Department of Commerce
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Affordable Housing Cost Study

Provided as directed by ESHB 2765, Section 1005, (Chapter 328, Laws of 2008) Capital Budget Supplemental Appropriations

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Report to the Legislature
Rogers Weed, Director

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EXECUTIVE SUMMARY

Overview

This report responds to a legislative directive, ESHB 2765, Section 1005, Chapter 328, Laws of 2008, Capital Budget Supplemental Appropriations, to examine the costs associated with projects that receive financing from the Washington State Housing Trust Fund (HTF).

The report:

- Provides an in-depth analysis of the costs associated with affordable housing[1] projects financed through the Housing Trust Fund.
- Explores the main factors that influence the development costs of affordable housing projects throughout the state.
- Analyzes the specific development costs of 65 recent affordable housing projects.
- Recommends cost-reduction strategies and associated performance measures.

The report is based on an analysis of cost and finance data from both quantitative and qualitative sources including data from 65 recent affordable housing projects, input from the Affordable Housing Cost Study Steering Committee, the Affordable Housing Advisory Board, and the Policy Advisory Team, a statewide stakeholder survey, and a literature review.

This study found that there is not just one major issue or factor that can lower costs. Instead, many factors contribute to the costs of developing affordable housing.

As a result, effective cost-reduction strategies must address a variety of factors, recognize the diverse types of affordable housing that are built, and be implemented within a complex system in association with the partners, sponsors and developers, contractors, and other professionals who all contribute to how effectively a project is built.

[1] Affordable housing is housing built using public funding. See Appendix 3.

This study is focused on the development costs associated with affordable rental housing that received financing from the Housing Trust Fund. It is not a life-cycle cost analysis or a complete assessment of all types of affordable housing. Therefore, it should be considered as a partial review of development costs focused on state funded multi-family affordable housing.

> *Report Highlight:* Market Rate Case Study illustrating a development cost comparison between an affordable housing project and a market rate housing project. See Chapter 4 and Appendix 6.

Four Research Questions and Associated Key Findings

1. **What costs are associated with affordable housing development projects financed through the Washington State Housing Trust Fund?**
   - **On average, construction costs account for more than half (62%) of the development costs.** Construction costs are primarily composed of labor and materials and are influenced by market conditions, prevailing wage requirements, project management, and other factors.
   - **Following construction costs, the three other primary cost categories are:** 1) acquisition (15%); 2) project management, which includes architects, developers and other consultants (14%); and 3) costs associated with financing, permitting, impact fees and reserve requirements (9%).

2. **What are the primary market factors, public benefit requirements, policies, and other conditions that contribute to development costs?**
   - **Developer, legal, and permitting fees.** Based on a statistical analysis of project costs, the amount of these fees were not found to be linked to, nor a statistically valid indicator of more expensive projects.
   - **Contingency requirements and other discretionary policies unique to the Housing Trust Fund were estimated to account for approximately 4% of a project's development cost.** The majority of Housing Trust Fund requirements and associated costs are related to federal, state, or local government regulations such as prevailing wage, zoning, green building standards, and local government parking and design standards.

3. **Is there significant variation between the development costs of market-rate projects and projects that receive financing from the Housing Trust Fund?**

- **Construction costs for affordable and market-rate housing are similar**, but affordable housing has more "soft costs" associated with financing and project management. Sponsors are required to maintain certain levels of contingencies and reserves, often hire outside expertise to develop or manage the project, and face more finance and regulatory requirements.
- **On average, affordable housing requires an average of five financing sources and takes twice as long to complete.** Because local, state and federal subsidy sources often require leveraging and are awarded through separate competitive funding processes, it generally takes twice as long to assemble the financing as market-rate projects, and contributes to increased legal and other transaction costs.[2]
- **Sponsors must often take out bridge loans to get interim financing** while they are trying to secure permanent funds. They generally have limited internal capital and higher pre-development costs.

4. What are possible strategies and associated performance measures to reduce the development costs of affordable housing that receives financing from the Housing Trust Fund?

This is a period of declining government funding, including reduced Housing Trust Fund appropriations and a tight capital market which has shrunk levels of federal Low-Income Housing Tax Credit equity, the largest single source of affordable housing subsidy. Stakeholders and design and construction professionals were both cooperative and motivated to generate recommendations regarding cost containment. Cost containment recommendations were developed by reviewing the results of the costs analysis, input from the Affordable Housing Cost Study Steering Committee and the Policy Advisory Team, in-depth interviews with construction and development experts, and a stakeholder survey of more than 200 funders, developers and related professionals.

[2] Please reference Appendix 4, page 73 for further explanation on funding and Capital sources.

Policy Recommendations and Performance Measurement

The Department of Commerce will continue to track costs and trends over time. Comparing cost prior to and following the implementation of these initial strategies, will provide the main measure of the effectiveness and potential cost savings realized.

The following strategies focused primarily on internal policies and procedures can be implemented in the short term, with nominal financial impact:

1. **Place increased emphasis on cost control as a funding decision factor.** Place greater importance and priority on project budget cost submitted as part of the decision making process in awarding state resources. This would help give developers and their teams responsibility and incentives for cost containment.
   Performance Measurement: Develop per unit and per project measures to compare past awards round to current award round with goal of achieving cost reduction. Document efforts by the Housing Trust Fund to publicize cost-reduction and cost-effectiveness strategies. Track and report on costs of projects funded each funding cycle.

2. **Reduce contingency to 5% on new construction and 10% on rehabilitations**. Contingency requirements accounted for an average of 2% of the construction cost and 1% of the overall project cost (Table 8).[3] Currently set at 15% for rehabilitation projects and 10% for new construction, the contingences are required by the Housing Trust Fund to address potential cost overruns the project may experience due to increased construction costs, site challenges, and other unanticipated conditions. Through the process of this study, stakeholders shared that once contingency is budgeted, it is spent and that this could be an area of cost reduction.
   Performance Measurement: Develop per unit and per project measures to compare past awards round to current award round.

3. **Create a design and construction benchmark work group.** Benchmark reasonable land cost, developer consultant cost, construction cost, cost of housing, average cost of unit, taking into account regional and sub-market differences.

[3] Please reference Table 8, Chapter 4, page 27.

Performance Measurement: After group develops and implements benchmarks, collect data to compare past award round to current award. Document differences and reasons if funding projects outside of the established benchmarks.
Performance Measurement: Document, track and analyze specific costs related to type of bidding procurement.

4. **Cost-control project management workshops.** During in-depth interviews, experts identified a number of best practices for project managers to follow in site selection, design, and construction monitoring. For modest cost, the Housing Trust Fund could sponsor two to three workshops for affordable housing development teams led by experienced practitioners.
Performance Measurement: Develop per unit and per project measures to compare past awards round to current award round. Evaluate the effectiveness of sessions through attendee evaluations.

5. **Create a bridge loan option to reduce sponsor acquisition and holding costs.** Although the legislature specifically included language in the current capital budget bill prohibiting this activity, stakeholders strongly urged that the use of bridge loans with Housing Trust Fund dollars should be further explored. There is a time lag between funding award and disbursement, so the Housing Trust Fund has balances which could be used to make prudent bridge loans for site acquisition and construction at reduced interest rates. This would enable sponsors to negotiate more competitive acquisition prices and/or lower the interest costs of holding a site until construction begins and during construction. Although Housing Trust Fund staff can develop internal policies, procedures, and program guidelines, approval of this type of financing mechanism may require legislation. In addition, current appropriation levels are committed, so action by the Legislature would be needed to provide additional resources to make a bridge loan tool available.
Performance Measurement: Track and document acquisition and holding costs prior to developing this tool and then after.

An additional list of longer-term higher-cost recommendations from stakeholders, addressing local jurisdictional policies and procedures can be found in Chapter 5.

CHAPTER 1: STUDY SCOPE AND METHODS

Legislative Proviso

The 2007 Legislature directed the Department of Community, Trade and Economic Development (now the Department of Commerce) to complete an analysis of development costs associated with projects that receive financing from the Washington State Housing Trust Fund, to assess factors that influence costs, and to recommend cost-reduction strategies and associated performance measures.

The Legislative budget proviso reads as follows:
(a) $100,000 of the appropriation from the Washington housing trust account is provided solely for the department to work in consultation with the affordable housing advisory board and representatives from nonprofit housing development organizations and affordable housing advocacy groups in the state to:(i) Identify and analyze all costs associated with affordable housing development projects financed through the Washington Housing Trust Fund under chapters 43.185 and 43.185A RCW, which may include, ESHB 2765.SL p. 10 but are not limited to, costs associated with legal and architectural services, permitting and impact fees, land acquisition, and general construction costs;(ii) Make recommendations for strategies, which must include recommendations for changes to public policy and department procedures, to reduce the costs identified in (a)(i) of this subsection; and(iii) Make recommendations for potential performance measures appropriate for each strategy identified.

(b) In developing recommendations for strategies to reduce costs, the department shall analyze and address the fiscal impact of public policies of the state and of local governments, Washington Housing Trust Fund policies, and general market forces on affordable housing development.

(c) The department shall report its findings and recommendations to the governor and to the appropriate committees of the legislature by September 30, 2009. [4]

[4] ESHB 2765, Chapter 328, Laws of 2008. Capital Budget Supplemental Appropriations. Sec 1005.

Research Questions

The following research questions were developed to address the proviso and establish the scope of the study:

- What are costs associated with affordable housing development projects financed through the Washington State Housing Trust Fund?
- What are the primary market factors, public benefit requirements, policies, and other conditions that contribute to development costs?
- Is there significant variation among the development costs of projects financed by the Housing Trust Fund? Is there significant variation between the development costs of market-rate projects and projects that receive financing from the Housing Trust Fund?
- What are possible strategies and associated performance measures to reduce the development cost of affordable housing that receives financing from the Housing Trust Fund?

Methodology

The methodology was designed to ensure the study used diverse data sources, incorporated the ideas and experiences of affordable housing stakeholders and was completed on time and on budget. The core research components included:

- An overview of the Housing Trust Fund's mission and role in providing affordable housing;
- An assessment of market conditions, public benefit polices, and discretionary practices that influence affordable housing development costs;
- A quantitative analysis that examined development costs of 65 recently completed affordable housing projects that received funding from the Housing Trust Fund;
- A case study comparing the development costs of a market-rate project to an affordable housing project;
- Identification of strategies for reducing development costs through consultations with stakeholders and a review of the analytical findings of the cost study.

Data Sources

Data sources that helped complete the research components include the following.

- **Literature review**. Recent affordable housing cost studies and construction and finance trade journals were reviewed. This research helped shape the study's scope and provide data on development, finance, and market conditions.
- **Cost study steering committee.** Thirteen professionals with extensive experience in designing, building, financing, or sponsoring affordable housing formed the Cost Study Steering Committee. The committee helped shape the scope of work, reviewed preliminary findings, and drafted cost-reduction strategies. Members also provided cost data and participated in interviews.
- **Examine development costs of recent projects**. Development cost data for 65 recent affordable housing projects was gathered and analyzed. The projects represented all multi-family projects the Housing Trust Fund helped finance within the past year and that were 90% occupied as of February 2009 when data collection was initiated.
- **Case study.** A case study was developed to compare the development costs of an affordable housing project with a similar market-rate project.
- **Public presentations and discussions.** The study and associated findings were discussed at public presentations in Everett, Olympia, Seattle, Spokane, and Tacoma. The draft recommendations were presented and refined by the Affordable Housing Advisory Board and the Policy Advisory Team at their July 2009 meeting.
- **Personal interviews**. Thirteen professionals who build, design, finance, or sponsor affordable or market-rate housing in Washington State were individually interviewed. The results were compiled into themes and shared with the Cost Study Steering Committee to help develop recommendations for reducing development costs.
- **Survey.** A statewide survey was conducted and generated 213 responses from affordable housing sponsors, developers, elected officials, advocates, and other stakeholders.

Limiting Conditions

This study is focused on the development costs associated with affordable rental housing that received financing from the Housing Trust Fund. It is not a life-cycle cost analysis or a complete assessment of all types of affordable housing. Therefore, it should be considered as a partial review of development costs focused on state funded multi-family

affordable housing. Multi-family projects represent 85% of the Housing Trust Fund portfolio and the Cost Study Steering Committee suggested that they should be the primary focus of the analysis.

The study examines market conditions, public policies, and other factors that influence development costs. However, in some cases it was not possible to ascribe specific policies to specific development costs. Many of the cost factors are interrelated and would require a larger data set and additional project information to fully assess.

The data gathered for the 65 projects had the following attributes:

- The projects were all completed within the past year and represent the conditions and associated costs during this recent period.
- The cost figures used to define development costs were taken from the project's final development budget data. This data is self reported by project sponsors to the Housing Trust Fund.
- In some cases final project data was not available (e.g., unit size) and data from the initial application was used. However, all cost data was taken from the project's Final Development Budget as submitted to the Housing Trust Fund once the project was scheduled to be completed.
- The size of various tenant amenities such as child care centers or counseling areas is often not reported separately but instead is considered as part of the overall square footage and cost per unit.
- No specific differential, data collection or analysis has been done specifically on the impact of transactions costs related to Low Income Housing Tax Credit projects.

CHAPTER 2: HOUSING TRUST FUND OVERVIEW

Legislative Findings (RCW 43.185, 43.185A)

The legislature finds that current economic conditions, federal housing policies and declining resources at the federal, state, and local level adversely affect the ability of low and very low-income persons to obtain safe, decent, and affordable housing.

The legislature further finds that members of over one hundred twenty thousand households live in housing units which are overcrowded, lack plumbing, are otherwise threatening to health and safety, and have rents and utility payments which exceed thirty percent of their income.

Program Purpose

The Housing Trust Fund was created in 1986 and charged with supporting community efforts to ensure the availability of safe, decent, and affordable housing by providing loans and grants for construction, acquisition, and rehabilitation of low-income, multi-family and single-family housing.

The Housing Trust Fund is directed to give preference to affordable housing projects based on the extent to which the sponsors:

- Leverage other funds;
- Secure a commitment from programs to provide habilitation and support services for projects that are intended to house special needs populations;
- Generate local government project contributions in the form of infrastructure improvements and others items;
- Encourage ownership, management, and other project-related responsibility opportunities;
- Demonstrate a strong probability of serving the original target group or income level for a period of at least 25 years;
- Have the demonstrated ability, stability and resources to implement the project;
- Demonstrate serving the greatest need;
- Provide housing for persons and families with the lowest incomes;
- Serve special needs populations which are under statutory mandate to develop community housing;

- Ensure access to employment centers;
- Provide employment and training opportunities for disadvantaged youth; and
- Provide proximity to available public transportation services.

Eligible organizations include:

- Cities and counties;
- Local housing authorities;
- Regional support networks;
- Nonprofit community or neighborhood-based organizations;
- Federally recognized Tribes; and
- Regional or statewide nonprofit housing assistance organizations. Nonprofits must be registered with the Secretary of State and provide documentation from the IRS designating them as tax-exempt.

