
Wholesale and Retail Trade	73.738	10.312	9.957
Services	392.558	48.862	46.702
Total	**513.84**	**66.996**	**62.432**
Employment			
Natural Resources & Utilities	37	7	4
Manufacturing & Construction	229	35	30
Wholesale and Retail Trade	1,094	155	149
Services	7,112	910	872
Total	**8,472**	**1,106**	**1,055**
Labor Income $ millions			
Natural Resources & Utilities	2.555	0.376	0.309
Manufacturing & Construction	8.864	1.39	1.16
Wholesale and Retail Trade	27.586	3.852	3.722
Services	170.514	21.165	20.358
Total	**209.52**	**26.783**	**25.548**

Table 4-10. Heritage Tourism Multipliers for King, Pierce, and Spokane Counties

	King	Pierce	Spokane
Output (sales/direct $)	1.67	1.70	1.66
Employment (jobs/$million final demand)	27.60	28.12	28.04
Labor Income ($/direct $)	0.683	0.681	0.679

Estimated state tax revenues accruing to the State of Washington from heritage tourism activities in King, Pierce, and Snohomish counties are presented in Table 4-11. These estimates were developed using the same methodology as the statewide estimates presented in Table 4-7. Total heritage tourism-related tax revenues were $27.6 million in King County and $3.7 million and $3.5 million in Pierce and Spokane counties, respectively (Table 4-11).

Table 4-11. Heritage Tourism Tax Revenues for King, Pierce, and Spokane Counties

	Tax Revenues ($ million)		
Taxes	**King**	**Pierce**	**Spokane**
State B&O	3.3	0.4	0.4
Direct State Sales Tax	17.0	2.4	2.3
Indirect Sales Tax (Labor income)	7.3	0.9	0.9
Total[1/]	**27.6**	**3.7**	**3.5**

Note:
1/These estimates include state sales and B&O taxes. They do not include revenues generated by local sales taxes, which range from 0.5 percent to 1.7 percent of the state base rate of 6.5 percent and vary by jurisdiction.

4.6 Washington Heritage Tourism Sites

This section provides site-specific visitation data from a number of heritage tourism sites and is intended to support the preceding analysis, as well as provide some insight into other potential heritage tourism impacts.

Recreation is generally considered by economists to be an "export" industry that brings "new" money into local economies in much the same way as industries that sell manufactured products in other geographic markets. This new money comes in the form of spending by visitors on goods and services. As a result, recreation-oriented impact studies focus on expenditures by visitors and that is the case with the preceding analysis, the heritage tourism economic impact studies prepared for other states, and the visitor impact studies prepared for Washington State. There are, however, other economic benefits associated with heritage tourism. These benefits include the impacts of operating expenditures and spending by employees, not to mention the value of the volunteer hours and donated income that is often involved in managing heritage tourism sites. The following discussion illustrates these values by presenting data on operating expenditures, annual fee collection, and paid and volunteer staff for the four historic sites managed by the NPS in Washington.

National Park Service

The NPS manages two National Historic Sites (NHSs) and two National Historic Parks (NHPs) in Washington. These sites are located throughout the state: Fort Vancouver NHS is located in Clark County, Whitman Mission NHS is in Walla Walla County, Klondike Gold Rush NHP is in downtown Seattle, and San Juan Island NHP is in San Juan County. These four sites received a total of almost 2 million visits in 2005 and had a combined operating budget of $3.3 million (Table 4-12). This operating budget included salaries for 43 full-time employees, as well as other operating expenditures, with much of that money spent locally. These data also illustrate the importance of volunteer labor in the operation of these sites. It should, however, be noted that the volunteer data are not presented consistently in this table. The data for Fort Vancouver are in terms of individuals, while the data for the other three sites are presented in FTEs.

Table 4-12. National Park Service Heritage Sites Visitation and Operations, 2005

Historic Site	2005 Visitation	2005 Operating Budget	Average Annual Fee Collection	Full-Time Employees	Volunteers
Fort Vancouver NHS[1/]	799,466	$1,442,000	$27,600	17	213
Klondike Gold Rush NHP Seattle[2/]	68,325	$435,000	$0	6.5	6.2
San Juan Island NHP[3/]	1,072,829	$700,000	$0	8	5
Whitman Mission NHS[4/]	56,714	$709,190	$31,507	11	1
Total	1,997,334	$3,286,190	$59,107	43	na

Notes:
1/Volunteers are presented in number of individuals not FTEs.
2/Volunteers are mainly associated with the Amtrak Program
3/Visitation is for 2004. Volunteer activities include the 1860s English Camp reenactment in the summer.
4/Employment is FTE: 9 full-time employees for 9 FTE; 6 seasonals for 2 FTE; 3 volunteers for 1 FTE.
Sources: National Park staff, as listed.

Washington State Parks

Annual visitation data are presented for a number of historic sites managed by State Parks in Table 4-13. In addition, visitation data for seven of the eight coastal forts (data were not available for Fort Canby) indicate that there were 3.1 million day visitors to these parks in 2005, including 36,000 visitors to the Fort Casey and Fort Flagler Museum Interpretive Centers (Washington State Parks, 2006b). While a portion of the visitors to these sites were likely

attracted to the historic qualities of these coastal forts, its also likely that a large share were attracted by the scenery, coastal location, and other facilities.

Table 4-13. Washington State Parks Historic Site Visitation, 2005

Historic Site	Day Use
Fort Simcoe	26,135
IC--Fort Simcoe	6,335
Fort Okanogan	8,319
IC--Fort Okanogan	3,165
Spokane House (Riverside) (IC)	6,219
Olmsted Place (nr Ellensburg)	62,177
Rothschild House (Fort Worden)	1,771
John R. Jackson House (Lewis and Clark)	5,182
IC--Lewis & Clark (Cape Disappointment)	54,241
Total[1/]	**164,044**

Notes:
IC—Interpretive Center
1/The Fort Simcoe and Fort Okanogan ICs are excluded from the total because those visits are also included in the overall visitation numbers for those parks. The Lewis & Clark IC visitation is included because overall visitation to Cape Disappointment is not included in this table.
Source: Washington State Parks, 2006b

4.7 Concluding Comments

The following discussion is divided into three parts. The first part compares the results of this analysis with the findings of other statewide heritage tourism economic impact studies. The second part compares heritage tourism with other sectors of the Washington economy. The third and final part discusses some of the limitations with the current analysis and identifies possible future research directions.

Comparison with Past Studies

The findings of a number of heritage tourism economic impact studies prepared for other states are summarized in Table 4-1. Five of these studies (Colorado, Florida, Missouri, New Jersey, and Texas) employed the same general approach as we used in this study.

The estimates developed for Washington State identified total heritage tourism spending of approximately $633 million or 6.2 percent of total visitation spending in 2004. Similar estimates developed for other states found that heritage tourism spending as a percentage of total visitor spending ranged from 3.7 percent in New Jersey to 10.7 percent in Missouri (Table 4-1). The estimate developed for Washington (6.2 percent) is, therefore, well within the range of past studies. The heritage tourism employment multiplier developed for Washington State as part of this study was approximately 31.7 jobs per $1 million spent. This value is near the upper end of the range of values established in past studies, which range from 20 jobs/$ million in Texas to 40 jobs/$ million in Missouri.

Comparison with Other Economic Sectors

Multipliers for heritage tourism and a selection of other industries of importance to the Washington economy are presented in Table 4-13. These data show that the jobs and labor income multipliers for heritage tourism are relatively high. Heritage tourism is labor intensive and, therefore, has a higher multiplier than a number of important manufacturing sectors in Washington State, including food, wood, and aerospace manufacturing. Heritage tourism activity in Washington State has multipliers that are similar to the key retail trade, finance and insurance, and health services sectors.

Table 4-14. Comparison of Heritage Tourism with Other Economic Sectors

	Jobs (per $1 million of Final Demand)	Labor Income ($ per Direct $)
Health Services	36.31	1.185
Retail Trades	33.87	0.962
Heritage Tourism	**31.66**	**0.807**
Finance and Insurance	26.73	0.978
Construction	26.45	0.908
Wood Products Manufacturing	26.39	0.92
Food Products Manufacturing	21.72	0.705
Aerospace Manufacturing	10.6	0.452

Future Research Directions

The results of this analysis indicate that heritage tourism measured in terms of the total sales, jobs, and income that result from the spending by this type of visitor makes an important contribution to the Washington State economy, as well as the local economies in King, Pierce, and Spokane counties. The following sections identify some of the limitations with the current analysis and discuss possible future research directions.

Defining Heritage Tourism

This analysis was based on secondary survey data that were not specifically collected with this type of analysis in mind. As a result, the definition of heritage tourism used here was determined by the categories used in other studies conducted for Washington State. The category "visit a museum or historic site" identified in the Dean Runyan (1997) visitor profile is consistent with the broad definition of cultural heritage tourism provided by the National Trust (see Section 4.1). However, using these data implicitly assumes that heritage tourism is limited to visits to museums or historic sites, as defined by the survey respondent. Similarly, all visits to museums are assumed to be heritage-related. Future research efforts should develop a working definition of heritage tourism for the purposes of data collection whether future research involves heritage tourism-specific or more general visitor surveys.

Detailed Survey Data

As noted above, the analysis presented here is based on secondary survey data not specifically designed to evaluate heritage tourism. Future research should focus on collecting detailed survey data that is focused on heritage tourism. This could take the form of commissioning specific heritage tourism studies or working with Washington State Tourism to include heritage tourism-related survey questions in their ongoing survey efforts, assuming that they continue to pursue visitor profile studies of the type they have commissioned in the past (e.g., Dean Runyan, 1997; Longwoods, 2000; 2004; and James Lillstrom & Associates, various years).

More accurate data can be obtained in the future by working with survey organizations to ensure that their survey questions address heritage tourism in a consistent manner. If the intent is to develop accurate estimates of heritage tourism expenditures, surveys should be designed to elicit information about the amount of total trip expenditures that should be attributed to heritage tourism. Surveys should be conducted of day and overnight visitors. The Longwoods 2003 survey only presented data for overnight visitors. At a minimum, survey respondents should be asked to identify whether heritage tourism was the main reason for the trip or one of several activities, and if it is one of several, how many other activities did the trip involve.

It may also be noted that a number of past statewide heritage tourism studies obtained detailed visitor breakdowns from general survey data compiled by Longwoods and TIA. These breakdowns provided information about heritage tourism characteristics, such as average trip length, spending, visitor education, and so on. Although Longwoods conducted the same sort of survey for Washington State in 1999 and 2003, this type of detailed information was not available. Given the structure of their survey efforts, if Longwoods are contracted by Washington State to conduct similar surveys in the future, this type of information could be requested and would provide useful insight into heritage tourists to Washington State.

Site Specific Data

The preceding discussion assumes that future research would likely involve statewide visitor surveys, rather than data collection at individual sites. As previously noted, there are a number of problems associated with compiling site-specific data, including problems with developing a definitive list of heritage tourism sites and obtaining visitor counts in cases where use is not monitored. In other cases, visitors may be counted, but the site in question may also offer other non-heritage values that attract visitors. These problems are illustrated by the visitation data presented for the Washington NPS and State Park sites in Section 4.6. These data primarily illustrate the difficulty of separating heritage tourism visitors from other types of visitor. In 2005, there were almost 2 million visitors to the four NPS sites and over 3 million visits to State parks with historic themes (including the eight coastal forts), while our overall Washington State visitation estimate was 8.7 million visitor days. Site specific surveys would provide more detailed information on how many visitors to these sites are heritage tourists and what share of their overall spending should be attributed to heritage tourism. These data could be used to supplement and evaluate the results of broader statewide survey activities.