Eligible project types include:

- Assisted living facilities;
- Boarding homes;
- Community land trusts;
- Emergency shelters, including shelters for survivors of domestic violence;
- Group homes;
- Down payment assistance for low-income homebuyers;
- Multi-family rental housing;
- Seasonal and year-round housing for farmworkers; and
- Transitional housing.

Project elements can include the following:

- Housing units can only serve people with incomes up to 80% or below the local area's median income.
- New construction, rehabilitation, or acquisition of low- and very low-income housing units;
- Acquisition of real property;
- Acquisition to preserve low-income or very low-income housing;
- Down payment or closing cost assistance for eligible low-income buyers; and
- Site improvements (on-site only).

Past Investments and Finance Partners

By statute, 30% of the funding is targeted to projects in rural areas of the state of Washington, provided there are enough applications and viable projects in the pipeline.[5] It is an internal policy that the remaining 70% of Housing Trust Funds are split, with approximately 35% going to Seattle/King County and 35% going to other urban areas.

The distribution of funds is also guided by legislative provisos (set asides) that direct the Housing Trust Fund to appropriate funds to specific populations or geographic areas. The set-aside amount has ranged from $19.8 million (1999-2001 biennium) to $78.5 million (2007-2009).

Since 1989, the Housing Trust Fund has committed dollars to 1,576 projects comprised of 39,000 homes and apartments, representing a state investment of more than $600 million.

Financing Partners

Historically, for every dollar of Housing Trust Fund investment, four dollars of other private and public funding are leveraged, and the extent of leveraging has been increasing since 1989.

Based on the cost data collected for this report, $5.80 of public and private funds are leveraged for every $1 of Housing Trust Fund investment. This increase in leveraging will be challenging to maintain because market conditions have changed and the value of federal Low-Income Housing Tax Credits has diminished.

Project financing now commonly includes resources administered through the Washington State Housing Finance Commission, including tax exempt bonds and the federal Low-Income Housing Tax Credits. Although these sources bring complexity due to the fine points of tax law and involvement of private investors, it is largely the increasing use of federal Low-Income Housing Tax Credits and tax-exempt financing by affordable housing developers that has allowed the Housing Trust Fund to increase its

[5] RCW 43.185.050

leverage and thus produce more affordable units than would otherwise have been possible.

Although financing through federal programs has decreased substantially over the years, USDA Rural Development and the Department of Housing and Urban Development are still important funding partners with the Housing Trust Fund.

Private sources include banks, foundations, corporations and individuals. Local governments at the city and county levels provide financial support through land donations, fee waivers, local funds and federal pass-through dollars. Based on the cost analysis presented in Chapter 4 it was determined that, on average, approximately 10% of capital financing was from local funds.[6] For the projects within the City of Seattle, local funds provided an average of 20% of the capital funding. This is likely due to the local housing levy. In certain areas of the state, local housing authorities provide significant support to projects through land donations, provision of Section 8 vouchers, and bond issuances.

[6] See Appendix 4a(4) for table summarizing capital sources.

CHAPTER 3: FACTORS THAT INFLUENCE DEVELOPMENT COSTS

Overview

Three primary factors influence the developments costs associated with affordable housing:

- The development process and associated market conditions
- Public benefit policies and associated legal requirements
- Discretionary policies and practices of the Housing Trust Fund, affordable housing sponsors, developers, architects, financial institutions, and other stakeholders.

This section discusses these factors and their influence on the development costs. It draws from the results of the cost analysis, the stakeholder surveys, and the literature review completed for this report. The results of the cost analysis are further discussed in Chapter 4.

Development Process and Associated Market Conditions

Development Process

The development process refers to how a project is initiated, financed, and built. In a **market-rate process**, the project is often initiated by a developer who sees an opportunity to create a product to satisfy a demand for a certain type of multi-family housing. After analyzing the demand, the developer and investors acquire a site, hire an architect, line up financing, and retain a contractor to develop the project.

During the development process for both market-rate and affordable housing projects, significant risk exposures exist for the developer and other parties. This is because the project must be completed before income and anticipated profit is generated. To compensate for this risk, the market-rate developer, investor, and other capital providers establish a minimum expected rate of return on their investment that must be achieved before they agree to go forward with the project. Thus the market-rate developer applies a market demand approach. The developer's challenge is to manage development costs and the cost of capital to be able to deliver a housing product at a rent level that households are willing to pay.

An affordable housing sponsor takes a somewhat different approach. Although affordable housing developers also identify unmet demand in a community, they face the added challenge of needing to deliver housing at rents typically well below what the market will provide. To meet this challenge, the affordable housing developer must obtain subsidized sources of capital or on-going sources of operating subsidy to supplement what low-income households are able to pay.

The Housing Trust Fund is an example of a capital subsidy used by a majority of affordable housing projects serving households between 0% and 50%[7] of median income in the state. Because capital subsidies are limited, affordable housing developers are not able to produce housing wherever they identify unmet need. In addition, since funding sources are allocated competitively and projects require an average of five funding sources, much of the focus of "feasibility" for an affordable housing developer is on securing the sources of subsidized financing. This process adds time and additional cost to a project.

Market Conditions

During 2005 to 2007, the time period from which the 65 projects in the cost analysis were drawn, the real estate and capital markets were stable and extremely positive for market-rate and affordable development. This environment had an upward effect on the cost of land and construction. Since late 2007, the situation has dramatically changed, with multi-family development facing challenges reminiscent of the collapse of the single-family residential market. These changes have reduced access to equity such as loans and other financing sources and, as a result, development activity has declined.

In many markets, vacancy rates have risen and rents have declined, putting downward pressure on income. In addition to an oversupply of the total housing stock, some of the weakness in the apartment sector can be attributed to continued declines in employment, which has sapped demand. Symptomatic of the difficult times faced by the apartment sector, delinquency and foreclosure rates have both trended upward.

These changes have been particularly acute for affordable housing development. Affordable housing projects face challenges raising capital in relatively stable times and

[7] 50% of AMI in King County is $38,950 for a family of four. See http://www.hud.gov/.

are dependent on multiple sources of funding that are typically locked in to maximum awards. As a result, affordable housing projects have little ability to absorb cost increases or delays. This vulnerability to changing market conditions is especially true when affordable projects are targeted to lower-income residents with fixed incomes, and when they are designed to serve special needs residents. Affordable housing projects targeted to such users often require special design features and may face a prolonged approval and development process. Finally, they are subject to market forces, fees and approval processes that in some cases are not sensitive to, or flexible enough, to accommodate low-cost development of affordable housing.

For example, since 2002, building material costs per square foot have increased approximately 50% for multi-family and office buildings (Table 1). These cost increases are not unique to affordable housing projects. Instead, they reflect general market conditions that impact construction development costs.

Table 1: Estimated Building Material Cost Per Square Foot[8]

Year	Multi-family	Elementary School	Office Low rise	Office High rise
2002	$58.98	$90.08	$63.90	$102.72
2008	$123.49	$142.50	$128.62	$174.30
2002-2008	52%	37%	50%	41%

The cost of some construction materials, such as lumber, is projected to drop by up to 7% during 2009. Other materials are projected to increase. These include steel (5%), concrete (4%) and asphalt (33%).[9] Asphalt prices are directly related to the price of crude oil and could be less if the price of crude oil stabilizes or drops. While reduced lumber prices offer short-term benefits, affordable housing developers are often not in position to take advantage of them because they can't proceed with construction until all necessary capital subsidies are secured, and they generally do not have access to large purchasing contracts and associated economies of scale.

[8] Compiled from The Guide – Building Construction Materials Prices. RS Means. Appendices C and D, years 2002, 2004, and 2008 for Seattle region. Costs are building costs only and do not include the cost of land, parking, landscaping, and other site improvements. Thus, these figures should not be confused with construction costs.

[9] Raday, Jeff. "Construction Costs in 2009." REJournals.Com. Commercial Real Estate News. May 12, 2009.

Credit Markets

Since the average affordable housing sponsor must secure five sources of capital,[10] they must also satisfy the funding requirements and timelines associated with each funding source. Securing these funding sources adds time and requires different reserves or contingency plans, with no clear guarantee the funding will be secured. As with the market-rate side of the industry, affordable housing projects have experienced a significant decline in access to capital, as well as to specialized sources of funding upon which they have become dependent.

This is especially true in the case of the dramatic decline in the market for the federal Low-Income Housing Tax Credits, which have been one of the mainstays of financing affordable projects. The consolidation of banks has tightened the market even more. Fannie Mae and Freddie Mac were the nation's two largest federal Low-Income Housing Tax Credit investors, and they have pulled completely out of the market. Several banks that were large federal Low-Income Housing Tax Credit investors no longer exist.

On the national level, it is estimated that available equity for affordable housing has dropped from $9 billion to $3 billion or less.[11] In Washington, a drop of 33% is expected in the number of multi-family units to be built through year end 2009, many of which were targeted for seniors and low-income citizens.[12] The long-term impact to affordable housing projects in Washington State may not be known until market conditions stabilize.

Public Policy Benefits and Associated Legal Requirements

Through interviews with affordable housing professionals, a stakeholder survey, and a review of recent studies on affordable housing development costs a number of policies and associated legal requirements that contribute to development costs were identified. The following discussion is a brief overview of these public benefit policies and their impact on the development costs of affordable housing.

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[10] Please refer to Chapter 4, page 27.
[11] Pristen, Terry."Shovel-Ready, but Investor-Deprived." New York Times. May 5, 2009.
[12] Grind, Kirsten, "Bond Market Chill May Freeze Out Multi-family Developers in Washington State." Puget Sound Business Journal. October 31, 2008.

Federal Low-Income Housing Tax Credit Financing

The Low-Income Housing Tax Credit (LIHTC) Program, often referred to as "tax credits," reduces the tax liability of property owners and investors who agree to provide low-income housing for up to 40 years. In exchange for these tax benefits, private investors provide equity to low-income housing. On average, federal Low-Income Housing Tax Credits accounted for 48% of the capital required by the 65 affordable housing projects examined for this study. Created in 1986 as part of the federal tax code, the federal Low-Income Housing Tax Credits are secured and then sold in order to create equity. The federal Low-Income Housing Tax Credits are used to offset the income tax liability of the entities that invested in the affordable housing project.[13]

In order to be eligible for federal Low-Income Housing Tax Credits and remain in compliance, the projects must meet various state and federal regulations relating to rent restrictions and tax laws, meet minimum set asides, and meet other associated requirements administered by the Washington State Housing Finance Commission. As a result, along with the finance benefits to projects, the program also generates costs associated with higher legal, development, and financing fees. Of significant difference with this financing source, are the transaction costs related to the transfer of tax credits into equity. No specific differential or data analysis has been done on the development cost impact. In addition, according to development professionals interviewed for this study, because of the way the federal program is structured, once a federal Low-Income Housing Tax Credit allocation and investor has been secured, there are limited incentives to reduce development costs because doing so would mean not using the full appropriated federal Low-Income Housing Tax Credits issued for the project. These conditions both contribute to development costs.

State and Federal Prevailing Wages

Most affordable housing projects that receive public funding are required to pay prevailing wages in accordance with state and federal prevailing wage regulations. This is because they receive federal funds, are of a type and scale that trigger federal prevailing wages, or are managed as public works projects and are subject to Washington's prevailing wages. In addition, some sponsors and developers voluntarily

[13] Washington State Housing Finance Commission. See http://www.wshfc.org.

choose to pay prevailing wages as part of their business practices. State prevailing wages are established for each region of the state by the Department of Labor and Industries.[14]

In cases where federal prevailing wages may also be required, such as when projects use federal funds, state law mandates workers receive the higher of the state and federal prevailing wages. In the past, this often meant paying the state prevailing wage. However, with recent federal wage adjustments, the federal wage for carpenters and laborers is now higher than the state prevailing wage rates in most regions. The federal Department of Labor completed new wages surveys and made adjustments to wages that in some cases had not been adjusted since 1996. In King County for example, carpenters wages and benefits have gone from $16.34 to $43.88 per hour.[15]

As the federal Department of Labor updates other surveys, federal wages are expected to increase in other regions and for other trends. According to affordable housing developers interviewed for this study, the new federal prevailing wage regulations are estimated to add 7% to 13% to *construction* costs. Actual construction cost impacts will vary depending on the project's location, the type of construction, labor needs, and other factors. In terms of long-term costs and benefits, other studies have concluded that prevailing wages can increase state tax revenues, industry income, non-wage benefits for workers, and help to increase the pool of skilled construction workers.[16]

Apprenticeship Program

As required by RCW 39.04.300, for Housing Trust Fund contracts where the total project construction costs are $1 million or more, the contractor is required to ensure that 15% of the total labor hours are completed by workers who are participating in apprenticeship programs through the Washington State Apprenticeship and Training Council (WSATC). The program is intended to help provide wage progression to family wage careers and help expand the pool of skilled construction workers. However, according to affordable housing stakeholders consulted for this study, there is currently an insufficient pool of

[14] State prevailing wages are defined by RCW 39.12 and regulated by the Washington State Department of Labor and Industries. See http://www.lni.wa.gov/TradesLicensing/PrevWage.
[15] This is based on review of the past wages compared to the new wages as summarized by the Department of Labor in General Decision Number: WA080033, WA33 (King County). For a listing of current wage decisions see http://www.wdol.gov/wdol/scafiles/davisbacon/wa.html
[16] Mahalia, Nooshin. Economic Policy Institute. Prevailing Wages and Government Contracting Costs, A Review of the Research. July 2008.

union labor and WSATC approved apprentices trained for multi-family carpentry and construction work at competitive prices. This is especially the case in framing, siding, landscaping, and drywall activities, which are common labor needs for affordable housing projects.

Because some trade activities cannot provide apprentice hours, there is added pressure on other trades to provide higher hours of apprentice labor in order to meet the 15% goal. As a result, for some projects the Apprenticeship program has increased costs associated with efforts to target subcontractors that can meet the apprenticeship requirement. In one recent case, it added $150,000 to a $5 million project (3%) and the developer was still not able to reach the required 15% participation rate.[17] In this particular case the requirement resulted in a selection of subcontractors whose pricing was higher than the lowest responsible bidder.

Evergreen Standard

Effective July 2008, the Evergreen Sustainable Development Standard was applied to all projects that receive funding from the Housing Trust Fund per RCW 39.350.080. In order to administer this requirement, the trust fund worked with stakeholders to define 70 criteria. Of this total, 33 are mandatory and 37 are optional. New construction projects must earn 50 points, rehabilitation projects must earn 40 points, and all projects must meet the applicable mandatory criteria.[18]

Because most of the projects in the cost study sample were developed prior to the standard being required, limited data was available regarding cost impacts. Data from the stakeholder survey indicates the Evergreen standard is not anticipated to be a major cost driver, although the impacts are anticipated to be greater for rehabilitation, rural, and smaller projects. In addition, through stakeholder interviews, the standard was generally regarded as one to be evaluated after it has been applied to more projects and more data is available to assess cost/benefit of the standard. Some limited information is available from a nationwide study of 16 projects, including two in Seattle. The study concluded that sustainable building practices added approximately 5% to the project's development

[17] Results of interview with affordable housing developer who was a member of the Cost Study Steering Committee.
[18] See criteria as posted at http://commerce.wa.gov/site/1027/default.aspx.

costs and based on a life-cycle cost analysis, green affordable housing was more cost-effective in net present value than conventional affordable housing.[19]

Local Government Requirements

As part of public benefit policies associated with land use, environmental quality, infrastructure services, design review, parking, and other related needs, local governments define a series of requirements and standards that impact housing development costs. The cost impacts vary depending on the community, the project, and other local factors. Due to time and data limitations, it was not possible to fully analyze the cost impact of each local government policy.[20] Instead, the costs associated with local government requirements were explored through the stakeholder survey and analysis of development costs of 65 recent projects. The survey results indicate that in the experience of stakeholders, local government regulations often contribute to increased development costs.[21] This stems from a variety of factors, including prolonged and often unpredictable design review, which may require more expensive exterior finishes; limited availability of sites with sufficient infrastructure; and parking requirements. These requirements often vary from region to region and in some cases make it difficult for affordable housing developers to reduce design costs by replicating design or other features used successfully in other communities.

In terms of cost impacts, the analysis of development costs discussed in the following chapter found that on average, permit and impact fees accounted for 1.7% of total project costs in rural areas and 2.2% in urban areas (Chapter 4). In some cases, projects reported a cost savings due to a local government's relaxation of parking or impact fee requirements. However, this data was limited and it was not possible to quantify or summarize how often local governments exercised their option to provide flexibility to affordable housing projects in order to help achieve the community's affordable housing goals.

[19] New Ecology and the Tellus Institute. The Costs and Benefits of Green Affordable Housing. 2005.
[20] For additional discussion of these cost impacts see Affordable Housing Advisory Board. 2009 Affordable Housing Advisory Board Annual Progress Report. February 11, 2009.
[21] See Appendix 7.

Discretionary Policies and Practices

Project Sponsors and Local Governments

In addition to market forces and public benefit policies, affordable housing costs are affected by discretionary policies and practices. Discretionary policies and practices refer to actions encouraged or part of a standard practice but not required by law.

The Housing Trust Fund, affordable housing sponsors, developers, architects, and other professionals each have discretionary policies and practices that influence development costs. Examples include the Housing Trust Fund's application process and evaluation methods, the project and management methods used by affordable housing sponsors and their project team, and the policies and practices of financial institutions that provide loans for affordable housing projects.

Input from the Cost Study Steering Committee and the stakeholder survey indicates the sponsor's discretionary practices influence development cost in many ways. For example, some affordable housing professionals identified a number of practices for reducing costs by: 1) using integrated project management teams to involve contractors early on in the process; 2) minimizing design features that add significant cost but are not vital to the project; 3) ensuring the contracts used by the sponsor have appropriate incentives for cost savings; and 4) defining and documenting the long-term cost savings achieved by incorporating specific durability and maintenance features into affordable housing projects.

The discretionary practices of local governments also influence development costs. Examples include the extent to which local governments exercise their authority to relax various standards (e.g., zoning, parking, impact fees) in order to help achieve their affordable housing goals. Because local governments often negotiate flexibility on a case by case basis, it was not possible to quantify or fully profile how some of their decisions have contributed to reduced development costs. Further research in this area could help to document success stories and outcomes benefitting both the local community and the affordable housing sponsors.

Housing Trust Fund Policies and Practices

Table 2 lists the major cost components for housing projects, identifies the common elements, and isolates the cost implications of requirements generated by, and unique to,

the Housing Trust Fund. As summarized below, it is estimated that these requirements account for approximately 3.8% of the development costs for each project. This estimate does not include costs associated with applying for Housing Trust Funds, the indirect costs associated with potential delays associated with the award cycle, or having to re-apply again to a future cycle.

Table 2: Public Policies Associated with Acquisition and Construction Costs (77%)

Percent of Total Development Cost[22]	Requirement(s) that Impact Development Costs and Are Not Unique to the Housing Trust Fund (HTF)	Requirements Unique to HTF
Acquisition (15%)		
Land purchase Holding costs Liens, Closing Costs	Local government zoning influences cost and availability of land suitable for affordable housing. Length of time for land use approvals	
Construction (62%)		
Basic Construction Contract **(53%)**	1) Federal and state prevailing wage regulations; 2) Apprenticeship requirements; 3) Evergreen Sustainable Development Standard; 4) Affordability requirements (RCW 43.185.070(3)); 5) Local government regulations	
Bond Premium (<1%)	Standard practice if required	
Infrastructure Improvements **(2%)**	Federal, state, and local regulations and policies	
Hazardous abatement, Monitoring **(<1%)**	Federal, state, local regulations	
Construction Contingency **(1%)**	Often part of standard practice but may not always be required	HTF Policy 204.2 (10% for new, 15% for rehabilitation)
Sales Taxes **(3%)**	State law	
Other Testing **(<1%)**	Varies depending on site location and conditions	
Other Construction and Other Costs (2%)		

[22] Figures regarding the percent of total development costs are derived from the analysis of the development costs of 65 recently completed projects as discussed in Chapter 4 of this report.

Table 3: Public Policies Associated with Development Costs (14%)

Percent of Total Development Cost[23]	Requirement(s) that Impact Development Costs and Are Not Unique to the Housing Trust Fund (HTF)	Requirements Unique to HTF
Development (14%)		
Appraisal (<1%)	Standard practice	
Architect/Engineer (4%)	State regulations require certain actions to be completed by a licensed engineer or architect	
Environmental Assessment (<1%)	Standard practice	
Geotech. (Studies <1%)	Standard practice	
Boundary/Topo Survey (<1%)	Standard practice	
Legal Fees (1%)	Generated by the need to meet specific funding requirements	
Developer and or Project Management fees (7%)	Finance structure for affordable projects means that developers earn fee when project is completed, not in the future when project is sold	
Technical Assistance Fee (<1%)		
Consulting (1%)	Depends on site conditions and project needs	
Other Fees (<1%)		

[23] Figures regarding the percent of total development costs were derived from an analysis of the development costs of 65 recently completed projects.

Table 4: Public Policies Associated with Other Development Costs (9%)

Percent of Total Development Cost[24]	Requirement(s) that Impact Development Costs and Are Not Unique to the Housing Trust Fund (HTF)	Requirements Unique to HTF
Other Development (9%)		
Real Estate Excise Tax (<1%)	State law, there are some exemptions for affordable housing per RCW 82.45.010	
Insurance (<1%)	Standard practice. Insurance is required in order for developers to get construction financing. Some carriers do not ensure affordable housing or charge high premiums[25]	
Relocation (<1%)	Often part of standard practice	HTF Policy 203.3
Bidding (<1%)	Standard practice for certain types of projects	
Permits, Fees, Hookups (2%)	Local government service standards and associated fees	
Impact Fees (1%)	Local government service standards and associated fees	
Utilities (<1%)	Local government service standards and associated fees	
Construction Loan Fees (<1%)	Financial institution, lender requirements	
Construction Interest (2%)	Financial institution, lender requirements	
Equity Closing (<1%)		
Bridge Loan Interest (<1%)		
Other Loan Fees (1%)	Financial institution, lender requirements	HTF Policy 201.3
LIHTC Fees (1%)	Federal and state policies associated with the use of federal Low-Income Housing Tax Credits	
LIHTC Donation (<1%)		
Accounting Audit (<1%)	Financial institution, lender requirements	
Marketing Leasing (<1%)	Standard practice	HTF policy 205.1
Carrying Costs at Rent up (<1%)	Standard practice	
Operating Reserves (1%)	Some lenders may require this, depends on the lender and the project, negotiated	HTF policy 205.1
Replacement Reserves (<1%)	Some lenders may require this, depends on the lender and the project, negotiated	HTF policy 205.1
Other Costs (<1%)		

[24] Figures regarding the percent of total development costs were derived from an analysis of the development costs of 65 recently completed projects.

[25] Affordable Housing Advisory Board. 2009 Affordable Housing Advisory Board Annual Progress Report. February 11, 2009.

CHAPTER 4: ANALYSIS OF DEVELOPMENT COSTS

Purpose and Approach

This chapter addresses the element of the legislative proviso directing the Department of Commerce to define and analyze all costs associated with affordable housing development projects financed by the Housing Trust Fund. It summarizes the methodology for the analysis and presents the key findings of the statistical analysis and the case study.

The analysis included data gathering, testing, statistical analysis, and development of a case study. These elements are summarized as follows.

Define the Sample Population and Associated Development Costs. Data regarding the costs and characteristics of 65 recently completed projects was collected and used to describe costs associated with four main categories: 1) acquisition, 2) construction, 3) project management and related development fees, and 4) other development costs associated with fees and reserve requirements.

Complete Preliminary Analysis and Testing for Relationships Among Project Attributes. These phases helped define the methodology for the statistical analyses. The results are provided in Appendix 4 along with other supplementary data tables.

Assess Differences Among Groups of Projects. The data was grouped into several categories and analyzed to define cost patterns within each group.

Conduct Regression Analysis to Test for Differences Among the Full Data Set. This analysis looked at the entire data set at once, as opposed to in groups. It provides insights into various factors that are linked to increased costs.

Develop a Case Study Comparing Market-Rate Project and Affordable Housing Development Costs. The case study presents cost data associated with two recent projects and is preceded by a brief discussion of some of the key factors that contribute to the costs of developing affordable housing.

The Sample Population and Associated Development Costs

Sample Population and Data Sources

The project sample focused on all projects the Housing Trust Fund helped finance within the past year that: 1) are multi-family rentals; 2) were 90% occupied by tenants as of February 2009 when the data collection was initiated; and 3) had submitted a Final Development Budget.

These criteria resulted in a sample of 65 projects. The sample includes projects from three award cycles spanning from 03-05 to 05-07 to 07-09. The majority, 78% of the 65 projects, are from the 05-07 award cycle. This sample represents approximately 35% of the program's portfolio of affordable housing projects in the development or construction phase at any given time.

Cost and project characteristic data was gathered from three primary sources, including: 1) the project's Final Development Budget; 2) the Placed in Service Form for the project; and 3) application data submitted to the Housing Trust Fund. Data was pulled from these forms and entered into a database of over 280 variables.

As summarized by Table 5, the 65 projects had an average of 38 units each and cost an average of $160,359 per unit to develop.

Table 5: Snapshot of the 65 Projects in the Cost Analysis[26]

Attribute	Average	Total
Total Residential SF	34,315	2,230,498
Number of Units	38.0	2,473
Number of Bedrooms	1.7	4,297
Unit Size in SF	887	
Housing Trust Fund $	$983,736	$63,942,867
Total Residential Cost	$6,649,710	$432,231,122
Total Cost/Unit	$160,359	
Total Cost/Bedroom	$101,653	
Total Cost/SF	$183	
Construction Cost/SF	$102	

Other project characteristics of the sample include the following

Size and cost:

- The units were an average of 887 square feet.[27]
- Of the total units, 52% were targeted for special needs populations such as senior citizens, persons with developmental disabilities, the homeless, and veterans.
- The average cost per bedroom was $101,653 and the cost per square foot was $183.
- The average construction cost was $102 per square foot.

Financing characteristics:

- Of the total $432.2 million invested in the 65 projects, the Housing Trust Fund financed $63.9 million, which represented 14.6% of the total capital.
- For every dollar of trust fund support, sponsors raised another $5.80 from other sources.
- On average, the Housing Trust Fund provided $983,736 per project.

[26] See Appendix 4 for additional data tables profiling the 65 projects.

[27] Data on the unit sizes was derived from the Project Profile data sheet which defines the residential square footage of the project. This figure was then divided by the number of units in the project. Thus, for projects that include significant common areas, the square footage data of the units is higher than the actual unit size.

Development Costs

Overview

On average, construction costs accounted for more than half (62%) of a project's total cost and required over $4 million per project.

As summarized by Table 6, the remaining costs were for acquisition (15%); development costs associated with project management and consultants (14%); and other costs relating to finance fees, permit and impact fees (9%).

Table 6: Total and Average Residential Costs[28]

Cost Category	Total Cost of All 65 Projects	Average Cost/Project	
		Cost	Share
Acquisition	$64,837,871	$997,506	15%
Construction	$268,653,863	$4,133,136	62%
Development	$59,800,768	$920,012	14%
Other Development	$38,945,795	$599,166	9%
Total Residential	**$432,247,847**	**$6,649,967**	**100%**

Acquisition Cost Category

The costs of obtaining the land and/or buildings averaged 15% of the project cost. As summarized by Table 7, the purchase price accounted for almost the entire acquisition costs.

In the case of rehabilitation projects, the purchase price included the cost of land, existing buildings, and other improvements on the site. Land costs varied by market, as well as by the quality of the sites in terms of location, accessibility and surrounding developments. In some cases, the costs of site preparation were reported by sponsors as part of the purchase price while the cost of entitlements, permits, impact fees, and other costs were included in "other development" cost category.

[28] Total residential costs were defined by the Final Development Budget for the project. See Appendix 3 for a list of the Final Development Budget data fields and the associated definitions.

Table 7: Acquisition Costs – 15% of Total Project Cost

Acquisition Cost Components	Total Cost For All 65 Projects	Project Averages		
		Dollars	Percent	
			Acquisition Cost	Total Cost
Purchase Price	$62,695,206	$964,542	97%	15%
Liens	$98,135	$1,510	<1%	<1%
Closing Costs	$622,698	$9,580	1%	<1%
External Payment	$66,025	$1,048	<1%	<1%
Other Costs	$1,355,808	$20,859	2%	<1%
Acquisition Subtotal	**$64,837,871**	**$997,506**	**100%**	**15%**

Construction Cost Category

On average, construction costs comprised the highest proportion of cost (62%). The majority of the construction costs (85%) were for materials and labor. The amount of cost associated with labor versus materials varies depending on the type of project. This level of data is not currently available and so was not included in the analysis.

Contingency requirements accounted for an average of 2% of the construction cost and 1% of the overall project cost (Table 8). Currently set at 15% for rehabilitation projects and 10% for new construction, the contingences are required by the Housing Trust Fund to address potential cost overruns the project may experience due to increased construction costs, site challenges, and other conditions that were not possible to anticipate. Through the process of this study, stakeholders shared that once contingency is budgeted, it is spent and that this could be an area of cost reduction.

Table 8: Construction Costs - 62% of Total Project Cost

Construction Cost Components	Total Cost For All 65 Projects	Project Averages		
		Dollars	Percent	
			Construction Cost	Total Cost
Construction Cost	$227,907,578	$3,506,270	85%	53%
Bond	$1,536,243	$23,635	1%	<1%
Infrastructure Cost	$10,077,909	$155,045	4%	2%
Hazard Abatement	$429,117	$6,602	<1%	<1%
Contingency	$4,825,157	$74,233	2%	1%
Sales Tax	$13,110,168	$201,695	5%	3%
Other Construction	$6,204,650	$95,456	2%	1%
Testing	$94,895	$1,582	<1%	<1%
Other Costs	$4,468,146	$68,741	2%	1%
Construction Subtotal	**$268,653,863**	**$4,133,136**	**100%**	**62%**

Development Cost Category[29]

Development costs comprised 14% of total cost. Development costs relate to professional fees for project management and consultation. In general, the professional fees depend on the nature of services provided, as well as on the size and complexity of a project. The largest component of development costs was development fees, which on average comprised 44% of the project's development costs and 6% of total costs. Taken together, developer fees and project management fees accounted for 53% of the development costs and 7% of the total project costs. Architectural fees averaged 30% of development costs and 4% of the total project cost (Table 9).