Heritage Tourism and Economic Development

The results of this analysis suggest that heritage tourism in Washington State is a large source of visitor activity and this is supported by the results of the statewide and regional visitor profiles prepared for Washington State Tourism. Recent data for King County, for example, suggest that a large share of visitors to the county include a trip to Pike Place Market as part of their itinerary, with estimated shares ranging from 32 percent of day visitors to 59 percent of overnight visitors (Jim Lillstrom & Associates, 2005). Other regional Washington surveys conducted by Lillstrom & Associates found that a large portion of travelers visited historic/cultural attractions as the primary reason for or part of a trip. Almost 40 percent of all visitors to the Olympic Peninsula, for example, visited Fort Worden and 5 percent visited Tilicum Village and more than 30 percent of visitors to Southwest Washington visited a Lewis and Clark-related site (Jim Lillstrom & Associates, 2003a; 2003b).

Heritage tourism is an important source of income for other smaller communities, such as Port Townsend, Port Gamble, and others with rehabilitated downtowns and buildings that routinely attract visitors. Future research could evaluate the significance of heritage tourism at the local level with a series of comparative community studies designed to illustrate the role that heritage tourism plays in local economies.

5. HISTORIC DESIGNATION AND PROPERTY VALUES

5.1 Introduction and Overview

Historic districts have been listed in the National Register of Historic Places since the late 1960s, following passage of the 1966 National Historic Preservation Act. Historic districts in Washington may also be listed on the Washington Heritage Register. In addition, many municipalities have established local historic registers that allow local governments to designate historic properties and establish historic districts. Preservation advocate Donovan Rypkema (2005; 38) notes that "(o)f all the economic issues of historic preservation, none is subject to so many opinions based on so few facts as the impact on property value of being included in a historic district." He observes that much of the confusion is due to the inherent localness of the impact that any action, including historic designation, has upon real estate values and the distinction between listing in the National Register and local historic designation.

One of the main justifications offered for designating an area as a historic district is that it provides a means to protect the neighborhood from physical deterioration. There are also financial incentives associated with designation of National Register historic districts. Listing in the National Register can qualify the properties within the district for federal and local tax benefits under Federal and State laws. In Washington State, these benefits are the ITC Program and Washington State Special Valuation Program (discussed in Section 2 of this report), which provide tax breaks for qualified historic rehabilitation work. These incentives can form an important aspect of neighborhood revitalization strategies. In Seattle, for example, qualified historic rehabilitation projects over the past five years include five commercial projects in the Columbia City Historic business district, with expenditures totaling $2.1 million.

The New York City Independent Budget Office (2003; 2) notes that Federal and State tax benefits, to the extent they exist, "should be at least partially capitalized into the price of the property." In addition, historic designation is generally thought to provide a form of insurance of future neighborhood quality through the preservation of the historic amenities and characteristics valued by local residents and others. Designation also conveys a certain element of prestige that some potential purchasers may consider in their decision making process. These factors suggest that in general the effect of historic designation on property values, if one exists, is likely to be more positive than negative.

Listing in the National Register or the Washington Heritage Register does not place restrictions or limitations on private properties and private owners of National and State Register properties using private funds may alter or demolish their properties without review at the State or Federal level. Many historic districts, however, also receive local designation or may include restrictions that are independent of their National Register status. Local designation may impose restrictions on alterations and demolition or at least require some form of administrative review prior to such actions. It may also impose maintenance requirements for exterior ornamentation and other historic treatments that exceed those in the jurisdiction's general maintenance code, with property owners required to apply for some form of approval prior to performing any work on the property's exterior (Leichenko et al., 2001). This is, for example, the case in the North Slope Historic District in Tacoma, where exterior changes require approval from the Tacoma Landmarks Preservation Commission (Johnson, 2005). These types of requirements and restrictions are often hypothesized to have potential negative effects on property values.

There have been numerous studies of the effects of historic designation on property values over the past two decades. While the results of these studies are mixed, historic designation is generally thought to have a positive impact on property values (Coulson and Lahr, 2005; Leichenko et al., 2001). Rypkema (2005; 41) notes that while there are examples of property values in historic districts increasing at faster rates than local markets, the typical result is more modest, with historic designation tending to protect districts from broader fluctuations in the property market. He contends that what are often referred to as "restrictions" enacted through local designation are in fact "protections" that ensure neighborhood stability and protect property owners from potentially value-reducing actions that other property owners might take. This type of protection can also be an important motivation for designating a neighborhood a historic district. The Pike Place Market Historic District in Seattle, for example, was established in 1971 to protect the Market's traditional character and use. Local news suggests this continues to be the case with residents in the Queen Anne neighborhood in Seattle considering some sort of designation to protect their neighborhood from further development (Langston, 2005).

The following discussion is divided into three sections. The following section discusses the overall methodology employed in this study. The third section presents the analysis and results and the fourth and final section discusses these results and identifies directions for future research on historic designation and property values in Washington State.

5.2 Study Methodology

This analysis evaluates the effects of historic designation on single-family residential properties in four Washington cities: Bellingham, Ellensburg, Spokane, and Tacoma. The analysis focuses on single-family residences because much of the concern regarding historic district status is typically associated with residential neighborhoods and commercial sale values are complicated by tax considerations and lease issues that make them more difficult to analyze for evidence of changing market values. Four residential neighborhoods were selected for comparison based on input from the Steering Committee established for this project.

Selection of Comparison Neighborhoods

There have been a wide range of studies of the effects of historic designation on property values. While these studies have employed different methodologies and different data sources, with very few exceptions, they have employed some form of paired comparison approach that compares the values of properties within historic districts with similar properties outside designated historic districts. Some studies have also compared individually listed properties with properties elsewhere in the subject city, but the main underlying approach has still been a paired comparison.

In common with the majority of past studies, then, the following analysis compares the values of properties within the designated historic districts with the values of properties located in other comparable historic neighborhoods that are not designated. The comparison neighborhoods were identified based on their similarity to the historic district, in terms of the age of the buildings, size, type of use, and overall neighborhood scale, as well as income levels and other demographic characteristics. The comparison neighborhoods were intended to be as similar to the respective historic district as possible, with the main difference being the absence of historic designation. Comparison neighborhoods were identified for each city by local historic preservation officers or city planners. These neighborhoods are discussed further in the following sections.

The Historic Districts selected for evaluation and their comparison neighborhoods are identified in Table 5-1. This table also identifies the year the district was added to the National Register and the number of properties in each district, including non-contributing properties.

Table 5-1. Study Historic Districts and Comparison Neighborhoods

City	Historic District	Year Designated[1/]	Number of Properties[2/]	Comparison District[3/]
Bellingham	Eldridge Avenue	July 1979	900 (approx.)	Lettered Streets
Ellensburg	First Railroad Addition	May 1987	74	Shoudy's First Addition
Spokane	Corbin Park	November 1992	81	Hays Park
Tacoma	North Slope	March 2003	909	University of Puget Sound Area

Notes:
1/This is the date each district was listed in the National Register of Historic Places. Districts may have had state or local status prior to this time. A portion of the North Slope Historic District in Tacoma, for example, was initially locally listed in 1994. The area was subsequently expanded in 1996 and expanded further in 1999. The area was eventually listed on the Washington and National Registers in 2003 based on the boundaries established in 1999.
2/This total includes all properties in the area, including those that are classified as "non-contributing" with respect to the district's historic character.
3/Comparison districts were identified by local historic preservation officers or city planers in the respective cities.

Data Sources

Past studies have used two main sources of data to analyze these effects: assessed value data compiled from the appropriate assessor's office and actual sales data. Assessed value data has been used in a number of past studies, but concerns have been expressed that these data may not provide a sufficiently accurate representation of market conditions. Assessed values while based on actual market values of similar properties, that is, actual sales, are only an approximation and generally considered to lag behind true market conditions (Clarion Associates et al., 2002). Concerns have also been expressed that appraisers may adjust historic district property values up or down to account for this designation (Leichenko et al., 2001). Sales data are generally believed to provide a more accurate representation of market behavior, but the trade-off between the use of actual sales data versus assessed value data is that sample sizes are typically smaller, because the dataset is limited to properties that have sold during the study period.

The following analysis employs actual sales data to evaluate the potential effects of historic district designation. Sales data were obtained for the study historic districts and comparison neighborhoods from the respective county assessor's offices. These data were provided for different time periods and in a variety of formats, depending on the data management structures and procedures employed by the different counties. The data were sorted and we excluded those transfers that were not market-based sales, as well as sales that were outliers in terms of price per square foot. Sale values were considered to be outliers if they were greater than two standard deviations from the mean. Sales data for properties that are not single-family residences were also excluded. The years of available sales data and the number of sales included in each analysis are summarized in Table 5-2.

Table 5-2. Available Sales Data

City[1/]	Year Designated	Available Sales Data[2/]	Total Number of Sales		Average Annual Number of Sales	
			Historic District	Comparison District	Historic District	Comparison District
Bellingham	July 1979	1984 to 2005	817	906	37	41
Ellensburg	May 1987	1994 to 2005	44	234	4	20
Spokane	Nov. 1992	1990 to 2005	62	38	4	3
Tacoma[3/]	Mar. 2003	1994 to 2005	535	1,131	69	134

Notes:
1/See Table 5-1 for a list of the Historic Districts and comparison neighborhoods for each city.
2/This is the period that sales data were available for. In the cases of Corbin Park and the North Slope sales data were available further back but limited to two years prior to listing for the purpose of analysis.
3/As noted in Table 5-1, note 1, part of the North Slope Historic District received local historic designation in 1994.

Study Methodology

This study assesses the potential effects of historic designation on property values through an analysis of property values in four historic districts in Washington State (see Table 5-1). This analysis compares average annual sales prices for properties within the designated district with those in the comparison district over time. Annual average sales values are also compared in terms of price per square foot. Sale values are adjusted to account for inflation and expressed in 2004 dollars. This analysis assumes that any difference in average sales price or price per square foot between the historic district and comparison neighborhood may be attributed to the historic designation because that is one of the main differences between the two neighborhoods. Data on basic property characteristics were gathered for the homes that sold in each Historic District and comparison neighborhood and used to assess the similarities between the two neighborhoods.

As noted in the preceding section, sales data are generally accepted as providing a more accurate representation of property values than assessed values, but the sample size is smaller. This can be a problem in relatively small neighborhoods like the Ellensburg and Spokane examples evaluated in this analysis because some years may have small numbers of sales (see Table 5-2).

The following analysis uses annual average measures to evaluate trends and simple linear regression is used to assess how well these measures evaluate change over time. The regression analysis identifies the line that best fits the data and provides a value for "R^2." The R^2 value measures the goodness of fit of the regression model and is equal to the percentage of the variance (change over time) in the data that is described by the regression line. The value of R^2 ranges from 0 to 1 and measures how well the model explains the data. A R^2 value of 0.2, for example, indicates that the model accounts for 20 percent of the variance and is a poor representation of change over time. The regression lines, also referred to in the following discussion as "trendlines," are presented for each analysis, as appropriate.

As noted above, the following analysis compares average annual sales prices for properties within the selected historic district with those in the comparison district over time. Comparisons are also made between the Historic District, comparison neighborhood, and sales trends for the city as a whole in the cases of Bellingham and Ellensburg.

5.3 Analysis and Results

5.3.1 Eldridge Avenue Historic District, Bellingham

Neighborhood Description

The Eldridge Avenue Historic District was listed in the National Register in 1979. The District is a residential area situated on a bluff overlooking Bellingham Bay and includes approximately 50 city blocks and 900 structures, including garages and outbuildings. The majority of homes in the District were built between 1885 and 1910, with architectural styles that range from the more common Stick, Queen Anne, Eastlake, Mission, and Shingle styles, to two large examples of Neo-Classical Revival. Many homes contain elements from several styles. These architectural characteristics combined with the views and mature tree-lined streets lend the District its main character.

The Lettered Streets neighborhood was selected as the comparison neighborhood because it consists of single-family residences with similar historic character. This neighborhood is not designated as a historic district but is, according to the Bellingham Community Development Department, currently working toward this status (Franks, 2005).

Sales Data and Property Characteristics

Sales data for the two neighborhoods were provided by the Whatcom County Assessor's office, which maintains property sale records back to 1984, five years after the Eldridge Avenue Historic District was listed in the National Register. Sales data were also collected for the city of Bellingham, as a whole.

Property characteristic data were compiled for the properties that sold over this period. These characteristics include year built, lot size, living area in square feet, number of bedrooms, number of baths, and whether the property had a garage. These characteristics are summarized in Table 5-3, which presents the average values for each neighborhood, as well as the corresponding values for the city of Bellingham, as a whole. These data suggest that the Eldridge Avenue Historic District and Lettered Streets neighborhood are very similar in most respects, with the main difference being that a larger share of the homes in the Eldridge Avenue Historic District have garages, 48 percent versus 29 percent (Table 5-3). The data for the city as a whole indicate that the homes in the study neighborhoods are, on average, about 35 years older, 230 to 270 feet smaller, and less likely to have a garage than the average single family home in Bellingham.

Table 5-3. Eldridge Avenue Historic District Neighborhood Comparison

Neighborhood Characteristics[1/]	Eldridge Avenue	Lettered Streets	City of Bellingham
Year Built	1922	1920	1957
Lot Size (Acres)	0.12	0.15	0.12
Average Square Feet	1,315	1,275	1,546
Garage (Y/N)	48%	29%	66%
Number of Bedrooms	2.7	2.6	2.9
Number of Full Baths	1.5	1.2	1.7
Number of Sales since 1984	817	906	23,096
Average Annual Number of Sales	37	41	1,050

Notes:
1/These data are for properties that had sales between 1984 and 2005 only. There may be some properties that did not sell over this period and are, as a result, not included in these averages.
Source: Whatcom County Assessor, 2005.

Analysis and Results

Property value appreciation rates are compared in Table 5-4. Appreciation rates are presented for average sale price and average price per square foot. The average annual percent change in price per square foot is also provided. The sales prices were adjusted for inflation and these rates were calculated based on constant (2004) dollars. These data indicate that the average sale price increased at a faster rate in the Eldridge Avenue Historic District than it did in the comparison neighborhood and the city as a whole. Historic District properties increased in value an average of 6.4 percent per year, while properties in the Lettered Streets neighborhood experienced an average annual increase of 5.4 percent. The average value of a single-family property in Bellingham increased at 5.1 percent per year (Table 5-4). Annual average sales values are presented graphically for all three areas in Figure 5-1. These values are adjusted for inflation and presented in 2004 dollars, but the market trends are clear in this graph and generally consistent across all three areas. Trendlines are not shown in this graph to avoid cluttering the presentation, but the R^2 values for each area are over 0.8, meaning that the straight line explains approximately 80 percent of variation in the data.

Table 5-4. Eldridge Avenue Historic District Property Value Comparison

Change in Property Values (1984 to 2005)	Eldridge Avenue	Lettered Streets	City of Bellingham
Annual Appreciation Rate (Av. Sales Value)	6.4	5.4	5.1
Annual Appreciation Rate (Price/Sq. Ft.)	6.7	5.8	5.0
Average Annual Percent Change (Price/Sq. Ft.)	7.7	6.8	5.6

The annual appreciation rate measured in price per square foot is also higher for properties in the Eldridge Avenue Historic District, 6.7 percent compared to 5.8 percent in the comparison neighborhood and 5.0 percent in the city as a whole (Table 5-4). These data, presented graphically in Figure 5-2, follow the same broad trend as the average sale values shown in Figure 5-1. The R^2 values for the three areas range from 0.75 to 0.78.

Figure 5-1. Average Sales Value, 1984 to 2005 (2004$)
Eldridge Avenue Historic District versus Lettered Streets Neighborhood

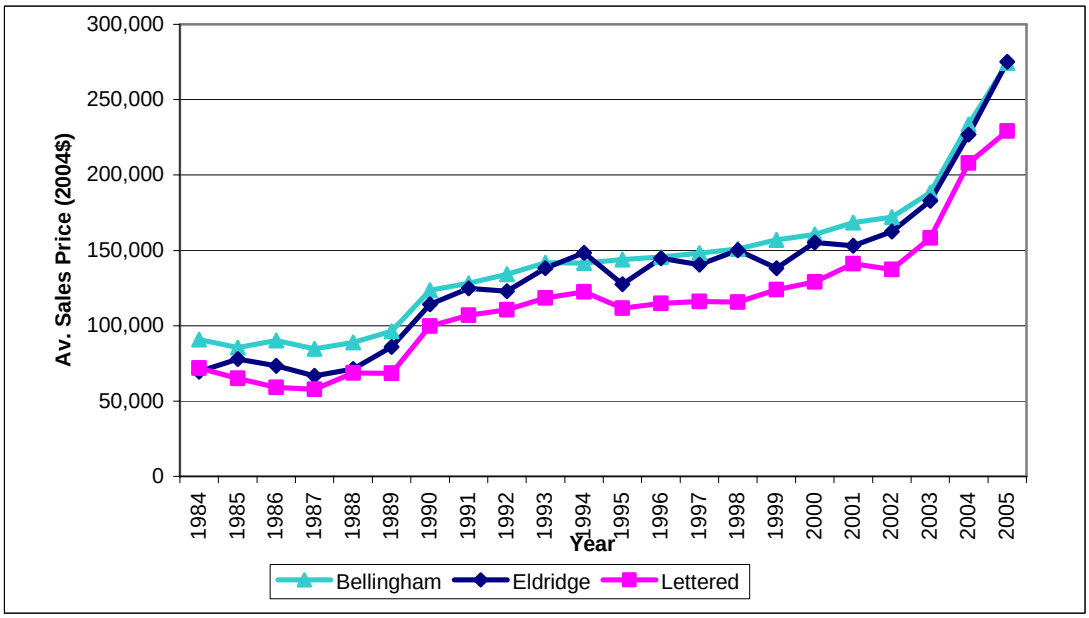
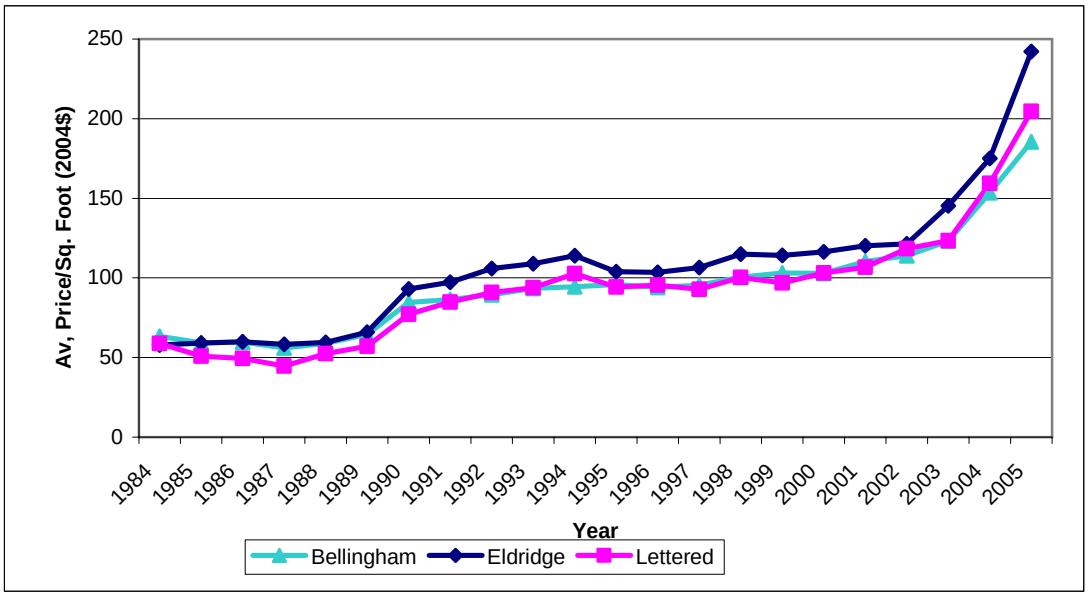


Figure 5-2. Average Price Per Square Foot, 1984 to 2005 (2004$)
Eldridge Avenue Historic District versus Lettered Streets Neighborhood



5.3.2 First Railroad Addition Historic District, Ellensburg

Neighborhood Description

The First Railroad Addition Historic District was listed in the National Register in 1987. The District is a residential area located directly west of the Central Washington University campus and includes the core area of a much larger addition. The District consists of all or parts of nine city blocks and includes approximately 96 contributing resources (62 houses, 34 ancillary buildings) and 33 non-contributing resources (12 houses, 20 ancillary buildings, 1 parking lot). The homes in the First Railroad Addition Histoirc District include a number of styles, such as simplified late Victorian, American Four squares, and vernacular houses with Craftsman features. Shoudy's First Addition neighborhood was selected as the comparison neighborhood because it shares some similar characteristics with the First Railroad Historic District (Eyerly, 2005).

Sales Data and Property Characteristics

Sales data for the two neighborhoods were provided by the Kittitas County Assessor's office, which maintains electronic property sale records back to 1994, seven years after the First Railroad Addition Historic District was listed in the National Register. Property characteristic data were also provided for the properties that sold over this period. These characteristics included year built, lot size, living area, number of bedrooms, and number of baths. These characteristics are summarized in Table 5-5, which presents the average values for each neighborhood, as well as the corresponding values for the city of Ellensburg, as a whole. These data suggest that there are a number of important differences between the First Railroad Addition Historic District and Shoudy's First Addition. The average home in the First Railroad Addition is 25 years older and almost a third as large (Table 5-5). The data for the city as a whole indicate that the homes in Shoudy's First Addition have, on average, a larger yard but are otherwise more similar to the average Ellensburg home than the average home in the First Railroad Addition. The data summarized in this table also illustrate the problem with using actual sales data to evaluate

Table 5-5. First Railroad Addition Historic District Neighborhood Comparison

Neighborhood Comparison[1/]	First Railroad Addition Historic District	Shoudy's First Addition Neighborhood	City of Ellensburg
Year Built	1916	1941	1954
Average Lot Size (Acres)	0.16	0.16	0.06
Living Area (Sq. Ft)	2,056	1,524	1,416
Number of Bedrooms	3.3	2.9	2.81
Number of Bathrooms	2.0	1.6	1.65
Number of Sales since 1994	44	234	3,304
Average Annual Number of Sales[2/]	4	20	275

Notes:
1/These data are for properties that had sales between 1994 and 2005 only. There may be some properties that did not sell over this period and are, as a result, not included in these averages.
2/There was only one sale in the First Railroad Historic District in two of the study years.
Source: Kittitas County Assessor, 2005

property value trends in smaller neighborhoods. From 1994 through 2005 there were a total of 44 sales in the First Railroad Addition Historic District, an average of just four sales a year, with only one sale occurring in two years during the study period.

Analysis and Results

Property value appreciation rates are compared in Table 5-6. Appreciation rates are presented for average sale price and average price per square foot. The average annual percent change in price per square foot is also provided. The sales prices were adjusted for inflation and these rates were calculated based on constant (2004) dollars. The data presented in this table suggest that property values have increased at a faster rate in the First Railroad Addition Historic District than in the comparison neighborhood and the city of Ellensburg as a whole. However, the first two measures essentially summarize the difference between the first and last values, that is, the differences between the average sales price and average price per square foot in 1994 and 2005 and are in effect a straight line measure of the gradient between these points. The third measure summarizes the annual change in average price per square foot. These are useful measures for data that show regular trends (see, for example, Figures 5-1 and 5-2), but they are less useful here where there are concerns due to a limited number of observations and annual fluctuations in average price, and these results should, as a result, be treated with caution.