[29] The term development cost as used in this report generally refers to the cost of acquisition, construction, development fees, and other development costs such as permitting and financing. Development costs are also considered a cost category as listed on the Final Development Budget.

Table 9: Development Costs - 14% of Total Project Cost

Development Cost Components	Total Cost For All 65 Projects	Project Averages		
		Dollars	Percent	
			Development Cost	Total Cost
Appraisal Fee	$405,613	$6,240	1%	<1%
Architect Fee	$17,762,427	$273,268	30%	4%
Environ. Assessment	$550,126	$8,463	1%	<1%
Geotechnical Fee	$195,682	$3,010	<1%	<1%
Boundary and Survey	$529,129	$8,140	1%	<1%
Legal Fee	$2,928,255	$45,050	5%	1%
Development Fee	$26,249,900	$403,845	44%	6%
Project Manager Fee	$5,105,041	$78,539	9%	1%
Tech Assistance Fee	$1,217,890	$18,737	2%	<1%
Consulting Fee	$3,031,990	$46,646	5%	1%
Other Fees	$1,824,716	$28,073	3%	<1%
Development Subtotal	**$59,800,768**	**$920,012**	**100%**	**14%**

Other Cost Category

Other development costs comprised 9% of the total cost. They include a wide range of expenditures such as financing and legal fees, carrying costs, and permitting and impact fees.

As summarized by Table 10, on average, financing costs were the largest component of this category. When the various financing costs are combined (i.e., construction loan fee, construction interest, equity closing, bridge loan interest, other loan fees, federal Low-Income Housing Tax Credit fees, and federal Low-Income Housing Tax Credit donations), they account for 43% of "other costs" and 4% of total costs.

The other major cost category was permits/hookups, which together accounted for 24% of the other costs. Operating reserves and replacement reserves comprise 12% and 4% respectively, and an average of 2% of the total project cost.

Fiscal Impact of Bridge Loans

Private lender or intermediary lender bridge loans are commonly used by affordable housing sponsors to help initiate and finance their project while they are working to secure permanent financing. Because they are part of what distinguishes affordable housing from market-rate projects, their prevalence and cost impact was briefly reviewed.

Of the 65 projects in the sample for the cost analysis, over 70% of them planned to use bridge loans as part of their financing and many listed the Housing Trust Fund as a primary source to help pay off the loan.[30] Based on the data from the 65 projects in the cost analysis, the average cost per project for bridge loans was $32,042 (See Table 10). In order to supplement the data from the 65 projects in the cost analysis sample, loan data from a local financial institution was reviewed. The review examined 57 bridge loans provided to publicly fund affordable housing projects. The findings are summarized as follows:

- The amount of interest-bearing bridge loans ranged from $150,000 in pre-development loans to $2,000,000 loans for acquisition, and the average cost for interest and fees was $54,670.

[30] Based on a review of Form 1 from the application data for each of the 65 projects in the sample.

- Of these 57 loans, eight were for more than $1,000,000 and could be considered outliers. Excluding these outliers, the average cost for interest and the associated finance fees was $33,000.
- The length of the loan period ranged from three months to 2.5 years and averaged 11 months. This is an indicator of how long it took these project sponsors to secure permanent financing.

Table 10: Other Costs - 9% of Total Project Cost

Other Development Costs	Total Cost For All 65 Projects	Project Averages		
		Dollars	Percent	
			Other Development Cost	Total Cost
Real Estate Tax	$246,809	$3,797	1%	<1%
Insurance	$1,511,772	$23,258	4%	<1%
Relocation Costs	$1,030,886	$15,860	3%	<1%
Bidding Costs	$155,105	$2,386	<1%	<1%
Permits/hookup	$6,573,180	$101,126	17%	2%
Impact Fee	$2,712,706	$41,734	7%	1%
Utilities	$470,140	$7,233	1%	<1%
Construction Loan Fee	$1,262,284	$19,420	3%	<1%
Construction Interest	$7,876,249	$121,173	20%	2%
Equity Closing	$100,121	$1,540	<1%	<1%
Bridge Loan Interest	$2,082,757	$32,042	5%	<1%
Other Loan Fees	$2,864,966	$44,076	7%	1%
Low-Income Housing Tax Credit Fee	$2,637,289	$40,574	7%	1%
Low-Income Housing Tax Credit Donation	$66,529	$1,024	<1%	<1%
Accounting	$604,458	$9,299	2%	<1%
Marketing/leasing	$989,141	$15,218	3%	<1%
Rent-up Costs	$693,719	$10,673	2%	<1%
Reserves	$4,663,672	$71,749	12%	1%
Replacements	$1,400,820	$21,551	4%	<1%
Other Costs	$1,012,743	$15,581	3%	<1%
Total Other Development	**$38,945,795**	**$599,166**	**100%**	**9%**

Differences Among Groups of Projects

Because the projects are diverse, data on the "averages" for the 65 projects can result in averages that represent the data set but may not truly represent individual characteristics of certain types of projects. In order to address this and make comparisons of costs related to similar projects, the 65 projects were grouped into seven categories to allow for a more "apples to apples" comparison. Once the projects were grouped, the *average values* for various costs were calculated and statistical analysis was used to determine whether the differences in the values were random or significant.[31] The findings are summarized below and on the series of data tables provided in Appendix 4c along with the preliminary analysis used to help design the statistical tests to assess differences among several project types.

Summary of Key Findings

Size of the Project

- Larger projects cost more per unit, are located in urban markets in western Washington, and are highly dependent on federal Low-Income Housing Tax Credits both in terms of the number of projects financed with federal Low-Income Housing Tax Credits and the amount of total capital the credits provided (44%).
- Housing Trust Fund support for larger projects is greater in dollars but significantly lower as a percent of the project's total capital funding. The smaller projects rely more heavily on Housing Trust Funds and operating subsidies. In terms of "intent to go green," larger projects are more likely to incorporate specific green features.

Urban versus Rural Locations

- The 41 urban projects tended to be larger (an average of 46 versus 24 units), and have a higher construction cost per square foot ($103 versus $76).

[31] A univariate t-test was applied to look for significant differences among the various project pairs. The test was adjusted based on whether the assumption of equal variance was satisfied as revealed in the preliminary analysis.

- Urban projects rely more heavily on federal Low-Income Housing Tax Credit financing (73% versus 46% for rural projects), and tend to be more concentrated in western Washington. In addition, they depended more on local funds (13% versus. 4%), and equity investment (7% versus 1%).
- Rural areas were more dependent on Housing Trust Fund support (32% versus 22% for urban projects) and federal grants and loans (29% versus 12%).

Type of Sponsor

- Although government-sponsored projects tended to be larger than nonprofit sponsored projects, there were few statistically significant differences.
- The exceptions were nonprofit sponsors had statistically lower development costs as a percent of the total project costs (12% and 15%), and they used a higher percentage of local funds[32] (12%) compared to government sponsors (4%).

New Construction versus Rehabilitation Projects

- The 41 new construction projects tended to have larger units (958 square feet per unit compared to 765 square feet in rehabilitation projects).
- The rehabilitation projects cost less per unit ($131,400 versus $177,313) and had lower construction costs per square foot ($63 versus $111).
- Acquisition costs for rehabilitation projects were significantly higher in dollar and percent terms, while construction costs were higher in dollar and percent terms for new construction projects.
- In terms of fees, new construction had significantly higher architect fees as a percentage of total cost (4% versus 2.1%), and rehabilitation projects had significantly higher operating reserves (2.5% versus 1.2%).

[32] Local funds generally refer to housing levies, bonds, and other revenue sources generated by local governments.

Use of Federal Low-Income Housing Tax Credit Financing

- Of the 65 projects in the sample, 41 used federal Low-Income Housing Tax Credit financing. In general, the federal Low-Income Housing Tax Credit projects were significantly different from the non-federal Low-Income Housing Tax Credit projects for most variables.
- Federal Low-Income Housing Tax Credit projects were larger in terms of size, the amount of the Housing Trust Fund award, the cost per unit, and the cost per square foot.
- Federal Low-Income Housing Tax Credit deals had higher development costs (14% versus 11%) and "other development" costs (10% versus 6%). With respect to fees, federal Low-Income Housing Tax Credit deals had higher legal fees, development, and financing fees. Of significant difference with this financing source, are the transaction costs related to the transfer of tax credits into equity. No specific differential or data analysis has been done specifically on the development cost impact of these fees.

Use of a Developer or Sponsor Acted as the Developer

- Of the 65 projects, 35 of them were managed by sponsors that hired a third-party developer. Whether a sponsor hired a developer or acted as the developer themselves did not result in many significant cost differences. The exception was in legal fees, which were higher for projects where the sponsor hired a developer. An analysis of multiple projects by a sponsor or developer did not indicate a "learning" curve in terms of cost reduction. However, experience may have improved the efficiency and quality of construction, as well as the ability to satisfy the design requirements of special needs or other targeted tenants.

Intent to Include Green or Sustainable Features

- Although the Evergreen standard had not yet been required for the 65 projects in the sample, 17 of the projects indicated their intent to meet the Evergreen standard or a related sustainable standard, and all applicants defined some level of green or sustainable features they planned to incorporate.
- The projects where the sponsor's application stated intent to incorporate green or sustainable features tended to be larger projects located in urban areas. Because the data on intent to incorporate green or sustainable features was from the application and not post-construction, further analysis was not completed on this

element. For projects constructed after July 2008, there will be additional information available to assess how projects have incorporated the Evergreen Standard and at what cost.

Regression Analysis to Test for Differences Among the Full Data Set

Summary of Results

To explore some of the factors that influence development costs, a stepwise linear regression analysis was developed and applied to data from the 65 projects. Stepwise linear regression examines multiple factors all at once and thus differs from the paired analysis summarized in the previous discussion.[33]

The stepwise linear regression was designed to examine the four metrics listed below. The model and associated data did not meet statistical standards for looking at the total development cost per square foot, and so this metric was not assessed.

1. **Total development cost per unit** is commonly used by affordable housing funders to quantify and compare costs between different projects. It provides a useful indication of the overall cost. However, it measures not only the cost per unit but also the cost of parking, tenant meeting rooms, and other facilities that are part of the project – but not the unit.
2. **Total development cost per bedroom** provides insights regarding densities and how many people can live in the unit. Affordable housing units built for families, tend to be larger and to have more bedrooms in each unit.
3. **Construction costs per unit** can help examine the major cost component of projects. This is because construction costs generally represent 60-70% of the total project cost. For the 65 projects in this data sample, construction costs represented 62% of the total project cost.
4. **Construction costs per bedroom** can also help isolate factors involved in the efficiency of housing construction.

[33] See Appendix 5 for additional information on the methodology used.

The following section summarizes the results of the statistical analysis, presents a summary table, and briefly describes the findings associated with each of the cost metrics or dependent variables listed above.

Results of the Stepwise Linear Regression Analysis

- **Depending on which cost metric is used, different projects appeared to be more or less cost effective than others and different factors appeared to influence costs.** This suggests the need to apply more than one metric when assessing a project's cost and comparing it to other similar projects.
- **Variables determined not to have a statistically significant correlation to higher development costs were the amount of the developer and project management fees, and the project sponsor or developer**.
- **Variables determined to have a statistically significant correlation to higher development costs are summarized as follows.**
- **Architect fees as percent of construction costs**. In all models, architect fees had the strongest correlation to costs, meaning the higher the architect fee, the higher the cost. This could be because the fees are an indicator of the complexity of design and construction, the efficiency of the project team, based on construction cost, or other factors the model was not able to assess.
- **Urban effects**. In all models and for each of the metrics, urban projects were associated with higher costs. This could be due to a number of factors such as land costs, parking costs ($20,000-30,000 per stall), or tenant service areas.
- **Size and Economies of scale**. New construction projects in rural areas had lower project costs than urban areas. In addition, for rural areas, construction costs per bedroom decreased as the number of bedrooms increased. This effect was not seen in urban areas for new construction projects that used Low-Income Housing Tax Credits. For these projects, the construction costs per unit increased as the project had more units. This could be related to parking and other projects costs not specific to the actual unit, but considered as part of the unit cost.
- **Capital effects.** In general, projects financed with federal Low-Income Housing Tax Credits cost more per unit, had higher construction costs, and tended to be larger projects.
- **Special needs populations.** Projects for special needs populations were correlated with higher costs per bedroom.

Discussion of Cost Metrics

The following discussion summarizes the results for each of the four cost metrics presented on Table 11.

The lower numbers in the table mean the factor was more significant than others. For example, for the total cost per bedroom, the strongest factors were whether the project was urban or rural (1), and the amount of the architect fees (2).

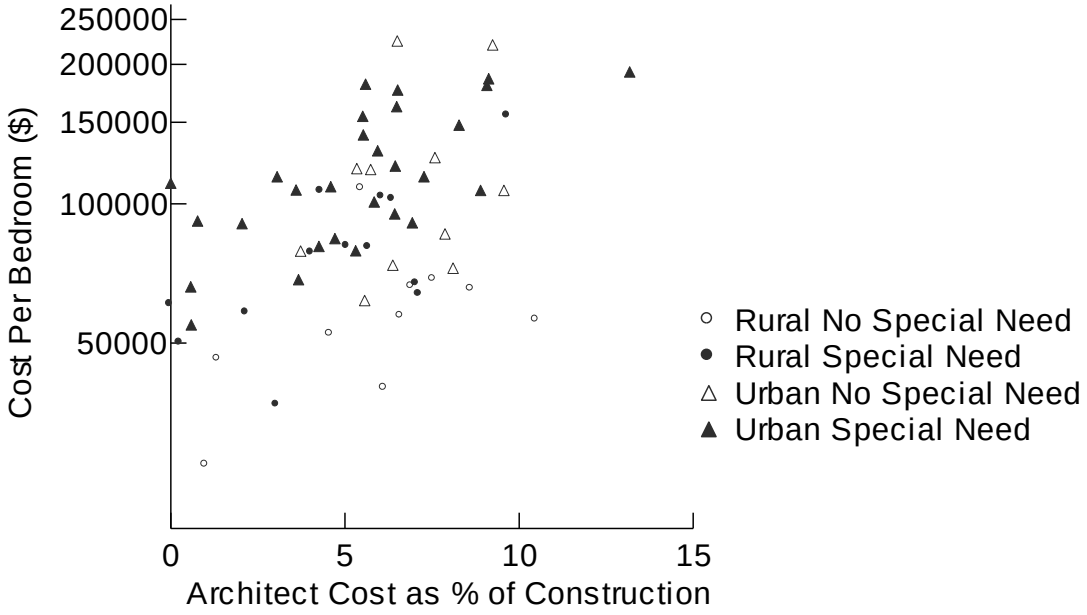
Table 11: Rank of Significance for Variables Tested in the Model

Cost Metric	N	R^2	Architect Fee / Con-struction Cost	Urban / Rural	Gov/ Non-profit	Develpr Type	Tax Credit	Special Needs	Number of Bed-rooms	No. of Units	Project Type (New vs Rehab)	HTF / Total Project
Total Cost / Bedroom	62	70%	2	**1**	-	-	-	4	3	x	5	-
Total Cost / Unit	61	65%	**1**	3	-	-	2	-	x	-	4	-
New construction Only												
Construction Cost / Bedroom	37	58%	2	4	3	-	-	**1**	-	x	x	-
Construction Cost / Unit	38	49%	2	-	-	3	**1**	-	x	-	x	-
Rehab Construction Only												
Construction Cost / Bedroom	19	57%	-	**1**	2	-	-	-	-	x	x	-
Construction Cost / Unit	18	64%	2	**1**	3	-	-	-	x	-	x	-

N = number of projects. **R^2** = variance explained by the model. **A "-"** = No effect **X** = not included in the model

Total cost per bedroom. This was the strongest model and explained 70% of the variance in the data (70%). The model found four factors that had a significant relationship to the cost: 1) the architect fee as percent of construction costs, 2) whether the project was urban or rural, 3) whether or not it served a special needs population, and 4) the number of bedrooms.