Table 5-6. First Railroad Addition Historic District Property Value Comparison

Change in Property Values (1994 to 2005)	First Railroad Addition Historic District	Shoudy's First Addition Neighborhood	City of Ellensburg
Annual Appreciation Rate (Av. Sales Value)	6.2	3.5	3.0
Annual Appreciation Rate (Price/Sq. Ft.)	4.8	4.6	2.5
Average Annual Percent Change (Price/Sq. Ft.)	8.5	3.1	4.9

The average annual sales prices in the First Railroad Addition Historic District and the comparison neighborhood are shown for 1994 through 2005 in Figure 5-3. Average annual sales prices for the entire city of Ellensburg are also included for the purposes of comparison. Average annual prices per square foot are presented for all three areas in Figure 5-4. These data indicate that viewed in constant 2004 dollars average sales prices have fluctuated from year-to-year in the First Railroad Addition Historic District. These fluctuations largely reflect the small sample size with an average of just four sales a year over the study period and, as indicated in Figures 5-3 and 5-4, two years with only one sale. The low R^2 values shown for the First Railroad Addition and

Shoudy's First Addition in Figure 5-3 (0.41 and 0.5, respectively) illustrate the annual fluctuations in these data. The R^2 value for the city of Ellensburg as a whole, which had an average of 275 single family home sales a year over the study period, is higher (0.75) and indicates that the straight line explains a larger share of the variation in the data. Trendlines are not shown in Figure 5-4 because they are generally similar to those shown in Figure 5-3.

Figure 5-3. Average Sales Value, 1994 to 2005 (2004$)
First Railroad Addition Historic District versus Shoudy's First Addition Neighborhood

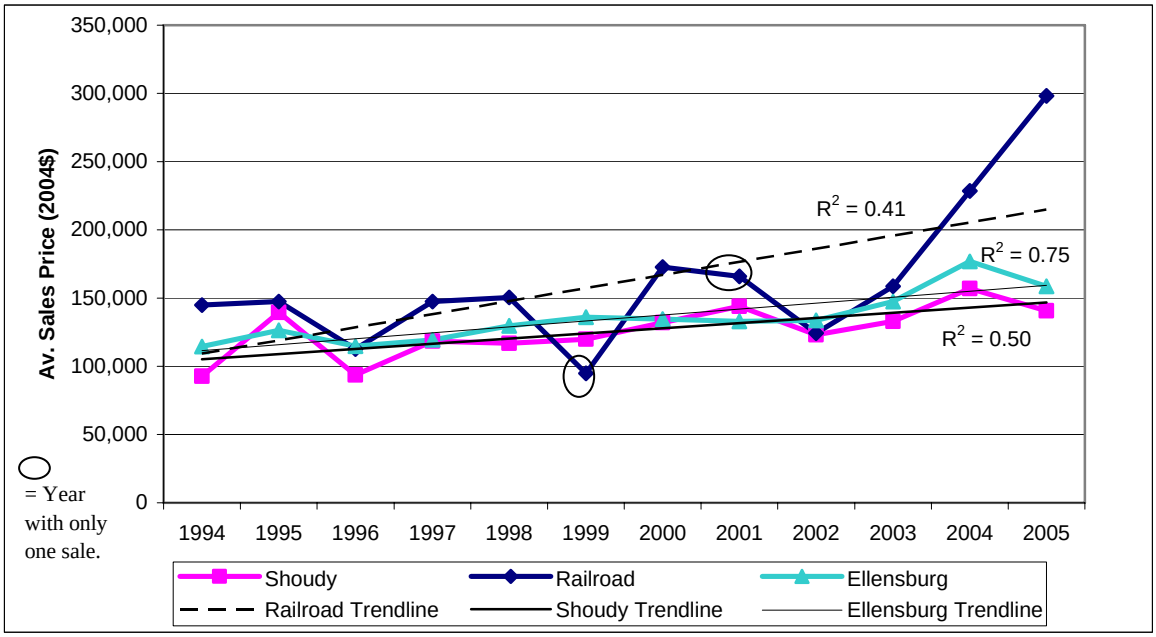
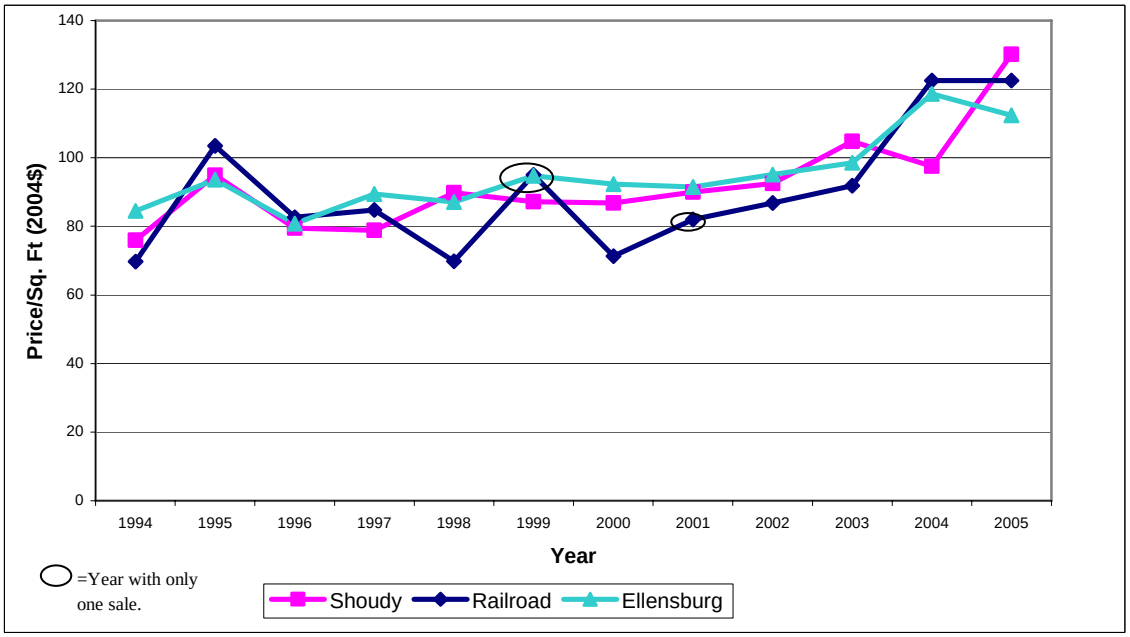


Figure 5-4. Average Price Per Square Foot, 1994 to 2005 (2004$)
First Railroad Addition Historic District versus Shoudy's First Addition Neighborhood



It is difficult from the available data to draw any definitive conclusions about the effects of historic designation on property values in this case. The results of the analysis are complicated by the limited number of sales over the period of analysis, as well as the differences between the study district and the comparison neighborhood, which suggest that differences in price could be due to factors other than historic designation. At the same time, it would be difficult to conclude based on the data shown in Figures 5-3 and 5-4 that historic designation has had a negative impact on property values, as the sales prices for the First Railroad Addition Historic District appear to be in the same range as the sale values for the comparison neighborhood and the city as a whole, especially when viewed on a per square foot basis (Figure 5-4).

5.3.3 North Slope Historic District, Tacoma

Neighborhood Description

The North Slope Historic District was listed in the National Register in March 2003. The area has, however, been a local Historic District since the 1990s. The original core of the district received local designation in 1994 and included both sides of North J Street from Division Street to Steele Street. The area was expanded in 1996 and the boundaries were extended again to the current boundaries in 1999.

The North Slope Historic District includes 228 acres and a total of 1,285 resources, including accessory structures. The District, which is residential, contains a variety of architectural styles, including Stick, Queen Anne, American Foursquare, Craftsman, Tudor Revival, and Mission Revival. The District also includes a number of churches, commercial businesses, and apartment dwellings. The neighborhood developed over an extended period of time with structures built as early as 1900 intermingled with structures built several decades later. Approximately 78 percent of the homes were built prior to 1930. The District is eligible for the National Register because it is a cohesive neighborhood that represents a broad pattern of the social and economic history of Tacoma. The area also embodies the distinctive characteristics of residential development in Tacoma.

The University of Puget Sound (UPS) neighborhood was selected as the comparison neighborhood because it is a predominantly single family residential neighborhood that shares a number of economic and use characteristics with the North Slope Historic District (McKnight, 2005). One notable difference is the presence of the University of Puget Sound in the middle of the UPS neighborhood.

Sales Data and Property Characteristics

Sales data for the two neighborhoods were provided by the Pierce County Assessor's office, which maintains property records back to 1974. Sales data for the North Slope Historic District for 1996 through 1998 are for the area, as it was in 1996. Data from 1999 onward are for the expanded area.

We also compiled data on the characteristics of the properties that sold over this period. These characteristics included year built, living area in square feet, number of bedrooms, number of bathrooms, and square footage for basements and garages, if present. These characteristics are summarized in Table 5-7, which presents the average values for each neighborhood. These data suggest that the single-family homes in the North Slope and UPS neighborhoods are fairly similar, with the North Slope homes, on average, slightly older, and larger. Homes in the UPS neighborhood, on the other hand, were more likely to have a basement and/or a garage (Table 5-7).

Table 5-7. North Slope Historic District Neighborhood Comparison

Neighborhood Characteristics[1/]	North Slope Historic District[2/]	University of Puget Sound
Year Built	1913	1926
Average Square Feet	1,635	1,326
Number of Bedrooms	3.15	2.9
Number of Bathrooms	1.59	1.35
Basement (Y/N)	71%	83%
Garage (Y/N)	63%	77%
Number Sales Since 1996	535	1,131
Average Annual Number of Sales	69	134

Notes:
1/These data are for properties that had sales between 1994 and 2005 only. There may be some properties that did not sell over this period and are, as a result, not included in these averages.
2/Sales data for the North Slope Historic District for 1996 through 1998 are for the area as it was in 1996. Data from 1999 onward are for the expanded area.
Source: Pierce County Assessor, 2005; 2006

Analysis and Results

Property value appreciation rates are compared in Table 5-8. Appreciation rates are presented for average sale price and average price per square foot. The average annual percent change in price per square foot is also provided. The sales prices were adjusted for inflation and these rates were calculated based on constant (2004) dollars. The annual appreciation rates for the two neighborhoods are very similar, with average sales value increasing at a slightly faster rate in the North Slope neighborhood, 7.5 percent versus 6.8 percent (Table 5-8). These data are presented graphically in Figure 5-5, which shows that sales prices in the neighborhoods have increased at a fairly consistent rate, as shown by the trendlines. The trendlines have R^2 values of approximately 0.8 in each case, meaning that the straight line explains approximately 80 percent of the variation in the data.

The annual appreciation rates measured in price per square foot are almost exactly the same in the two neighborhoods. These data are presented graphically in Figure 5-6. The prices have also increased at a fairly constant rate, as indicated by the relatively high R^2 values.

Table 5-8. North Slope Historic District Property Value Comparison

Change in Property Values (1996 to 2005)	North Slope Historic District	UPS Neighborhood
Annual Appreciation Rate (Av. Sales Value)	7.5	6.8
Annual Appreciation Rate (Price/Sq. Ft.)	7.1	7.2
Average Annual Percent Change (Price/Sq. Ft.)	8.8	7.2

Figure 5-5. Average Sales Value, 1994 to 2005 (2004$)
North Slope Historic District versus UPS Neighborhood

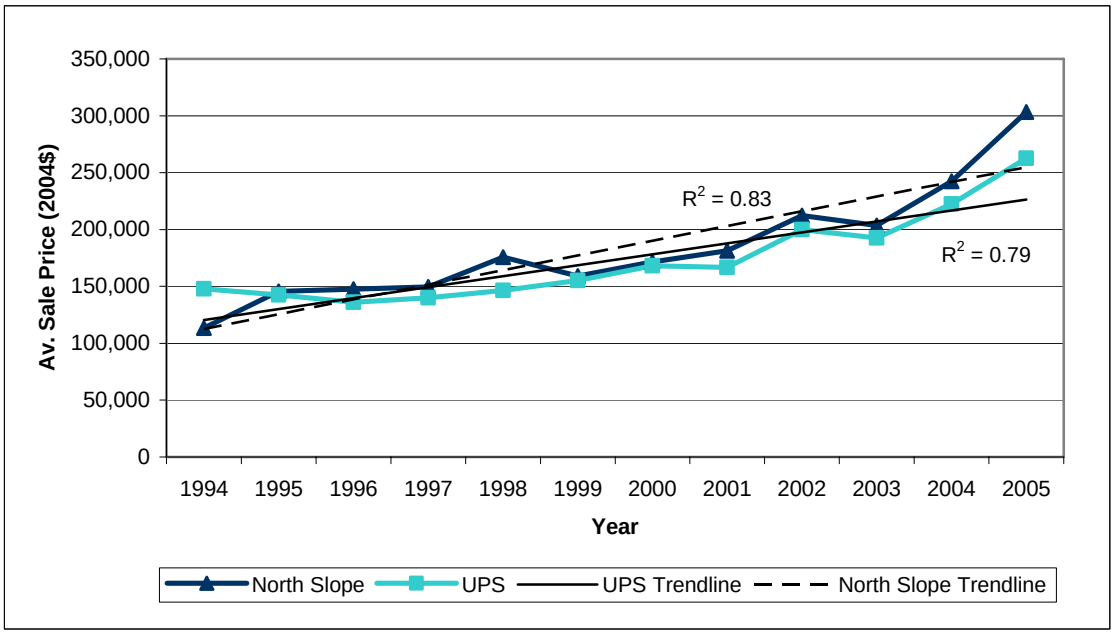
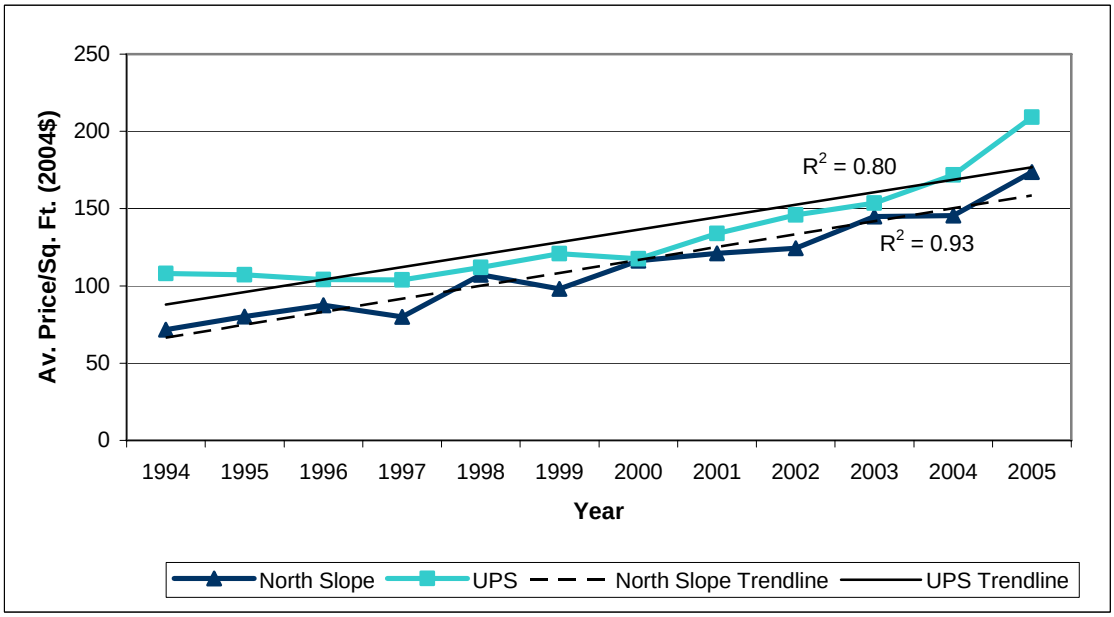


Figure 5-6. Average Price Per Square Foot, 1994 to 2005 (2004$)
North Slope Historic District versus UPS Neighborhood



5.3.4 Corbin Park Historic District, Spokane

Neighborhood Description

The Corbin Park Historic District was listed in the National Register in 1992. The District is a residential area that consists of approximately 86 dwellings and a six acre park that was developed from plans drawn by the Olmsted Brothers. The homes in this District are examples of a variety of styles including Craftsman Bungalows, American Foursquares, and Tudor. The park occupies the site of a former racetrack that was part of the Washington and Idaho Fair from 1887 to 1897. The District is located approximately two miles north of downtown Spokane.

The Hays Park neighborhood was selected for comparison because the two areas share similar origins and layout. Both neighborhoods surround parks that benefited from the Olmsted firm in the early 1900s and both are located north of the Spokane River (Flynn, 2005).

Sales Data and Property Characteristics

Sales data were compiled for the two neighborhoods from the Spokane County Assessor's web site and were available back until 1992. We also compiled data on the characteristics of the properties that sold over this period. These characteristics included year built, living area in square feet, number of bedrooms, number of bathrooms, and whether the home has an attic (Table 5-9). These data indicate that the average home in the two neighborhoods is fairly similar, with homes sold in the Corbin Park neighborhood, on average, 20 years older and slightly larger. In addition, the average home sold in Corbin Park during the study period had one more bedroom.

The two neighborhoods between them include a total of just 147 separate parcels. As a result there are only a limited number of sales to compare over the study period, with a total of 62 sales in Corbin Park and just 38 sales in Hays Park. This translates into average annual sales of approximately 4 and 3 homes, respectively (Table 5-9). These sales are not distributed evenly over the study period and in the case of Hays Park, there are four years when there are just one sale. This makes it very difficult to draw any conclusions about sales trends and values in these neighborhoods, as discussed in the following section.

Table 5-9. Corbin Park Historic District Neighborhood Comparison

Neighborhood Characteristics[1/]	Corbin Park Historic District	Hays Park Neighborhood
Year Built (Mean)	1908	1926
Sq. Ft	1,149	1,016
Number of Bedrooms	3.5	2.6
Number of 1/2 Bath	0.1	0.1
Number of Full Bath	1.5	1.2
Attic (Y/N)	15%	21%
Number of Sales Since 1992	62	38
Average Annual Number of Sales[2/]	4	3

Notes:
1/These data are for properties that had sales between 1994 and 2005 only. There may be some properties that did not sell over this period and are, as a result, not included in these averages.
2/There was only one sale in Hays Park in four of the study years.
Source: Spokane County Assessor, 2005.

Analysis and Results

Property value appreciation rates are compared in Table 5-10. Appreciation rates are presented for average sale price and average price per square foot. The average annual percent change in price per square foot is also provided. The sales prices were adjusted for inflation and these rates were calculated based on constant (2004) dollars. The results presented in this table suggest that the neighborhoods have appreciated at similar rates since 1992, with sales prices increasing at a slightly faster rate in Corbin Park and price per square foot increasing at a slightly faster rate in Hays Park. These estimates are, however, based on the straight line distance between the 1992 and 2005 values. Average annual sales price and price per square foot are presented for the two neighborhoods in Figures 5-7 and 5-8.

Table 5-10. Corbin Park Historic District Property Value Comparison

Change in Property Values (1992 to 2005)	Corbin Park Historic District	Hays Park Neighborhood
Annual Appreciation Rate (Av. Sales Value)	2.5	2.0
Annual Appreciation Rate (Price/Sq. Ft.)	3.0	3.3
Average Annual Percent Change (Price/Sq. Ft.)	8.9	7.0

These graphs show that the average annual values have fluctuated widely for both neighborhoods and measures. Although Corbin Park was not listed in the National Register until 1992, the graphs show annual average values from 1988 through 2005. The trendlines shown in the figures fit better over this longer period, but still have fairly low explanatory power (i.e., low R^2 values).

Figure 5-7. Average Sales Value, 1988 to 2005 (2004$)
Corbin Park Historic District versus Hays Park Neighborhood

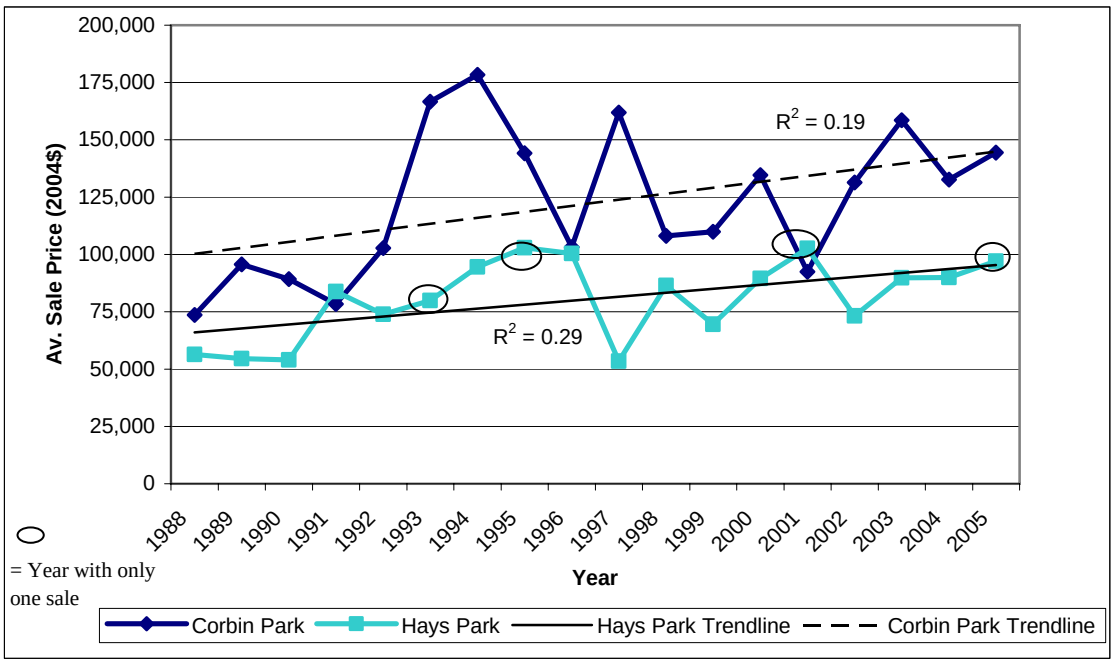
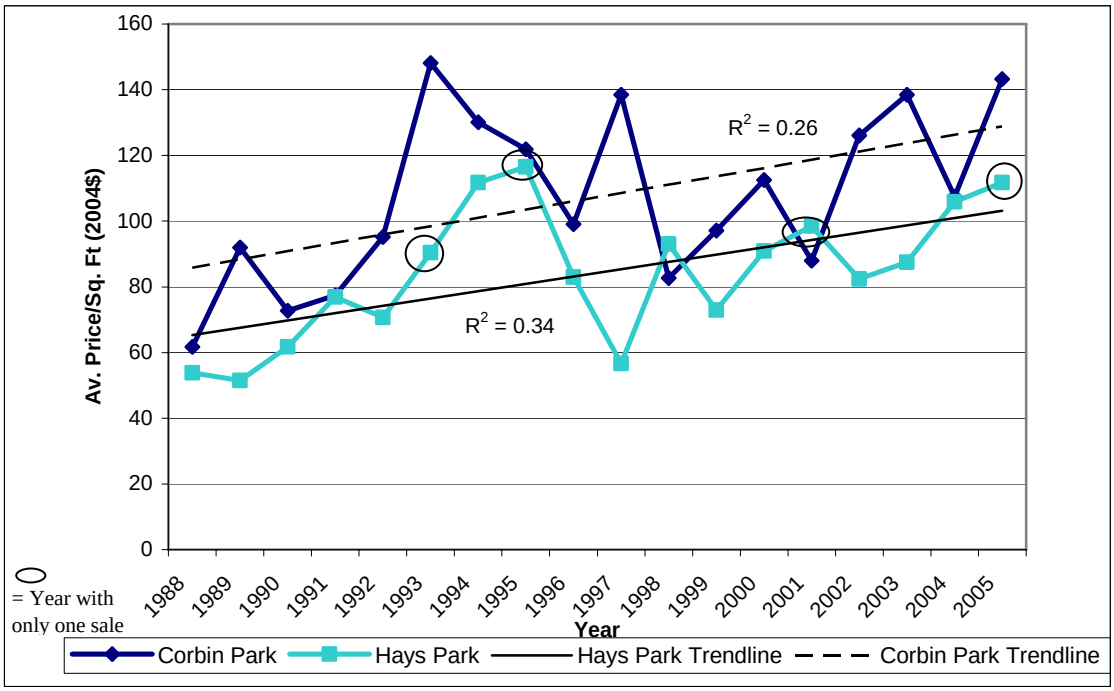


Figure 5-8. Average Price Per Square Foot, 1988 to 2005 (2004$)
Corbin Park Historic District versus Hays Park Neighborhood



5.4 Concluding Comments

The following discussion is divided into two sections. The first section provides a summary of the results discussed in the preceding section. The second section discusses some of the limitations with the current analysis and possible future research directions.