Figure 1: Relationship of architect cost to total cost per bedroom. The triangles are all urban sites; filled symbols are projects that were primarily for special needs populations.



As summarized by Figure 1, (above) the architect fees as a percent of the construction cost were most strongly linked to higher project costs. Urban projects with special needs populations were linked to higher costs per bedroom.

Total cost per unit. Three factors with the most significant correlation to the cost per unit were the architect fees, whether the project was rural or urban, and whether the project was financed with federal Low-Income Housing Tax Credits or not. The architect fees had the strongest correlation to higher cost per unit. Rural projects not financed with federal Low-Income Housing Tax Credits were correlated with a lower cost per unit.

Total cost per bedroom by architect fees by urban versus rural. In order to assess economies of scale and whether or not the cost/bedroom *decreased* as the number of bedrooms *increased*, the data was divided by urban versus rural. The results indicate that as the number of bedrooms increased, the total cost/bedroom *decreased* for rural projects but did not decrease for projects in urban areas. This relationship was not seen on a total cost per unit basis.

Construction costs only. Because construction costs account for the majority of development costs (62% for this data set), the data was analyzed by looking at *construction costs only* for projects that were new construction and then for rehabilitation

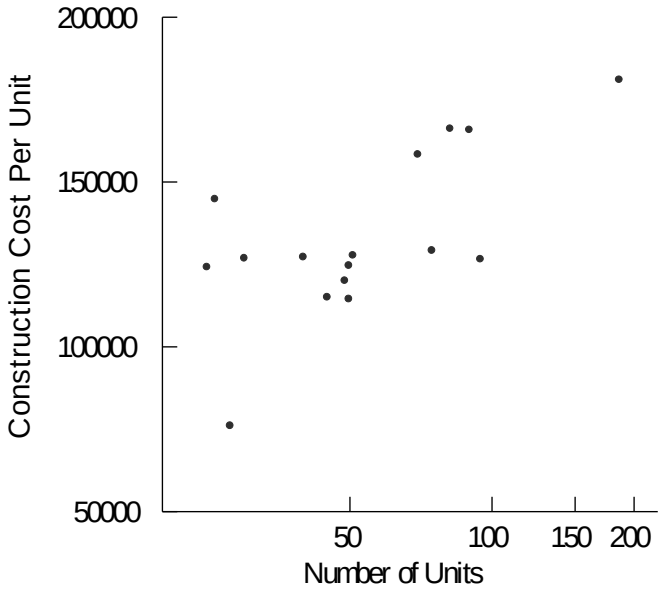
projects. For each group, the construction costs per unit, per bedroom, and per square foot were analyzed. For new construction projects, the factors that had a significant correlation to construction costs included the architect fee, whether the project was financed with federal Low-Income Housing Tax Credits or not, and whether it served a special needs population or not. Higher costs were associated with projects with higher architect fees that were financed with federal Low-Income Housing Tax Credits, and in urban areas.

To assess economy of scale, the model examined how the cost per unit changed as the number of units increased. The model found the location and federal Low-Income Housing Tax Credit status were strongly correlated to cost and as the number of units increased, the cost did not decrease. This was also the result of the paired statistical analysis previously discussed.

In order to better understand the relationship between construction costs and the number of units in the project, the model was limited to examining *only* projects in urban areas that used federal Low-Income Housing Tax Credit financing and were new construction. When these projects were graphed, the results indicated that as these projects had more units, the cost per unit increased and there was no apparent economy of scale (Figure 2). This could be due to the fact that the cost per unit includes costs for parking, infrastructure needs, and other costs that are part of the project but part are not part of the actual cost of the unit.

For rehabilitation projects, the cost per bedroom model showed urban versus rural to be the most significant effect on cost with rural areas being less expensive. The small sample size didn't allow further testing of economies of scale on these projects.

Figure 2: Construction costs per unit for new construction projects built with federal Low-Income Housing Tax Credits in urban areas. The x scale is logarithmic because the model used log-transformed values.



Stepwise Linear Regression Conclusions

The stepwise linear regression found higher development costs were most significantly correlated with the project location, finance structure, architect fees, and special needs tenant populations. Overall, these findings confirm the paired analysis previously summarized in this chapter and suggest the need to develop cost metrics and benchmarks that are sensitive to the diversity of project types and associated factors that influence development costs.

Case Study Comparing Market-rate and Affordable Housing Costs

Overview

The previous section explored cost differences between 65 projects that received financing from the Housing Trust Fund and defined factors that may influence development costs *within* Housing Trust Fund projects. This section presents some of the primary differences *between* market-rate and Housing Trust Fund projects and presents a case study comparing two similar projects – one market-rate and one affordable housing project.

Figure 3 provides an overview of some of the main factors that distinguish multi-family affordable housing from market-rate housing projects. These factors were drawn from the cost analysis, survey summaries, and interviews completed for this study.

Figure 3: Ten Factors that Influence Affordable Housing Development Costs[34]

1. **Affordable housing is a long-term public asset.** The housing is required to remain in the affordable housing stock for at least 40 years. Unlike market-rate housing, it is not built to maximize financial returns, but to help achieve the State of Washington's affordable housing goals.
2. **Projects must comply with federal, state, and local government public benefit policies and regulations.** These policies contribute to increased costs for construction, labor, legal fees, and other project elements.
3. **On average, projects require at least five funding sources and take twice as long as market-rate projects to complete** due, in part, to the finance complexities.
4. **Available land often has conditions that make it expensive to develop.** Examples include infrastructure needs, density limits, variable and unpredictable design requirements, and other factors. Affordable housing projects generally have less available capital to cover pre-development costs and are less able to raise the capital through rents.
5. **Affordable housing sponsors often pay a higher premium for land** because they must pay the seller for an option to "hold" the land while they secure the funds to buy it. This can take two years or more.
6. **Sponsors must often take out bridge loans to get interim financing** while they are trying to secure permanent funds. They generally have limited internal capital coupled with higher pre-development costs.
7. **The projects tend to be smaller scale and have fewer units than market-rate projects.** In some cases, this can make it harder to achieve economies of scale.

[34] These factors were identified by the analysis presented in Chapters 3 and 4, input from the Affordable Housing Cost Study Steering Committee, and a review of the cost studies summarized in Appendix 2 of this report.

8. **Tenant service areas such as** childcare, treatment facilities, and other co-located services are often considered part of the cost per unit and can appear to inflate the cost per unit.
9. **Construction costs can be higher** due to the need to comply with public benefit policies and the use of design and materials features to ensure the units meet the requirements of special needs populations.
10. **Costs for project management, financing, and other needs tend to be higher than for market-rate projects**. Sponsors are required to maintain certain levels of contingencies and reserves, often hire outside expertise to develop or manage the project, and face more finance and regulatory requirements.

Case Study Results

To illustrate how some of these factors influence costs, a case study was developed based on two similar projects.[35] Both projects were 100-unit, multi-family housing developments located in the Seattle region during the first quarter of 2009. Cost data for the two projects was collected independently, compiled, and reviewed by the Cost Study Steering Committee. As a result of their review, several cost categories were combined in order to provide a clearer comparison. Because the case study is based on looking at two projects only, it is not intended to define cost benchmarks or to definitively describe cost. Instead, it provides an illustration of cost differences and the associated factors contributing to cost differentials.

As summarized by Tables 12-15, the primary findings from the case study are as follows:

- **Overall, the cost of affordable housing project was relatively comparable to the cost of the market-rate project.** Although the affordable housing project cost $14,804 more per unit than the market-rate project, it had 11,480 more square feet. When this is taken into account, the affordable project had slightly lower costs per square foot.
- **Requirements unique to the affordable housing project were estimated to cost $14,560 per unit.**

[35] The development cost data was provided by two members of the Cost Study Steering Committee who reviewed recent projects and associated costs.

- **Soft costs associated with project management, reserves, and fees, were $486,371 higher for the affordable housing project** primarily due to higher operating reserves, permitting, and finance fees.
- **Due to different site locations, the affordable project had lower land acquisition costs.** This is because it was an urban infill project and was not located in downtown Seattle.
- **Both projects required structured parking for an average cost of $29,000 per stall.** This accounted for about 12.5% of the cost of each unit.

Table 12: Overall Cost Differences - Market-rate Versus Affordable Housing

Cost Center	Market-rate	Affordable	Difference
Total Residential Project Cost	22,959,199	24,564,644	(1,480,445)
Cost Per Unit	229,592	245,646	(14,804)
Total Cost Per SF	335	307	29
Construction Cost Per SF	234	229	4

Table 13: Differences in Land and Construction Costs - Market-rate versus Affordable Housing

	Cost Center	Market-rate	Affordable	Difference
Location		Seattle	Urban Infill	
Unit Size		686 SF	800 SF	+114 SF/unit
Land and Construction				
a	Land	3,000,000	1,681,454	1,318,546
	Land Cost/Unit	30,000	16,815	13,185
b	Predevelopment Costs	25,000		25,000
	Garage Construction Costs	2,805,000	3,067,062	(262,062)
	Building Construction Costs	10,837,750	12,198,698	(1,360,948)
	Prevailing Wage - Cost Impact	Not Required	348,200	
	Payment and Performance Bond	Not Required	126,736	
	Furniture, Fixtures & Equipment	20,000		20,000
	Parking Equipment	10,000		10,000
	Tenant Improvements	245,000		245,000
	Construction Contingency	694,388	1,101,849	(407,461)
	Sales Tax	1,388,153	1,495,366	(107,213)
	Subtotal for Construction Only (b)	16,025,291	18,337,911	(2,312,620)
	Percent of Total Costs (Excluding Land)	69.80%	74.65%	
	Subtotal (Land + Construction)	**19,025,291**	**20,019,365**	**(994,074)**

Table 14: Differences in Project Management and Fees - Market-rate versus Affordable Housing

Project Management and Fees - Soft Costs	Market-rate	Affordable	Difference
Pre-Development	45,000	See proj mg	
Project Management	767,000	900,000	(133,000)
Design Costs (Architect, Engineer)	819,000	701,100	117,900
Design Reimbursable	27,000		27,000
Consultants(e.g., Market Study)	136,000	10,000	126,000
Construction Testing	76,000	115,000	(39,000)
Water Meter & Installation	95,000	75,000	20,000
Utility Hook-up/Impact Fees	190,000	435,000	(245,000)
Permits	133,000	142,000	(9,000)
Builders Risk Insurance	114,000	115,000	(1,000)
General Liability Insurance		15,000	(15,000)
Operating Reserves		440,000	(440,000)
Legal Fees	152,000	85,000	67,000
Promotion, Leasing, Rent Up Reserves	190,000	151,000	39,000
Real Estate Taxes	75,000	2,500	72,500
Loan and Financing Costs			
Bank-Loan Fees, Counsel, Escrow, Title, Inspection	156,926	310,305	(153,379)
Interest During Construction	758,032	761,999	(3,967)
Low-Income Housing Tax Credit Fees	0	87,875	(87,875)
Reimbursable	20,000		20,000
Site Survey	10,000	16,000	(6,000)
Traffic Study	5,000	10,000	(5,000)
Appraisal	10,000	13,500	(3,500)
Miscellaneous	10,000	14,000	(4,000)
Soft Cost Contingency	144,950	20,000	124,950
Subtotal Soft Costs	**3,933,908**	**4,420,279**	**(486,731)**
Soft Costs as a Percent of Total Cost	**17.13%**	**18.09%**	**(0.01)**
Difference in Loan and Finance Costs	**914,958**	**1,160,179**	**(245,221)**

Table 15: Estimated Cost of Five Requirements Unique to Affordable Housing As Defined by the Market versus Affordable Housing Case Study

Cost Center	Cost
Construction Contingency	$407,000
Prevailing Wage - Estimated Cost Impact	$348,200
Operating Reserves	$440,000
Tax Exempt Finance Costs - Federal Low-Income Housing Tax Credits	$172,903
Low-Income Housing Tax Credit Fees - Federal Tax Credits	$87,875
Total Estimated Cost to the Project	$1,455,978
Estimated Additional Cost/Unit	**$14,560**

CHAPTER 5: COST-REDUCTION STRATEGIES

Overview

This is a period of declining government funding, including reduced Housing Trust Fund appropriations and a tight capital market which has shrunk levels of federal Low-Income Housing Tax Credit equity, the largest single source of affordable housing subsidy. Given this climate, stakeholders and professionals working in the design and construction field were both cooperative and motivated to generate recommendations regarding cost containment.

Cost containment recommendations were developed in collaboration with the Affordable Housing Cost Study Steering Committee, and the Policy Advisory Team by reviewing the results of the costs analysis, in-depth interviews with construction and development experts, and a stakeholder survey of more than 200 funders, developers and related professionals.

Principles

Principles to help **guide** the strategies recommended:

- Recognize the diversity of projects the Housing Trust Fund helps to finance and avoid a "one size fits all" approach.
- Promote Housing Trust Fund investments that result in good quality, durable housing in communities throughout the state.
- Recognize cost as an important variable, work to control cost, and learn from the market to better control development cost.

Process

Process to **implement** the strategies recommended:

- Best efforts will be made to implement internal Housing Trust Fund policy recommended strategies as soon as possible, beginning with the fall 2009 funding round.
- Five areas of recommendations are being put forward to address the cost of acquisition, construction costs, and sponsor capacity. Four of the five are policy or technical assistance steps that do not require legislation, but may require

further discussion among funding partners and technical experts to develop appropriate benchmarks and/or consensus.
- One of the five may need legislative action, but further research and work will be conducted before making specific legislative recommendation.

Additional tracking, documentation, and analysis of the potential impact of these initial five identified strategies are being recommended as the priorities to pursue at this time.