Summary of Results

The preceding analysis assesses the impacts of historic designation on property values in Washington State through four case studies. In each case we compared actual sale values within the designated Historic District with the sale values of properties located in other comparable historic neighborhoods that are not designated. These data were evaluated in terms of average sale price and average price per square foot based on annual average appreciation rates. Sales values were adjusted for inflation and assessed in constant 2004 dollars.

Annual Sale Value Appreciation Since Historic Designation. The results of this analysis suggest that the property values in the two study neighborhoods with relatively large numbers of sales, the Eldridge Avenue Historic District (Bellingham) and North Slope Historic District (Tacoma), have appreciated at slightly faster rates than values in the two comparison neighborhoods and, in the case of Eldridge Avenue, faster than property values in the city of Bellingham as a whole.

The data for the neighborhoods in Ellensburg and Spokane are more difficult to interpret in annual terms because of the relatively small sample sizes that result in fluctuating average sale values from year-to-year. Overall, the results of the analysis suggest that sale values in these two Historic Districts have been generally equivalent with those in the comparison neighborhood, and in the case of the Ellensburg analysis, the city as a whole.

Annual Appreciation in Average Cost per Square Foot. The average price per square foot in the Eldridge Historic District in Bellingham increased at a slightly faster rate than the comparison

neighborhood (Lettered Streets) and the city of Bellingham as a whole from 1984 through 2005. Price per square foot in the North Slope Historic District in Tacoma appreciated at approximately the same rate as it did in the comparison neighborhood (UPS).

As noted with respect to average sale price, the data for the smaller historic districts (First Railroad Addition and Corbin Park) are more difficult to interpret due to the relatively small sample sizes. In general, viewed in terms of annual price per square foot, appreciation rates in the First Railroad Addition and Corbin Park Historic Districts have been generally equivalent with those in the comparison neighborhoods.

Study Limitations and Future Research Directions

In common with other similar studies, the preceding analysis assumes that any difference in price can be attributed to the study area's historic designation. The main shortcoming of this type of analysis is that it assumes that historic designation is the cause of any difference in value between the Historic District and comparison neighborhood. This is controlled for in the analysis to some degree by ensuring that there is a high degree of compatibility between the Historic District and comparison neighborhood through consultation with local planners and historic preservation officers. This compatibility was evaluated for each Historic District and comparison neighborhood by comparing the basic housing characteristics of the sold properties in each neighborhood. In three of the four case studies analyzed here the sold properties in the Historic District and comparison neighborhood were similar with respect to all the identified variables, which typically included year built, lot size, living area, number of bedrooms, and number of baths, among others. The one exception was the First Railroad Addition in Ellensburg. The characteristics of the properties sold over the study period in this neighborhood showed a relatively high degree of difference from those in the comparison neighborhood (Shoudy's First Addition), which was more similar to the city of Ellensburg, as a whole (Table 5-5). This concern was also noted by the Ellensburg city planner who we asked to identify a suitable comparison district (Eyerly, 2005).

These comparisons helped identify other housing characteristics that might be influencing property values. This study is, however, an empirical review over time and does not develop models that explain all the potential influences on property values in the Historic District and comparison neighborhoods. In addition to the housing characteristics discussed for each case study, there may be other location-related factors that affect relative sales price by influencing the values of individual or groups of properties that have sold within the Historic Districts and comparison neighborhoods. These location variables may include distance from downtown, local school district, water or mountain views, traffic congestion, and so on. A more complex method of analysis, hedonic regression analysis, may be employed to assess the relative influence of property and location characteristics on sale prices over time. Hedonic analysis controls for other variables that may influence sale values and has been used to evaluate the potential effects of electric transmission lines and other variables on property values. Hedonic regression models are used to identify the amount of variance in sales values that is explained by particular property characteristics and location variables, along with the variable of interest, which, in this case, would be historic designation. These models require an accurate specification of the variables that are likely to affect property values in the study area, as well as a sufficient number of observations to support the analysis, with low numbers of observations tending to result in models with low explanatory power. Future research in Washington State should consider expanding the variables considered in this analysis and developing a series of hedonic regression models to measure the influence of historic designation in conjunction with other factors.

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Appendix A
Input-Output Modeling Approach[2]

The impact estimates developed in this study stem from the utilization of an "input-output model." Models of this type are based on static, cross-sectional measures of trade relationships in regional or national economies. They document how industries procure their inputs and where they sell their outputs. Pioneered by Wassily Leontief, who won the Nobel Prize in Economic Science for his insights into the development of input-output models at the national level, these models have become "workhorses" in regional economic impact analysis in recent decades.

Washington State is fortunate to have a rich legacy of research developing input-output models. Led by Professor Emeritus Philip J. Bourque of the University of Washington Graduate School of Business, along with the late Charles M. Tiebout, input-output models have been estimated in Washington State for the years 1963, 1967, 1972, 1982, 1987 and 1997. No other state in the United States has this rich historical legacy of survey-based or quasi-survey based regional input-output models.

Input-output models decompose regional economies into "sectors"--groups of industries with a common industrial structure. The heart of these models are "Leontief production functions," which are distributions of the cost of producing the output of sectors. Leontief augmented the national accounts schema developed by Kuznets (also a Nobel laureate in economics) to take into account the significant levels of intermediate transactions that occur in economic systems in the process of transforming raw materials and services into "finished products," or "final products." Sales distributions among intermediate and final sources of demand are used as the accounting bases for the development the core innovation of Leontief: that these relationships can be used to link levels of final demand to total industrial output by way of a system of "multipliers" that are linked through the channels of purchase in every industry to the production of output for final demand.

This system of relationships is based on accounting identities for sales. Mathematically, this system of relationships may be represented as follows. For each industry we have two balance equations:

(1) $X_i = x_{i,1} + x_{i,2} + ... + x_{i,n} + Y_i$

(2) $X_j = x_{1,j} + x_{2,j} + ...+ x_{n,j} + V_j + M_j$

where: X_i =total sales in industry i,
X_j = total purchases in industry j
$x_{i,j}$ = intermediate sales from industry i to industry j
Y_i = final sales in industry i
M_j = imports to sector j
V_j = value added in sector j.

For any given sector, there is equality in total sales and total purchases:

(3) $X_i = X_j$ when i=j.

[2] This appendix is largely drawn from William Beyers, Derik Andreoli, and Stephen Hyde, The Economic Impact of Technology Based Industry in Washington State 2003, prepared for the Technology Alliance, Seattle, in 2004.

This system of transactions is generalized through the articulation of Leontief production functions, which are constructed around the columns of the regional input-output model. They are defined in the following manner.

Let us define a regional purchase coefficient:

$$r_{i,j} = x_{i,j}/X_j.$$

Rearranging,

$$x_{i,j} = r_{i,j}X_j$$

Substituting this relationship into equation (1) we have:

(4) $$X_i = r_{i,1}X_1 + r_{i,2}X_2 + ... + r_{i,n}X_n + Y_i$$

Each sector in the regional model has this equation structure, and since the values of X_i equal X_j when i=j, it is possible to set this system of equations into matrix notation as:

(5) $$X = RX + Y$$

This system of equations can then be manipulated to derive a relationship between final demand (Y) and total output (X). The resulting formulation is:

(6) $$X = (I-R)^{-1}Y$$

where the $(I-R)^{-1}$ matrix captures the direct and indirect impacts of linkages in the input-output model system. The input-output model utilized in the modeling for this research project was developed by a committee led by Dr. Richard Conway, and published in 2004 by the Washington State Office of Financial Management. This model was released using both SIC and NAICS definitions. In the present study the NAICS version of the model has been utilized.

Effects to King, Pierce, and Spokane counties are estimated using modified versions of the state model scaled to the King, Pierce, and Spokane county economies. The "location quotient" approach to coefficient adjustment was used to estimate these sub-state economic impacts, whereby rows in the state direct requirements coefficients have been multiplied by location quotients. Location quotients define the relative importance of industries in a region to a benchmark region, in this case King, Pierce, and Spokane counties each compared to Washington State. In cases where location quotients are less than 1, it is presumed that the region cannot supply output to industries at a level equal to that of the benchmark region, and as such direct requirements coefficients are modified by multiplying the row coefficients in the benchmark region by the location quotient values (less than 1) to produce estimated direct coefficients for the region. We used employment data for Washington State and King, Pierce, and Spokane counties to develop the sub-state models used in this impact study.

A major issue that surrounds the estimation of the $(I-R)^{-1}$ matrix is the level of "closure" with regard to regional final demand components, which are personal consumption expenditures, state and local government outlays, and capital investment. It is common practice to include the impacts of labor income and the disposition of this income in the form of personal consumption expenditures in the multiplier structure of regional input-output models. The additional

leveraging impact of these outlays are referred to as “induced” effects in the literature on models of this type. It is less common to include state and local government expenditures in the induced effects impacts, but it can be argued that demands on state and local governments are proportional to the general level of business activity and related demographics. In contrast, investment is classically argued to be responsive to more exogenous forces, and is not a simple function of local business volume. In the model that we developed for this impact study we have included personal consumption expenditures and state and local government expenditures as a part of the induced-demand linkages system. We have considered Washington personal consumption expenditures to be a function of labor income, and state and local expenditures to be a function of other value added. The resultant Leontief inverse matrix is displayed in this appendix.

Table A-1. Washington State Direct, Indirect, and Induced Requirements Matrix

	1	2	3	4	5	6	7	8	9	10
1 Crop production	1.04740	0.28404	0.01693	0.02992	0.00960	0.00709	0.00444	0.01053	0.01178	0.11406
2 Animal production	0.01136	1.11118	0.00820	0.01414	0.00531	0.00403	0.00263	0.00622	0.00560	0.12433
3 Forestry and fishing	0.00318	0.00396	1.02159	0.10077	0.00211	0.00157	0.00105	0.00249	0.00441	0.01063
4 Logging	0.00390	0.00283	0.00426	1.06878	0.00257	0.00166	0.00100	0.00250	0.00919	0.00329
5 Mining	0.00354	0.00288	0.00197	0.00242	1.01882	0.03433	0.00093	0.00288	0.00966	0.00448
6 Electric utilities	0.03565	0.04173	0.02839	0.03674	0.03549	1.28399	0.01351	0.06203	0.03092	0.03142
7 Gas utilities	0.00833	0.01140	0.00865	0.01207	0.01364	0.00798	1.19812	0.00965	0.01002	0.01601
8 Other utilities	0.00813	0.00862	0.00441	0.00576	0.00520	0.00396	0.00227	1.06112	0.00514	0.00533
9 Construction	0.07710	0.07518	0.08036	0.06645	0.07412	0.07080	0.04016	0.08442	1.06001	0.05686
10 Food manufacturing	0.02708	0.11547	0.03907	0.03494	0.02796	0.02090	0.01327	0.03146	0.02827	1.07107
11 Textiles and apparel	0.00211	0.00219	0.00442	0.00317	0.00172	0.00131	0.00080	0.00189	0.00189	0.00205
12 Wood product manufacturing	0.01189	0.00841	0.01276	0.21674	0.00767	0.00499	0.00301	0.00684	0.02897	0.00994
13 Paper manufacturing	0.00661	0.00949	0.00530	0.00892	0.00611	0.00606	0.00275	0.00620	0.00627	0.02303
14 Printing	0.00642	0.00707	0.00701	0.00737	0.00623	0.00589	0.00311	0.00930	0.00638	0.00734
15 Petroleum and products	0.03815	0.03523	0.03499	0.02838	0.02517	0.01478	0.01040	0.02162	0.02385	0.02169
16 Chemical manufacturing	0.01124	0.00815	0.00441	0.00358	0.00250	0.00166	0.00054	0.00139	0.00189	0.00379
17 Nonmetallic mineral products manufacturing	0.00472	0.00633	0.00497	0.00613	0.01570	0.00432	0.00233	0.00509	0.04400	0.02381
18 Primary metals	0.00124	0.00136	0.00380	0.00259	0.00195	0.00159	0.00055	0.00120	0.00970	0.00176
19 Fabricated metals	0.00415	0.00539	0.00646	0.01038	0.00517	0.00365	0.00147	0.00329	0.01483	0.01594
20 Machinery manufacturing	0.00133	0.00167	0.00156	0.00282	0.00167	0.00201	0.00049	0.00117	0.00232	0.00246
21 Computer and electronic product	0.00245	0.00287	0.00497	0.00571	0.00292	0.00354	0.00108	0.00300	0.00466	0.00281
22 Electrical equipment	0.00028	0.00032	0.00085	0.00074	0.00034	0.00040	0.00011	0.00027	0.00076	0.00031
23 Aircraft and parts	0.00017	0.00020	0.00025	0.00035	0.00018	0.00017	0.00008	0.00015	0.00028	0.00029
24 Ship and boat building	0.00063	0.00080	0.00595	0.00110	0.00048	0.00035	0.00023	0.00052	0.00049	0.00050
25 Other transportation equipment	0.00085	0.00083	0.00059	0.00106	0.00051	0.00041	0.00022	0.00050	0.00074	0.00075
26 Furniture	0.00288	0.00284	0.00318	0.02050	0.00262	0.00195	0.00120	0.00277	0.00490	0.00249
27 Other manufacturing	0.00545	0.00666	0.00852	0.01185	0.00502	0.00420	0.00217	0.00486	0.00945	0.01061
28 Wholesale trade	0.06282	0.06965	0.05192	0.06861	0.03830	0.03536	0.01628	0.03985	0.05168	0.07246
29 Retail trade	0.14711	0.17107	0.16114	0.16243	0.15419	0.11523	0.07250	0.17141	0.17686	0.12804
30 Transportation and warehousing	0.04271	0.05769	0.04718	0.09466	0.04177	0.03098	0.03592	0.04110	0.04299	0.04930

Table A-1. Washington State Direct, Indirect, and Induced Requirements Matrix (continued)

	1	2	3	4	5	6	7	8	9	10
31 Information	0.05180	0.05751	0.05173	0.05649	0.05241	0.04902	0.02517	0.06863	0.05282	0.04728
32 Finance and insurance	0.06826	0.07683	0.07422	0.08152	0.07494	0.06971	0.03320	0.08678	0.07332	0.05983
33 Real estate	0.14099	0.12941	0.08090	0.09473	0.14629	0.07764	0.03876	0.09777	0.09001	0.08156
34 Professional services and management	0.13387	0.15646	0.14390	0.20062	0.14403	0.14053	0.12506	0.30196	0.13642	0.16222
35 Educational services	0.01013	0.01133	0.01094	0.01168	0.01129	0.00855	0.00498	0.01261	0.01319	0.00881
36 Health services	0.12799	0.14686	0.13878	0.14058	0.14192	0.10332	0.06449	0.15437	0.14176	0.10746
37 Arts, recreation, and accommodation	0.01923	0.02154	0.02035	0.02232	0.02144	0.01666	0.00922	0.02419	0.02375	0.01716
38 Food serrvices and drinking places	0.04018	0.04686	0.04442	0.04557	0.04405	0.03444	0.02078	0.05239	0.04560	0.03582
39 Other services	0.05172	0.05996	0.06059	0.09565	0.05575	0.04248	0.02391	0.06112	0.06371	0.04853
40 Labor income	0.82032	0.96577	0.93165	0.91844	0.91646	0.67586	0.43412	1.02581	0.90768	0.70464
41 Other Value Added	0.69628	0.70320	0.80061	0.59380	0.64373	0.70625	0.48316	0.78267	0.50828	0.53966

Table A-1. Washington State Direct, Indirect, and Induced Requirements Matrix (continued)

	11	12	13	14	15	16	17	18	19	20
1 Crop production	0.00888	0.03026	0.01326	0.00970	0.00168	0.00873	0.00907	0.00577	0.00723	0.00801
2 Animal production	0.01036	0.01429	0.00704	0.00575	0.00089	0.00491	0.00529	0.00323	0.00409	0.00453
3 Forestry and fishing	0.00163	0.10250	0.02218	0.00301	0.00041	0.00243	0.00239	0.00130	0.00185	0.00173
4 Logging	0.00173	0.06997	0.05986	0.00469	0.00055	0.00350	0.00303	0.00148	0.00207	0.00182
5 Mining	0.00148	0.00240	0.00327	0.00184	0.00095	0.00481	0.05688	0.00751	0.00185	0.00160
6 Electric utilities	0.02517	0.03678	0.05619	0.03065	0.01027	0.04740	0.06346	0.13013	0.02789	0.02624
7 Gas utilities	0.01145	0.01212	0.04931	0.01201	0.01801	0.04314	0.03740	0.01717	0.00868	0.00917
8 Other utilities	0.00357	0.00561	0.00751	0.00505	0.00101	0.00825	0.00605	0.00269	0.00380	0.00425
9 Construction	0.04808	0.06579	0.06279	0.05736	0.01820	0.06435	0.07088	0.03848	0.04641	0.04655
10 Food manufacturing	0.02234	0.03503	0.02899	0.02735	0.00457	0.02513	0.02723	0.01666	0.02113	0.02360
11 Textiles and apparel	1.00473	0.00319	0.00265	0.00210	0.00031	0.00294	0.00175	0.00149	0.00141	0.00160
12 Wood product manufacturing	0.00523	1.22050	0.19031	0.01454	0.00165	0.01083	0.00916	0.00446	0.00637	0.00557
13 Paper manufacturing	0.00752	0.00903	1.07402	0.05086	0.00169	0.01657	0.01586	0.00466	0.00683	0.00682
14 Printing	0.00564	0.00746	0.00665	1.01077	0.00116	0.00768	0.00631	0.00410	0.00511	0.00625
15 Petroleum and products	0.01660	0.02769	0.03519	0.01839	1.01636	0.02308	0.04847	0.01814	0.01475	0.01563
16 Chemical manufacturing	0.00120	0.00361	0.01492	0.00331	0.00043	1.02957	0.00235	0.00302	0.00279	0.00249
17 Nonmetallic mineral products manufacturing	0.00319	0.00605	0.00530	0.00390	0.00309	0.00634	1.04674	0.00254	0.00396	0.00335
18 Primary metals	0.00101	0.00260	0.00144	0.00125	0.00055	0.00175	0.00254	1.12295	0.03380	0.01403
19 Fabricated metals	0.00244	0.01047	0.00634	0.00502	0.00123	0.00808	0.00510	0.00567	1.01262	0.01370
20 Machinery manufacturing	0.00103	0.00283	0.00200	0.00140	0.00035	0.00203	0.00184	0.00165	0.00469	1.00918
21 Computer and electronic product	0.00203	0.00574	0.00370	0.00295	0.00083	0.00505	0.00344	0.00361	0.00672	0.01367
22 Electrical equipment	0.00021	0.00075	0.00039	0.00030	0.00011	0.00051	0.00029	0.00101	0.00076	0.00159
23 Aircraft and parts	0.00015	0.00036	0.00026	0.00028	0.00005	0.00111	0.00023	0.00018	0.00147	0.00071
24 Ship and boat building	0.00040	0.00108	0.00057	0.00046	0.00008	0.00041	0.00046	0.00029	0.00037	0.00045
25 Other transportation equipment	0.00046	0.00106	0.00070	0.00056	0.00012	0.00065	0.00067	0.00045	0.00097	0.00148
26 Furniture	0.00195	0.02082	0.01806	0.00320	0.00049	0.00264	0.00269	0.00156	0.00205	0.00218
27 Other manufacturing	0.00397	0.01197	0.01288	0.01637	0.00166	0.00568	0.00794	0.00467	0.00488	0.00623
28 Wholesale trade	0.04210	0.06917	0.07527	0.05626	0.01464	0.08373	0.05592	0.05365	0.05378	0.06570
29 Retail trade	0.12110	0.16277	0.14773	0.15081	0.02595	0.13572	0.14383	0.09467	0.11909	0.13314

Table A-1. Washington State Direct, Indirect, and Induced Requirements Matrix (continued)

	11	12	13	14	15	16	17	18	19	20
30 Transportation and warehousing	0.03771	0.09503	0.07178	0.04409	0.01297	0.05021	0.06939	0.04749	0.03253	0.03618
31 Information	0.04966	0.05669	0.05064	0.06722	0.00919	0.05239	0.05439	0.03242	0.04245	0.04967
32 Finance and insurance	0.05844	0.08172	0.07124	0.07194	0.01160	0.06480	0.07348	0.04384	0.05468	0.06072
33 Real estate	0.07167	0.09442	0.08234	0.11567	0.02319	0.07832	0.08749	0.05384	0.06636	0.07399
34 Professional services and management	0.13517	0.20115	0.19932	0.21025	0.03045	0.17390	0.19801	0.10059	0.11569	0.13254
35 Educational services	0.00884	0.01169	0.01021	0.01164	0.00172	0.01114	0.01054	0.00653	0.00861	0.00949
36 Health services	0.10696	0.14079	0.12505	0.13503	0.02226	0.11755	0.12638	0.07972	0.10297	0.11428
37 Arts, recreation, and accommodation	0.01668	0.02234	0.01976	0.02220	0.00351	0.02078	0.02019	0.01291	0.01628	0.01798
38 Food services and drinking places	0.03474	0.04566	0.04083	0.04519	0.00707	0.04121	0.04249	0.02698	0.03388	0.03850
39 Other services	0.04275	0.09635	0.05819	0.05724	0.00875	0.05418	0.05152	0.03237	0.04181	0.04616
40 Labor income	0.70690	0.92029	0.82452	0.87095	0.14325	0.74580	0.82859	0.52382	0.67944	0.75587
41 Other Value Added	0.40787	0.59270	0.59733	0.47570	0.19075	0.49690	0.57385	0.34841	0.42525	0.40963

Table A-1. Washington State Direct, Indirect, and Induced Requirements Matrix (continued)