Performance Measurement

The department will continue to track costs and trends over time. Comparing cost prior to the implementation of these initial strategies, and then after these strategies have been implemented will provide the main measure of the effectiveness and potential cost savings realized.

Two main themes affect the ability to document and track performance related to cost:
- Data collection and data tracking is an ongoing challenge. Several changes have been made to the Housing Trust Fund application as a direct result of this study, in order to help facilitate the collection of appropriate data to help analyze costs and impacts of the proposed strategies.
- As discussed in previous sections of the report, determining the appropriate metrics to track and analyze is extremely important to achieving desired outcomes. Interpreting the data is complex and more work is needed to ensure effective metrics are developed.

Policy Recommendations

The following strategies can be made in the short term and have nominal financial impact and are mostly focused on internal policies and procedures:

1. **Place increased emphasis on cost control as a funding decision factor.** Place greater importance and priority on project budget cost submitted as part of the decision making process in awarding state resources. This strategy would help give developers and their teams responsibility and incentives cost containment.

   Performance Measurement: Develop per unit and per project measures to compare past awards round to current award round with goal of achieving cost reduction. Document efforts by the Housing Trust Fund to publicize cost-reduction and cost-effectiveness strategies. Specifically track and report on costs of projects funded each funding cycle.

2. **Reduce contingency to 5% on new construction and 10% on rehabilitations**. Contingency requirements accounted for an average of 2% of the construction cost and 1% of the overall project cost (Table 8).[36] Currently set at 15% for rehabilitation projects and 10% for new construction, the contingences are required by the Housing Trust Fund to address potential cost overruns the project may experience due to increased construction costs, site challenges, and other conditions that were not possible to anticipate. Through the process of this study, stakeholders shared that once contingency is budgeted, it is spent and that this could be an area of cost reduction.

   Performance Measurement: Develop per unit and per project measures to compare past awards round to current award round.

3. **Create a design and construction benchmark work group.** Benchmark reasonable land cost, developer consultant cost, construction cost, cost of housing, average cost of unit, taking into account regional and sub-market differences.

   Performance Measurement: After group develops and implements benchmarks, collect data to compare past award round to current award. Document differences and reasons if funding projects outside of the established benchmarks.

   Performance Measurement: Document, track and analyze specific costs related to type of bidding procurement.

4. **Cost-control project management workshops.** During in-depth interviews, experts identified a number of best practices that project managers could follow in site selection, design, and construction monitoring. For relatively modest cost, the Housing Trust Fund could sponsor two to three workshops for affordable housing development teams featuring experienced practitioners of these best practices.

   Performance Measurement: Develop per unit and per project measures to compare past awards round to current award round. Evaluate the effectiveness of sessions through attendee evaluations.

[36] Please reference Table 8, Chapter 4, page 27.

5. **Create a bridge loan option to reduce sponsor acquisition and holding costs.** Although the legislature specifically included language in the current capital budget bill prohibiting this activity, stakeholders strongly urged that the use of bridge loans with Housing Trust Fund dollars should be further explored. There is a time lag between funding award and disbursement, so the Housing Trust Fund has balances which could be used to make prudent bridge loans for site acquisition and construction at reduced interest rates. This would enable sponsors to negotiate more competitive acquisition prices and/or lower the interest costs of holding a site until construction begins and during construction. Although Housing Trust Fund staff can develop internal policies, procedures, and program guidelines, approval of this type of financing mechanism may require legislation. In addition, current appropriation levels are committed, so action by the Legislature would be needed to provide additional resources to make a bridge loan tool available.

   Performance Measurement: Track and document acquisition and holding costs prior to developing this tool and then after.

List of additional, longer-term strategies from stakeholders by category:

1. Construction Cost Benchmarks

- Develop more precise cost benchmarks: cost per unit by project size, location, development type.
- Establish durability benchmarks and easily document features. Quality assurance and control of the built improvements is essential to long-term operations and maintenance.
- Provide feedback loop between building maintenance and developer: flooring types, gutters for multi-family or dishwashers for Farmworker housing.

2. Land Cost Financing Tools

- Create land banking revolving loan account.
- Create acquisition revolving loan account.
- Use bridge/float loan option when there is a good opportunity to purchase land.

3. Process Cost Time Reductions

- Integrate process, schedules and requirements: shorten finance assembly time, shorten compliance to one process, application review within a six-month time period.
- Coordinate applications, awards, reporting requirements and available resources efficiently to help keep down land holding cost, cost for consulting with lawyers, and cost to redo cost estimates and market studies.
- Share reporting information to minimize fees.

4. Tool Box Resources:

Design:

- Improve cost-effective building by ensuring design team is experienced in cost-effective construction.
- Employ more rigorous cost-reduction review early in the project (site selection and analysis of structural placements and site risks, compare cost estimate associated with initial drawings against benchmarks).
- Engage experienced multi-family affordable housing architect.

Project Management:

- Track cost data and make it available to developers. Ensure project management team has the requisite skill set: construction knowledge, ability to manage contractor and architect, ability to manage to a development schedule, and experience managing cash flow.
- Engage contractors early in the process: estimating, constructability reviews and value engineering.
- Further evaluate and analyze impacts of the type of bidding process utilized, through tracking and documenting costs associated with competitive bidding versus negotiated bidding practices.

Constituency Collaboration:

- Provide training for nonprofit housing developers: evaluate sites, work with architects, negotiate fees, and inject cost containment into their projects while still meeting project and service goals.
- Organize utility/infrastructure collaboration between city/public partners to plan in advance overlapping construction and avoid unaccounted cost at the beginning of the project ultimately reducing infrastructure cost.
- Underwrite the project team track record.

State and Local Policies:

- Further research to document the success stories and outcomes of local governments exercising their authorities to relax various standards (e.g. zoning, parking, sales tax, impact fees).
- Encourage flexible zoning requirements for mixed use buildings.
- Allow funding for commercial space in mixed-use projects.
- Create some waivers for labor requirements and prevailing wages especially for smaller projects.
- Strengthen affordability requirements of the GMA; provide incentives/requirements for local utilities to provide infrastructure and support to affordable housing.

APPENDIX 1: RECENT LEGISLATION REGARDING AFFORDABLE HOUSING

SHB 2984 – Affordable Housing Incentives

In 2006, SHB 2984 was passed adding Chapter 36.70A.540 to state law. The legislation clarifies jurisdictional authority to provide affordable housing incentives programs. SHB 2984 "*encourages cities, towns and counties to enact or expand affordable housing incentive programs, including density bonuses and other incentives*" and it provides that when jurisdictions take action to increase residential development capacity*: "... through zoning changes, bonus densities, height and bulk increases, parking reductions, or other regulatory changes or other incentives ... the jurisdiction may establish a minimum amount of affordable housing that must be provided by all residential developments being built under the revised regulations.* Section 2 (RCW 36.70A.540(2)), establishes maximum income affordability levels; requires that affordable units must be of a similar tenure and unit mix (bedroom size) as market-rate units; and provides that affordability is to be maintained for 50 years. Therefore, jurisdictions can establish mechanisms to allow for off-site provisions (e.g., in-lieu fees).

SHB 1910 – Multi-family Tax Abatement Program

SHB 1910 allows all cities with populations greater than 15,000 and cities over 5,000 in King, Pierce, Snohomish, Clark, Kitsap, and Thurston counties, to create local tax abatement programs and places additional emphasis on the creation of affordable units by adding a provision that decreases the term of the exemption from 10 to eight years if there is no explicit affordability, while allowing up to a 12-year exemption for projects that commit to renting or selling at least 20% of the multi-family housing units as affordable housing units to low and moderate-income households (RCW 84.14.020(1)(a)).

APPENDIX 2: SUMMARY OF RECENT AFFORDABLE HOUSING COST STUDIES

Abt Associates. **Analysis of Total Development Costs in Public Housing**. Prepared for US Department of Housing and Urban Development, Task Order 14. July 21, 1998. The study pulled cost data on 261 projects representing eight fiscal years. The development costs were then normalized and adjusted to 1994 levels. A multivariate regression analysis was used to define factors that contribute to development costs. The primary factors that were defined included low density small scale buildings and longer predevelopment periods that averaged four years. The study also concluded that in order to better understand cost factors, HUD needed to standardize their forms and improve the quality of the data they collected on project characteristics.

Bay Area Economics, ARCH Research. **The California Affordable Housing Cost Study, Comparison of Market-Rate and Affordable Rental Projects**. January 1993. The study examined costs associated with 35 projects and concluded that depending on the unit of measurement used to compare the projects the majority of affordable project costs were equivalent to or less than similar market-rate projects. The study also concluded that per unit cost comparisons can be misleading because they do not account for density and units that may cost more because they have more bedrooms and house more people. The study identified factors that impact affordable housing development costs. The affordable units had: 1) more bedrooms per unit, more complex unit design, higher parking ratios, and greater structural requirements, 2) twice as many funding sources, 3) longer pre-development periods, 4) higher construction costs (5-30%) due to the need to pay prevailing wages, 5) syndication costs and more complex financing, 6) higher architecture and engineering costs, and 7) more cost challenges in urban areas due to land costs, parking requirements, permit fees, and other factors.

Common Ground. **Barriers to Affordable Housing in Port Townsend and Jefferson County.** Workshop Findings. October 17, 2002. The results of a workshop with local government officials, staff, and housing professionals identified development costs as one of the main barriers to affordable housing. The workshop addressed home ownership challenges and was not specific to affordable housing rentals. Cost-reduction strategies defined included forming a community land trust, creating a local nonprofit group to build low-income housing, increasing the use of accessory dwelling units, modifying occupancy requirements, and modifying the local government's system development charges so they are based on the size of the home.

Dean, David and Joy Adams for the Joint Legislative Audit Review Committee. **Comparing Costs and Characteristics of Housing Assistance Programs**. December, 2008. This study compared the cost efficiency of rental housing voucher programs to capital subsidies provided through the Housing Trust Fund and the Washington State Housing Finance Commission. The study concluded that capital units were more expensive than vouchers recommended that capital programs include life-cycle cost analysis as part of their process to evaluate proposals for state administered funding.

Furman Center for Real Estate and Urban Policy. The New York University School of Law and Robert F. Wagner Graduate School of Public Service. **Reducing the Cost of New Housing Construction in New York City.** 2005 Update. Primary cost factors defined included labor costs (52% above the national average), a shortage of affordable land to build on, regulations (environmental, zoning, building code), an inefficient permitting process, a flawed inclusionary zoning approach, permit fees, insurance, green building, and construction industry practices that resulted in cost increases. Along with cost factors, the study presents a 17 page list of cost-reduction strategies.

Mancer, Kate and Carole Holmes. **70 Ways to Reduce the Costs of Developing and Operating Supportive Housing for Seniors**. For BC Nonprofit Housing Association. October 2004. Designed as a cost-reduction guide, this report is based on interviews with 55 individuals and organizations. Cost-reduction strategies that are emphasized include design features to reduce construction and operating costs, using durable materials due to the long-term benefits, adaptive re-use, and a series of strategies specific to small scale facilities in rural areas.

New Ecology and the Tellus Institute. **The Costs and Benefits of Green Affordable Housing.** 2005. Based on a cost analysis of 16 affordable housing projects around the country. Of the 16 projects in the case study, two were in Washington State - Riverwalk Point (Spokane) and Traugott Terrace (Seattle). The study estimated that building green increased development costs for these two projects by 5.16% and 4.65%, respectively. The study concluded that it is misleading to assess costs based on initial capital costs. The study recommends using a life-cycle cost analysis and assert, that by using this approach, green affordable housing is more cost effective in net present value than conventional affordable housing. The study also concluded that the existing financing system for affordable housing is complex and rigid and does not recognize the long-term value of green investments.

APPENDIX 3: COST STUDY DEFINITIONS AND FINAL DEVELOPMENT BUDGET TERMS

Definitions

The following terms and associated definitions are used throughout this study. Additional terms commonly associated with projects that receive financing from the Housing Trust Fund are summarized in the Housing Trust Fund Guideline and Procedure Handbook.[37]

Affordability. Affordability is achieved when a household's rent or mortgage payment and utility costs do not exceed 30% of the monthly income for the targeted income group as adjusted for household size (RCW 43.185A.010). As defined by statute, it does not refer to permanent affordability, but instead to tenant affordability for the period of time (40 years) that the housing is required to be managed as affordable housing.

Affordable housing. As used in the study, this refers to publicly funded affordable housing that is eligible to receive financing from the Housing Trust Fund.

Bridge loan. Temporary or interim financing used for development activities when permanent financing is not immediately available.

Development cost. Costs reported to the Housing Trust Fund on the Final Development Budgets required to be submitted. (See page 53 for a list of cost centers and associated definitions.)

Developer fee. A fee paid to the developer for services. It is used to offset overhead and is paid through the development process. It is usually based on a percentage of the costs, dollars per buildable square feet, or dollars per unit.

Housing Trust Fund. This program includes state capital bond proceeds pursuant to RCW 43.185 and 43.185A and federal HOME Investment Partnership (HOME) Program

[37] The Housing Trust Fund Guideline and Procedure Handbook is posted at http://www.commerce.wa.gov/site/881/default.aspx.

funds. The Housing Trust Fund also includes funding set asides used to create housing for specific target populations as defined by the Legislature. In the past, these have included (but not limited to) housing for farmworkers, homeless families with children, persons with developmental disabilities, self-help housing and housing for survivors of domestic violence.

Market-rate. Multi-family housing projects for rent at prevailing market-rates and considered affordable to moderate- to higher-income households without requiring any housing subsidy or public funding to develop.

Rehabilitate or rehab. To restore or refurbish a building or structure to good condition. Project designations used in this study were taken from the Placed in Service form completed for each project after it is 90% occupied.

Special needs populations. Generally defined as persons requiring support such as counseling support, access to transit, and other associated services. Examples of special needs populations include senior citizens, veterans, persons with developmental disabilities, and homeless people. Information regarding special needs populations associated with the projects was taken from the project applications.

Sponsor. The entity that applies to the Housing Trust Fund and is responsible for project completion. Entities eligible to receive funds include local governments, local housing authorities, specified types of regional support networks and community organizations, federally recognized Indian tribes in Washington state, and regional or state-wide nonprofit housing assistance organizations. These entities are generally considered the sponsors. Some manage and develop the project on their own, and others hire project managers, developers, or other outside consultants to assist.

The following cost centers are from the Final Development Budgets that project sponsors are required to submit to the Housing Trust Fund once their projects are completed and 90% occupied. Cost data from Final Development Budgets was the source of development cost information for the cost analysis presented in Chapter 4 of this report.

Table 16: Final Development Budget Cost Centers and Associated Definitions

Cost Center	Definition
Acquisition	
Purchase Price	The final price that is paid for the acquisition of the land and/or building
Liens	The total paid for secured interest associated with the acquisition of the property
Closing, Title & Recording Costs	All fees/costs paid through the Title Company for the acquisition of the property
Extension Payment	All fees/costs incurred if closing is not completed in the expected timeframe
Construction	
Basic Construction Contract	The price agreed upon by all relevant parties to be paid for the project construction materials and services
Bond Premium	The price paid to guarantee the satisfactory performance of construction crew on the project
Infrastructure Improvements	The amount paid for public facilities improvements such as water, sewer lines, roads, transit lines, etc.
Hazardous Abate. & Monitoring	Total amount paid for services related to hazardous material removal
Construction Contingency	Total amount paid for construction cost overruns (Usually 10% for new const. and 15% for rehabilitation)
Sales Taxes	The sales tax paid on all the construction costs
Development	
Appraisal	Total costs paid for all appraisals completed for the subject property
Architect/Engineer	Total costs paid for the design of the building, preparation of construction documents and construction oversight
Environmental Assessment	Total costs paid for the Environmental Site Assessment(s), evaluation of the property and/or land to determine the potential for environmental concerns
Geotechnical Study	Total costs paid in association with the examination of foundation and soil conditions to determine if the site could support the design and construction plans
Boundary & Topographic Survey	Total costs paid for the assessment of the parcel boundary lines, elevation and configuration
Legal	Total costs paid for all contracted legal services associated with the project
Developer Fee	Total fees paid to the contracted individual or firm responsible for project development and coordination
Project Management	Total contracted amount for actual project management once construction begins
Technical Assistance	Total fees paid for contracted professional advice that cannot be considered in other line items

Other Development	
Real Estate Tax	Any property taxes paid in association with the acquisition, construction and/or development of the project
Insurance	Any insurance fees/costs associated with the project, such as General Liability, Property Insurance and/or Builder's Risk
Relocation	Costs associated with displacing residents during the development period, either temporarily or permanently
Bidding Costs	Costs associated with requesting estimates for the basic construction contract
Permits, Fees & Hookups	Costs and fees paid for official public documentation authorizing performance on regulated activities necessary to complete the project to public standards
Impact/Mitigation Fees	Fees paid to local governments to offset additional public-service costs
Development Period Utilities	Costs paid to utilize utilities while the project is being developed
Construction Loan Fees	Fees paid to the lender providing the loan to purchase materials and services during the construction period
Construction Interest	Interest that accrues on an interim / short term construction loan
Other Loan Fees (Impact Capital, State HTF, etc.)	Fees paid to public lenders and grantors
LIHTC Fees	Fees paid to the Washington State Housing Commission for federal Low-Income Housing Tax Credits
Accounting/Audit	Fees paid for contracted accounting and auditing services
Marketing/Leasing Expenses	All advertising costs paid for the purpose of attracting eligible tenants
Carrying Costs at Rent Up	All costs incurred as a result of holding empty units during the time period from receipt of certificate of occupancy to achieving 100% occupancy
Operating Reserves	The capitalized fund balance set aside to be used for future operating expenses
Replacement Reserves	The capitalized fund balance set aside to be used for future capital improvements often in accordance with the Cap Needs Assessment

APPENDIX 4: SUMMARY DATA FOR THE PROJECT SAMPLE

Appendix 4a(1) - Base Project Characteristics

Appendix 4a(2) - Summary of Project Costs

Appendix 4a(3) - Costs Associated With Development Fees

Appendix 4a(4) - Summary of Total Capital Funds

Appendix 4b(1) - Sample Population – Profile of the 65 Projects

Appendix 4b(2) - Relationships Among Project Attributes

Appendix 4c - Supplementary Data Tables Regarding Differences Among Projects

Appendix 4a(1) - Base Project Characteristics

Special Needs Codes: H=Homeless SNCMI=Chronically Mentally Ill SNSR=Seniors SNHV=Homeless Veteran MSN=Multiple Special Needs SNDD=Developmentally Disabled SNDV=Domestic Violence SNPD=Physically Disabled SNY=Special Needs Youth 18-24

Project Number	County	City	Type of Project	Sponsor	Special Needs Population	Percent of Units for Special Needs	Years - HTF Award to Project Completion	Total Residential Square Feet	Total Apartment Units	Total Bedrooms	Operating Subsidy y=yes n=no
1	King	Seattle	ACQ,R	g	H	22%	1.79	24,252	36	48	y
2	Douglas	East Wenatchee	NC	g		0%	2.64	30,624	26	72	n
3	Lewis	Centralia	NC	np	SNCMI	92%	2.71	7,561	12	12	y
4	Pierce	Tacoma	R	np		0%	2.37	32,337	43	94	y
5	Chelan	Chelan	ACQ,NC	g		0%	4.83	27,660	26	58	y
6	Skagit	Mt. Vernon	NC	np		0%	2.42	32,250	30	75	y
7	Cowlitz	Kalama	ACQ,R	g	SNSR	100%	3.02	7,904	16	16	n
8	Walla Walla	Walla Walla	NC	g	SNHV	100%	1.68	5,900	14	14	y
9	Spokane	Spokane	ACQ,R	g		0%	2.28	40,269	50	86	y
10	Grant	Ephrata	ACQ,R	g		0%	1.45	28,150	30	74	y
11	King	Seattle	ACQ,NC	np	MSN	100%	2.19	49,745	75	75	y
12	Thurston	Olympia	ACQ,NC	np		0%	2.16	6,459	10	10	y
13	Thurston	Olympia	NC	np	SNMSN	0%	2.45	17,650	28	28	y
14	King	Vashon	NC	np		0%	3.01	28,257	26	56	n
15	King	Enumclaw	ACQ,R	g		0%	2.09	14,448	16	32	y
16	Thurston	Olympia	NC	np		2%	2.29	49,750	51	102	y
17	Asotin	Clarkston	ACQ,NC	g	SNSR	100%	2.24	17,900	25	32	y
18	King	Renton	NC	np	SNDD	100%	1.39	9,000	7	24	y
19	Skagit	Burlington	ACQ,NC	g		0%	2.58	35,406	50	146	n
20	Island	Oak Harbor	ACQ,R	np		0%	2.71	22,198	29	58	y

21	Lincoln	Davenport	NC	np	SNDV	0%	2.35	7,656	10	16	y
22	Yakima	Toppenish	NC	np		0%	2.67	29,484	26	72	y
23	King	Seattle	ACQ,NC,R	np		0%	1.64	64,542	61	67	y
24	Clark	Vancouver	NC	np	SNSR	98%	1.94	40,400	56	57	y
25	Spokane	Spokane	NC	np	SNDD	100%	1.11	2,640	2	6	n
26	Jefferson	Shoreline	ACQ,R	np	SNDD	100%	3.85	9,500	20	20	y
27	Pierce	Tacoma	ACQ,NC	np	SNSR	98%	2.54	45,000	55	56	y
28	Kitsap	Bainbridge	ACQ,R	np	SNPD	19%	2.04	33,024	47	82	n
29	Whitman	Colfax	R	np	SNDD	100%	2.54	2,810	4	4	y
30	King	Bellevue	NC	np		0%	4.14	8,300	6	16	y
31	Whitman	Pullman	R	np	MSN	37%	4.35	29,860	38	38	n
32	King	Seattle	ACQ,NC,R	np	SNSR	100%	3.79	48,764	63	63	n
33	Whatcom	Bellingham	ACQ,R	np		0%	2.65	12,120	20	20	y
34	King	Issaquah	NC	np	SNDD	30%	2.01	50,076	50	100	y
35	Whatcom	Bellingham	NC	g	SNDD	20%	2.99	48,600	50	120	n
36	Whatcom	Bellingham	NC	g	SNMSN	0%	1.15	22,769	25	49	y
37	Clark	Battle Ground	NC	g	SNPD	56%	2.68	58,931	50	92	n
38	King	Issaquah	ACQ,R	np		0%	0.94	24,800	28	56	y
39	Grays Harbor	Montesano	ACQ,R	np	SNSR	100%	3.10	21,406	30	30	y
40	Grays Harbor	Montesano	ACQ,R	np	SNSR	96%	3.10	16,411	23	23	y
41	Snohomish	Everett	NC	np	MSN	74%	2.03	32,000	19	29	y
42	King	Seattle	NC	g	MSN	100%	1.84	60,470	82	99	n
43	Pierce	Parkland	ACQ,NC	g		0%	2.21	29,792	40	83	y
44	Franklin	Pasco	ACQ,NC	np		0%	2.28	52,976	45	118	n
45	Yakima	Yakima	NC	np	SNDD	96%	2.28	27,557	26	55	n
46	Thurston	Olympia	ACQ,R	np	SNY	100%	2.19	5,160	9	9	n
47	Pierce	Tacoma	NC	g	SNDD	0%	1.27	105,478	90	232	n
48	Pierce	Fife	NC	np	SNSR	100%	2.54	43,856	49	60	n

49	Cowlitz	Castle Rock	ACQ,R	g	SNSR	100%	3.21	37,817	35	35	n
50	Spokane	Spokane	ACQ,NC	np	SNPD	6%	1.23	11,125	18	18	y
51	King	Seattle	NC	g	SNDD	20%	1.55	195,689	187	385	n
52	King	Seattle	NC	np	SNMSN	97%	3.23	72,070	95	95	y
53	Whatcom	Bellingham	ACQ,NC	np	SNSR	95%	4.26	17,240	21	22	y
54	King	Seattle	ACQ,NC	np	SNDD	7%	3.04	69,643	70	118	n
55	Snohomish	Sultan	NC	np		0%	3.03	4,400	5	13	n
56	Grant	Ephrata	NC	np	SNPD	11%	1.28	27,849	28	70	y
57	King	Redmond	ACQ,R	np	MSN	37%	2.36	123,960	118	259	n
58	Yakima	Sunnyside	ACQ,NC	np		0%	2.58	57,000	51	141	n
59	Pierce	Milton	ACQ,R	np		0%	1.50	27,000	29	58	n
60	Thurston	Tumwater	R	np	SNCMI	100%	4.26	18,800	34	34	y
61	King	Federal Way	ACQ,R	np	MSN	31%	1.58	59,050	85	109	y
62	King	Federal Way	NC	np	SNDV	100%	2.79	24,620	23	61	y
63	King	Seattle	NC	np	MSN	21%	2.37	50,405	34	70	n
64	Walla Walla	Walla Walla	NC	np	SNCMI	88%	1.01	5,808	8	9	y
65	Whitman	Tekoa	R	np		0%	2.03	5,920	8	16	y

Appensix 4a(2) - Summary of Project Costs

Project Costs As Measured by Several Metrics							Costs Associated With the Four Main Cost Centers			
Project Number	Total Residential Project Cost	HTF $ Per Unit	Cost Per Unit	Cost Per Bedroom	Cost Per Square Foot	Construction Cost Per Square Foot	1) Acquisition	2) Construction	3) Development Project Management and Related Fees	4) Other Development
1	7,414,055	30,556	205,946	154,459	306	143	1,943,660	3,838,027	1,053,803	578,565
2	5,208,755	71,038	200,337	72,344	170	119	221,867	3,689,483	853,581.00	443,824
3	1,980,975	63,423	165,081	165,081	262	152	160,034	1,304,039	350,018	166,884
4	7,084,918	31,395	164,766	75,371	219	80	2,106,000	3,245,540	1,099,500	633,878
5	4,048,600	40,154	155,715	69,803	146	111	125,038	3,062,935	506,141	354,486
6	5,766,416	43,667	192,214	76,886	179	117	486,524	3,796,375	835,815	647,702
7	967,312	30,813	60,457	60,457	122	44	404,399	350,621	171,143	40,849
8	990,464	42,176	70,747	70,747	168	120	96,060	736,709	136,646	21,049
9	11,403,260	28,000	228,065	132,596	283	171	1,325,145	7,683,903	1,733,132	661,081
10	3,422,175	12,183	114,073	46,246	122	21	1,436,000	1,105,012	463,529	417,634
11	13,834,038	19,831	184,454	184,454	278	177	2,014,125	9,664,542	1,389,400	767,132
12	1,235,537	53,000	123,554	123,554	191	109	175,000	832,098	81,100	147,339
13	3,075,000	34,643	109,821	109,821	174	96	159,625	2,120,649	468,304	326,422
14	6,261,187	45,957	240,815	111,807	222	139	333,583	4,331,093	903,743	692,768
15	2,134,238	37,500	133,390	66,695	148	20	1,443,598	289,558	254,465	146,617
16	9,290,786	31,373	182,172	91,086	187	119	377,713	6,499,968	1,469,659	943,267
17	2,154,319	12,662	86,173	67,322	120	82	66,122	1,677,146	348,950	62,100
18	1,134,605	71,429	162,086	47,275	126	44	472,650	507,600	135,355	19,000
19	6,107,000	33,500	122,140	41,829	172	129	183,994	4,756,884	799,580	366,542
20	1,440,147	36,112	49,660	24,830	65	0	1,322,419	0	19,382	97,959
21	1,719,934	159,993	171,993	107,496	225	149	0	1,373,200	264,934	81,800

22	3,904,556	29,913	150,175	54,230	132	99	56,785	3,268,969	312,827	265,975
23	15,765,441	24,590	258,450	235,305	244	135	1,768,600	11,034,840	2,057,038	904,963
24	6,682,350	14,500	119,328	117,234	165	110	386,893	5,402,623	488,225	404,607
25	329,852	111,176	164,926	54,975	125	73	25,600	255,397	32,500	16,355
26	2,327,810	56,911	116,391	116,391	245	48	1,444,058	550,275	273,822	59,655
27	7,108,552	14,728	129,246	126,938	158	114	401,258	5,456,169	1,100,748	150,378
28	5,431,422	21,170	115,562	66,237	164	29	2,996,675	1,308,412	711,849	414,486
29	430,459	97,344	107,615	107,615	153	90	55,469	284,220	56,236	34,534
30	1,916,391	84,812	319,399	119,774	231	41	1,252,034	339,775	260,095	66,487
31	1,400,816	16,836	36,864	36,864	47	8	975,684	255,435	98,471	71,226
32	11,946,092	13,321	189,621	189,621	245	122	2,024,282	6,514,995	2,147,111	1,259,705
33	4,673,393	47,500	233,670	233,670	386	218	664,806	2,889,392	764,467.00	354,679
34	11,172,359	35,000	223,447	111,724	223	106	2,121,995	6,215,644	1,466,155	1,368,558
35	8,435,835	9,800	168,717	70,299	174	109	455,840	5,708,171	955,017	1,316,808
36	4,857,627	60,000	194,305	99,135	213	116	345,711	3,096,822	888,021	527,073
37	7,377,017	29,200	147,540	80,185	125	60	521,984	4,575,355	1,168,400.00	1,111,378
38	6,204,089	17,857	221,575	110,787	250	84	2,672,326	2,299,414	649,047	583,294
39	2,457,911	21,296	81,930	81,930	115	21	1,232,823	686,435	384,455	154,198
40	1,879,997	5,671	78,333	81,739	115	17	985,567	463,648	274,328	156,454
41	5,701,586	32,632	300,083	196,606	178	61	978,296	3,304,572	790,927	627,791
42	20,860,727	15,244	254,399	210,714	345	217	211,820	13,601,206	4,171,116	2,876,625
43	6,746,408	37,500	168,660	81,282	226	149	265,642	5,076,382	791,536	612,849
44	7,578,245	31,222	168,405	64,222	143	96	326,153	5,162,585	1,017,296	1,072,210
45	4,803,035	61,538	184,732	87,328	174	118	192,205	3,757,091	596,826	256,893
46	996,704	97,236	124,588	110,745	193	64	403,622	438,407	27,783	126,894
47	19,157,150	16,667	212,857	82,574	182	100	34,044	14,894,186	2,802,755	1,426,165
48	8,774,602	30,612	179,074	146,243	200	104	470,000	5,866,906	1,222,647	1,214,869
49	1,748,535	15,858	49,958	49,958	46	12	945,736	458,482	273,792.00	70,525
50	2,895,810	65,490	160,878	160,878	260	128	320,600	2,072,964	334,300	167,946
51	44,144,437	5,348	236,067	114,661	226	137	16,057	33,791,098	6,885,493	3,451,789
52	17,879,741	21,053	188,208	188,208	248	145	2,735,538	11,996,398	1,847,143	1,305,662.00