	21	22	23	24	25	26	27	28	29	30
1 Crop production	0.00785	0.00741	0.00440	0.00908	0.00620	0.01892	0.00912	0.01142	0.01047	0.00997
2 Animal production	0.00445	0.00418	0.00258	0.00527	0.00346	0.00949	0.00559	0.00734	0.00590	0.00621
3 Forestry and fishing	0.00172	0.00175	0.00089	0.00258	0.00157	0.04552	0.00657	0.00268	0.00235	0.00242
4 Logging	0.00181	0.00201	0.00077	0.00389	0.00191	0.03612	0.01201	0.00275	0.00240	0.00225
5 Mining	0.00164	0.00186	0.00083	0.00175	0.00125	0.00258	0.00355	0.00210	0.00241	0.00209
6 Electric utilities	0.02953	0.03536	0.01535	0.03038	0.02002	0.03652	0.02867	0.03260	0.04423	0.02799
7 Gas utilities	0.01088	0.01259	0.00463	0.00810	0.00691	0.01868	0.01283	0.01095	0.01072	0.01189
8 Other utilities	0.00400	0.00351	0.00225	0.00484	0.00379	0.00544	0.00413	0.00528	0.00672	0.00468
9 Construction	0.04480	0.04849	0.02349	0.05947	0.04421	0.06682	0.05196	0.07609	0.08415	0.05980
10 Food manufacturing	0.02315	0.02151	0.01366	0.02784	0.01783	0.03217	0.02515	0.03036	0.03055	0.02906
11 Textiles and apparel	0.00205	0.00151	0.00087	0.00218	0.00117	0.00394	0.00272	0.00196	0.00196	0.00192
12 Wood product manufacturing	0.00553	0.00618	0.00230	0.01210	0.00592	0.11390	0.03795	0.00835	0.00707	0.00659
13 Paper manufacturing	0.00754	0.00777	0.00226	0.00448	0.00611	0.01191	0.01341	0.01592	0.01014	0.00588
14 Printing	0.00598	0.00561	0.00294	0.00591	0.00526	0.00815	0.00662	0.01754	0.01056	0.00671
15 Petroleum and products	0.01537	0.01442	0.00843	0.01765	0.01295	0.02395	0.01823	0.02106	0.02130	0.07012
16 Chemical manufacturing	0.00257	0.00199	0.00067	0.00165	0.00231	0.00352	0.00661	0.00179	0.00147	0.00130
17 Nonmetallic mineral products manufacturing	0.00352	0.00325	0.00161	0.00393	0.00283	0.00689	0.00537	0.00504	0.00512	0.00452
18 Primary metals	0.00653	0.00739	0.00418	0.00306	0.00344	0.00240	0.00393	0.00121	0.00118	0.00175
19 Fabricated metals	0.01588	0.02085	0.00426	0.00508	0.00737	0.00899	0.00469	0.00366	0.00349	0.00410
20 Machinery manufacturing	0.00516	0.00405	0.00178	0.00178	0.00186	0.00292	0.00162	0.00128	0.00122	0.00187
21 Computer and electronic product	1.01635	0.01648	0.00686	0.00325	0.00481	0.00683	0.00424	0.00259	0.00247	0.00321
22 Electrical equipment	0.00223	1.00256	0.00039	0.00040	0.00047	0.00059	0.00043	0.00027	0.00026	0.00031
23 Aircraft and parts	0.00118	0.00106	1.02022	0.00079	0.00140	0.00043	0.00035	0.00017	0.00015	0.00085
24 Ship and boat building	0.00041	0.00037	0.00023	1.00094	0.00031	0.00075	0.00043	0.00052	0.00050	0.00116
25 Other transportation equipment	0.00090	0.00072	0.00029	0.00075	1.00345	0.00087	0.00057	0.00053	0.00055	0.00118
26 Furniture	0.00260	0.00306	0.00121	0.00557	0.00469	1.01411	0.00499	0.00287	0.00282	0.00236
27 Other manufacturing	0.00655	0.00498	0.00463	0.00406	0.00369	0.02047	1.01335	0.00577	0.00534	0.00509
28 Wholesale trade	0.06118	0.06094	0.02041	0.04280	0.05998	0.06590	0.05311	1.04751	0.03953	0.04103
29 Retail trade	0.13012	0.12135	0.07568	0.15473	0.10200	0.16504	0.13067	0.16100	1.16396	0.14392
30 Transportation and warehousing	0.03583	0.03342	0.01830	0.03304	0.02566	0.06902	0.04282	0.04172	0.04448	1.08194

Table A-1. Washington State Direct, Indirect, and Induced Requirements Matrix (continued)

	21	22	23	24	25	26	27	28	29	30
31 Information	0.04874	0.04575	0.02476	0.04735	0.03713	0.05985	0.04744	0.07967	0.07299	0.05544
32 Finance and insurance	0.06168	0.05855	0.03484	0.06478	0.04470	0.08408	0.05992	0.08692	0.09341	0.07625
33 Real estate	0.07451	0.07059	0.04100	0.08146	0.05292	0.10134	0.07548	0.10818	0.14987	0.09150
34 Professional services and management	0.13382	0.13417	0.06464	0.11958	0.09916	0.20000	0.12585	0.18462	0.20733	0.15683
35 Educational services	0.00944	0.00894	0.00536	0.00969	0.00703	0.01240	0.00882	0.01273	0.01302	0.01141
36 Health services	0.11267	0.10474	0.06735	0.13451	0.08535	0.14453	0.11414	0.14534	0.15127	0.12918
37 Arts, recreation, and accommodation	0.01797	0.01703	0.01009	0.01830	0.01334	0.02333	0.01696	0.02378	0.02475	0.02139
38 Food services and drinking places	0.03773	0.03490	0.02231	0.04432	0.02773	0.04903	0.03799	0.05509	0.05837	0.04559
39 Other services	0.04585	0.04357	0.02569	0.04717	0.03445	0.07718	0.04494	0.06151	0.06380	0.05496
40 Labor income	0.74277	0.68611	0.45192	0.92344	0.56606	0.93937	0.75417	0.93950	0.96213	0.82872
41 Other Value Added	0.38265	0.44298	0.15050	0.49993	0.45730	0.58953	0.49552	0.77845	0.73107	0.55677

Table A-1. Washington State Direct, Indirect, and Induced Requirements Matrix (continued)

	31	32	33	34	35	36	37	38	39	40	41
1 Crop production	0.00998	0.01033	0.00919	0.01349	0.01346	0.01264	0.01210	0.02315	0.01388	0.01536	0.00422
2 Animal production	0.00572	0.00593	0.00475	0.00841	0.00733	0.00730	0.00672	0.01796	0.00762	0.00917	0.00237
3 Forestry and fishing	0.00208	0.00237	0.00215	0.00521	0.00277	0.00246	0.00253	0.00561	0.00364	0.00273	0.00092
4 Logging	0.00216	0.00239	0.00275	0.00440	0.00274	0.00223	0.00251	0.00222	0.00291	0.00211	0.00114
5 Mining	0.00192	0.00255	0.00295	0.00272	0.00256	0.00239	0.00270	0.00247	0.00263	0.00242	0.00121
6 Electric utilities	0.03057	0.04434	0.04119	0.03999	0.04420	0.04023	0.04706	0.03936	0.04322	0.04379	0.01183
7 Gas utilities	0.00914	0.01221	0.00866	0.01506	0.01681	0.01510	0.01369	0.01296	0.01564	0.01285	0.00374
8 Other utilities	0.00510	0.00705	0.01379	0.00936	0.00771	0.00710	0.00930	0.00562	0.00775	0.00700	0.00193
9 Construction	0.07124	0.10063	0.16211	0.07242	0.08398	0.08004	0.08698	0.07173	0.08667	0.06906	0.08391
10 Food manufacturing	0.03009	0.03010	0.02380	0.03383	0.03690	0.03814	0.03449	0.12391	0.03610	0.04974	0.01271
11 Textiles and apparel	0.00184	0.00192	0.00151	0.00210	0.00255	0.00249	0.00235	0.00195	0.00254	0.00290	0.00076
12 Wood product manufacturing	0.00650	0.00715	0.00802	0.01347	0.00815	0.00659	0.00745	0.00655	0.00869	0.00627	0.00347
13 Paper manufacturing	0.01165	0.00765	0.00549	0.00902	0.00845	0.00661	0.00759	0.00901	0.00838	0.00702	0.00209
14 Printing	0.00925	0.02021	0.00698	0.01051	0.01350	0.00961	0.01083	0.00742	0.01282	0.00932	0.00267
15 Petroleum and products	0.01943	0.02049	0.01920	0.02563	0.03062	0.02640	0.02681	0.02046	0.02960	0.02745	0.01107
16 Chemical manufacturing	0.00142	0.00156	0.00122	0.00185	0.00194	0.00256	0.00170	0.00181	0.00205	0.00165	0.00052
17 Nonmetallic mineral products manufacturing	0.00449	0.00570	0.00875	0.00560	0.00586	0.00577	0.00653	0.00693	0.00605	0.00498	0.00402
18 Primary metals	0.00109	0.00133	0.00185	0.00150	0.00136	0.00121	0.00134	0.00114	0.00155	0.00108	0.00089
19 Fabricated metals	0.00373	0.00360	0.00428	0.00416	0.00477	0.00391	0.00420	0.00444	0.00485	0.00366	0.00202
20 Machinery manufacturing	0.00241	0.00144	0.00122	0.00175	0.00257	0.00152	0.00193	0.00150	0.00242	0.00128	0.00049
21 Computer and electronic product	0.00415	0.00295	0.00239	0.00375	0.00491	0.00368	0.00374	0.00273	0.00469	0.00259	0.00093
22 Electrical equipment	0.00045	0.00027	0.00027	0.00041	0.00048	0.00034	0.00037	0.00030	0.00048	0.00028	0.00012
23 Aircraft and parts	0.00020	0.00016	0.00015	0.00028	0.00027	0.00022	0.00022	0.00020	0.00026	0.00016	0.00006
24 Ship and boat building	0.00050	0.00051	0.00041	0.00061	0.00062	0.00060	0.00057	0.00052	0.00082	0.00078	0.00020
25 Other transportation equipment	0.00054	0.00052	0.00046	0.00064	0.00104	0.00068	0.00080	0.00059	0.00097	0.00068	0.00020
26 Furniture	0.00264	0.00278	0.00265	0.00341	0.00326	0.00308	0.00300	0.00265	0.00325	0.00382	0.00136
27 Other manufacturing	0.00577	0.00523	0.00484	0.00691	0.00893	0.00895	0.00720	0.00785	0.00851	0.00596	0.00204
28 Wholesale trade	0.04293	0.03896	0.03278	0.04476	0.05690	0.04936	0.04839	0.06214	0.05502	0.05453	0.01565
29 Retail trade	0.16586	0.16560	0.13226	0.17780	0.20964	0.20161	0.18894	0.16411	0.20045	0.27616	0.07004
30 Transportation and warehousing	0.03640	0.04091	0.03470	0.04626	0.05063	0.04677	0.04702	0.05067	0.04907	0.05134	0.01477

Table A-1. Washington State Direct, Indirect, and Induced Requirements Matrix (continued)

	31	32	33	34	35	36	37	38	39	40	41
31 Information	1.06771	0.11808	0.05859	0.07695	0.08932	0.07361	0.07631	0.05708	0.08484	0.07834	0.02175
32 Finance and insurance	0.07756	1.19088	0.07833	0.09651	0.12772	0.11372	0.11023	0.08606	0.11990	0.11232	0.02971
33 Real estate	0.10985	0.11878	1.16932	0.12089	0.16315	0.15028	0.14220	0.11770	0.15620	0.12629	0.03687
34 Professional services and management	0.15305	0.25104	0.20078	1.21139	0.28259	0.20053	0.23991	0.17915	0.26526	0.17263	0.05309
35 Educational services	0.01294	0.01447	0.01165	0.01354	1.01837	0.01526	0.01540	0.01177	0.01730	0.01667	0.00452
36 Health services	0.15126	0.15439	0.12608	0.16080	0.18595	1.21256	0.16825	0.14533	0.17804	0.24145	0.06138
37 Arts, recreation, and accommodation	0.02375	0.02651	0.02242	0.02546	0.03341	0.02849	1.02839	0.02229	0.03158	0.03071	0.00843
38 Food services and drinking places	0.04990	0.05004	0.04018	0.05536	0.06158	0.05908	0.05574	1.04710	0.05907	0.07752	0.01945
39 Other services	0.06211	0.06940	0.05818	0.06651	0.08831	0.07382	0.07436	0.05935	1.08368	0.07959	0.02184
40 Labor income	0.98545	0.97849	0.75866	1.04991	1.14873	1.18516	1.06626	0.95240	1.10553	1.68549	0.41287
41 Other Value Added	0.70387	0.76357	0.81289	0.63580	0.68408	0.64704	0.72072	0.69131	0.69431	0.59890	1.21396