53	2,322,583	17,295	110,599	105,572	135	101	204,000	1,756,821	264,615	97,147.00
54	16,010,134	25,000	228,716	135,679	230	144	946,395	11,063,767	2,865,124	1,134,848
55	416,850	15,000	83,370	32,065	95	0	372,500	0	24,500	19,850
56	4,125,812	10,714	147,350	58,940	148	58	128,364	2,951,912	679,959	365,577
57	23,552,983	6,780	199,602	90,938	190	23	13,209,976	4,454,509	2,578,566	3,309,932
58	8,476,646	29,412	166,209	60,118	149	107	241,824	6,470,753	1,305,016	459,053
59	3,339,566	44,690	115,157	57,579	124	26	1,609,388	894,949	398,580	436,648
60	3,240,165	44,118	95,299	95,299	172	76	693,509	2,126,367	216,416	203,873.00
61	10,034,613	14,704	118,054	92,061	170	34	3,771,423	3,757,421	1,071,363	1,434,407
62	5,092,610	42,718	221,418	83,485	207	124	501,009	3,409,199	705,789	476,613
63	11,932,764	30,452	350,964	170,468	237	162	709,766	8,998,310	1,371,660	853,027
64	987,584	33,123	123,448	109,732	170	113	54,000	741,412	112,576	79,596
65	436,142	12,460	54,518	27,259	74	21	254,057	136,793	17,999	27,295

Appendix 4a(3) - Costs Associated With Development Fees

Summary of Professional Fees						
Project Number	Architect	Legal	Developer and Project Mngt. Fees	Tech. Fee	Consultant and Other Fees	Enviro Geotech Surveys
1	317,689	23,500	658,784	0	17,900	34,430
2	278,398	89,931	457,165	0	7,806	18,031
3	126,165	25,450	180,000	0	2,655	11,848
4	263,000	55,000	737,100	0	17,000	27,400
5	264,372	5,794	94,400	0	134,912	5,163
6	242,023	21,546	510,445	0	27,115	26,686
7	0	7,600	105,000	45,000	54,293	3,150
8	52,000	1,752	82,894	0	0	0
9	582,750	51,401	1,011,580	0	24,750	62,651
10	15,000	55,000	365,000	0	11,988	12,041
11	629,629	52,043	669,971	0.00	3,716	27,541
12	44,434	0	21,609	10,993	11,101	3,956
13	76,304	77,500	245,000	20,000	52,500	10,000
14	237,331	30,300	501,850	3,750	96,685	27,077
15	20,048	2,067	220,000	0	3,000	3,100
16	511,682	53,023	823,299	0	46,298	35,357
17	119,779	18,575	176,681	15,000	18,000	13,415
18	33,300	0	101,355	0	0	700
19	292,020	28,734	439,275	0	4,500	33,051
20	0	1,443	0	0	8,638	7,550
21	87,500	5,000	150,100	0	15,750	6,584
22	150,000	15,094	110,516	0	13,957	18,760
23	717,448	119,000	1,128,000	0	23,500	58,750
24	165,000	4,500	83,101	215,000	215,000	17,124
25	1,500	0	30,000	0	0	1,000

26	40,000	5,000	213,822	0	0	12,500
27	351,597	24,297	647,480	0	65,379	7,795
28	7,500	75,615	517,459	0	35,802	48,838
29	17,252	137	36,622	0	0	2,225
30	19,500	0	156,778	0	79,659	1,953
31	7,787	3,154	84,530	0	0	3,000
32	591,315	125,980	1,312,289	0.00	61,713	46,274
33	267,031	29,157	411,768	12,630	20,355	36,156
34	285,543	75,888	1,002,073	0	14,183	50,196
35	209,387	49,402	652,000	0	0	26,389
36	199,083	48,181	450,000	0	145,683	29,039
37	185,000	86,900	885,000	0.00	6,500	0
38	219,942	31,667	328,219	0	40,619	19,250
39	34,784	79,762	243,074	0	5,010	6,910
40	19,725	49,741	187,148	0	4,638	7,250
41	301,656	22,649	425,000	0	7,750	26,672
42	1,792,298	50,974	1,239,979	209,890	1,087,865	0
43	189,263	69,147	403,808	0	86,352	38,119
44	287,415	47,682	616,803	12,900	42,706	17,190
45	177,092	34,379	328,017	15,440	22,034	31,554
46	0	0	17,299	0	4,699	3,285
47	790,786	233,148	1,561,600	0	195,538	11,108
48	324,300	65,000	770,000	0	33,247	22,600
49	1,250	7,600	205,678	46,809	54,514	3,250
50	114,250	3,000	191,500	9,500	19,500	2,550
51	3,006,258	381,052	884,948	523,814	2,605,785	0
52	670,800	61,230	834,600	0	241,684	29,820
53	102,599	26,500	112,000	0	0	23,516
54	657,053	25,623	2,091,825	61,272	65,472	17,586
55	0	0	18,500	0	0	2,500
56	64,150	36,090	531,628	0	13,310	17,581

57	91,137	190,520	2,134,790	0	50,690	92,929
58	427,846	55,578	740,685	0	34,103	38,804
59	94,000	13,046	240,000	0	34,974	12,060
60	147,473	3,300	0	6,325	48,443	6,200
61	28,954	50,000	874,889	0	46,500	45,500
62	194,000	39,103	419,372	6,167	32,498	16,316
63	583,650	77,000	617,013	3,400	48,350	35,557
64	32,000	6,000	49,000	0	7,976	15,600
65	1,379	500	14,620	0	0	1,500

Appendix 4a(4) - Summary of Total Capital Funds

Summary of Capital Funds Used For the Project										
Project Number	Number of Capital Sources	Percent From HTF	HTF Award	Local Gov.	HB2060 - $ From Document Surcharge	Federal Grants or Loans	Federal Low-Income Housing Tax Credits	Equity	Perm. Loan	Grants Donations
1	6	15%	1,100,000	1,106,108	0	0	4,912,947	135,000	0	160,000
2	4	35%	1,846,987	0	25,000	0	3,308,000	28,768	0	0
3	2	38%	761,079	0	80,000	1,129,896	0	0	0	10,000
4	7	19%	1,350,000	600,000	200,000	250,000	4,345,702	159,216	0	180,000
5	3	26%	1,044,000	0	0	2,999,600	0	0	5,000	0
6	5	23%	1,310,000	65,891	0	202,971	4,111,150	76,404	0	0
7	3	51%	493,015	0	0	474,296	0	0	0	0
8	2	60%	590,465	0	0	400,000	0	0	0	0
9	7	12%	1,400,000	250,000	0	200,000	9,448,601	0	0	104,660
10	5	11%	365,484	0	0	742,219	1,954,365	0	360,107	0
11	6	11%	1,487,320	3,600,000	0	0	8,696,718	0	0	50,000
12	4	43%	530,000	175,000	0	530,537	0	0	0	0
13	3	32%	970,000	0	0	0	2,015,000	0	90,000	0
14	6	19%	1,194,869	1,300,000	0	181,974	3,584,344	0	0	0
15	5	28%	600,000	0	0	67,743	424,238	0	0	1,042,257
16	8	17%	1,600,000	836,416	0	499,950	5,645,446	301,238	407,736	0
17	7	15%	316,547	0	0	1,815,511	0	7,186	0	15,075
18	4	44%	500,000	620,000	0	0	0	14,605	0	0
19	5	27%	1,675,000	325,000	0	0	3,777,000	0	330,000	0
20	3	66%	947,239	0	0	477,814	0	15,093	0	0
21	3	93%	1,599,934	45,000	0	75,000	0	0	0	0
22	5	20%	777,735	0	0	3,121,821	0	0	0	5,000
23	7	10%	1,500,000	3,266,284	0	0	4,531,459	498,859	5,968,839	0

24	4	12%	812,000	0	380,650	5,479,700	0	10,000	0	0
25	3	67%	222,352	100,000	0	0	0	7,500	0	0
26	2	49%	1,138,220	1,189,590	0	0	0	0	0	0
27	6	11%	810,043	0	221,680	5,671,500	0	0	405,329	0
28	7	18%	995,000	0	0	1,155,675	2,315,534	338,714	0	626,500
29	3	90%	389,377	0	0	0	0	0	9,145	31,937
30	7	26%	491,057	490,444	0	200,000	0	0	125,247	611,643
31	6	46%	639,782	0	0	721,800	0	0	25,000	14,234
32	6	7%	839,212	839,212	0	321,954	8,129,249	36,465	1,780,000	0
33	7	20%	950,000	250,000	125,678	0	3,133,249	26,000	188,466	0
34	8	16%	1,750,000	140,000	0	2,165,921	5,043,495	324,806	1,523,137	225,000
35	5	6%	490,000	390,000	0	0	5,122,000	33,835	2,400,000	0
36	5	31%	1,500,000	578,536	0	0	1,125,000	1,654,091	0	0
37	6	12%	860,600	210,346	691,584	812,200	2,479,409	137,878	2,185,000	0
38	8	8%	500,000	1,449,770	0	0	2,248,215	0	1,770,780	235,325
39	6	26%	638,889	0	60,020	0	1,319,002	0	440,000	0
40	6	7%	136,111	0	0	453,080	1,046,000	12,133	140,700	91,973
41	6	11%	620,000	1,220,000	0	0	2,564,644	0	1,296,942	0
42	5	6%	1,250,000	0	0	328,000	13,082,727	0	6,200,000	0
43	6	22%	1,500,000	0	552,198	0	4,092,727	114,916	0	486,567
44	3	19%	1,405,000	0	0	250,000	0	5,923,245	0	0
45	11	33%	1,600,000	0	161,500	200,000	2,574,000	0	209,035	58,500
46	4	78%	777,884	149,480	69,340	0	0	0	0	0
47	6	8%	1,500,000	300,000	0	2,977,150	1,000,000	12,500,000	880,000	0
48	6	17%	1,500,000	0	650,000	1,499,938	3,955,000	369,664	800,000	0
49	3	32%	555,036	0	0	1,193,499	0	0	0	0
50	8	41%	1,178,821	35,000	175,000	62,500	0	0	0	1,444,489
51	6	2%	1,000,000	2,369,819	0	7,925,000	6,700,000	26,149,618	0	0
52	6	11%	2,000,000	7,819,079	0	250,000	7,815,662	0	0	0
53	4	16%	363,201	200,450	0	1,758,932	0	0	0	0
54	8	11%	1,750,000	2,454,405	0	0	8,217,969	1,510,162	297,598	1,780,000

55	4	18%	75,000	75,000	0	0	0	0	266,850	0
56	4	7%	300,000	0	0	1,000,000	2,481,812	0	344,000	0
57	10	3%	800,000	3,719,365	0	0	7,206,360	2,458,916	9,368,342	0
58	4	18%	1,500,000	0	0	499,950	6,476,696	0	0	0
59	7	39%	1,296,000	500,000	0	0	1,423,566	0	0	120,000
60	5	46%	1,500,000	0	0	709,018	0	0	500,000	531,147
61	5	12%	1,249,866	1,875,800	0	309,181	4,843,766	0	1,756,000	0
62	6	19%	982,508	1,016,934	0	160,977	2,382,192	0	0	549,999
63	16	9%	1,062,217	2,411,956	370,000	237,966	4,412,619	0	530,000	2,908,006
64	4	27%	264,984	0	0	719,000	0	3,600	0	0
65	4	23%	99,679	0	0	223,970	0	75,000	0	37,492

Appendix 4b(1) - Sample Population - Profile of the 65 Projects

The following data tables and associated summaries supplement the project profile discussion that is provided in Chapter 4: Analysis of Development Costs.

Types of Projects in the Sample

Table 17 summarizes the distribution of the projects in terms of their location and construction type. Of the 65, 69% were in western Washington, 63% were in urban areas.

Regarding construction type, 63% were new construction and 37% were rehabilitation projects. These proportions were more pronounced for the total number of units that the projects created: 76% were in urban areas, 82% were in western Washington and 65% were new construction. With respect to the $432 million in total costs, 83% was invested in urban areas, 85% was in western Washington, and 70% was spent on new construction. Of the $63.9 million in Housing Trust Fund awards, urban markets received 70%, western Washington received 75%, and new construction received 68%.

Table 17: Distribution of Projects

Project Breakdowns	Values				Sample Proportion			
	Projects	Units	Total Cost $	HTF $	Projects	Units	Total Cost	HTF $
Urban vs. Rural	41 vs. 24	1,887	$357,041,659	$44,476,498	63%	76%	83%	70%
West vs. East	45 vs. 20	2,023	$366,262,271	$47,796,720	69%	82%	85%	75%
New vs. Rehabilitation	41 vs. 24	1,601	$302,498,879	$43,582,074	63%	65%	70%	68%
Total	**65**	**2,473**	**$432,231,122**	**$63,942,867**				

Projects by Size

As summarized by Table 18 below, the number of projects was relatively equally divided into three size breakouts of: 1) under 24 units, 2) 24-48 units, and 3) over 48 units (32%, 37% and 31%, respectively).

Projects that were fewer than 24 units comprised 11% of all units, projects with 24-48 units comprised 31% and projects with more than 48 units comprised 58% of the projects

in the sample. Of the $63.9 million in awards, 20% went to under-24-unit projects, compared to 39% for 24-48 units and over 48-unit projects capturing 41% of the awards.

Table 18: Distribution of Projects by Size Categories

Project Breakdowns by Size	Values				Sample Proportion			
	Projects	Units	Total Cost $	HTF $	Projects	Units	Total Cost	HTF $
Under 24 Units	21	271	$40,570,836	$12,781,501	32%	11%	9%	20%
24 - 48 Units	24	764	$113,646,523	$24,787,925	37%	31%	26%	39%
Over 48 Units	20	1,438	$278,013,763	$26,373,441	31%	58%	64%	41%
Total Values	**65**	**2,473**	**$432,231,122**	**$63,942,867**	**100%**	**100%**	**100%**	**100%**

Distinguishing Features

In terms of size, the projects had an average of 1.75 bedrooms for a total of 4,297 bedrooms and an average of 887 square feet per unit.[38] In addition to the residential units, many projects included common areas or tenant services such as childcare (37 of 65).[39] In some cases, projects included ancillary non-residential space. In the aggregate, this space was relatively minor, adding some 3.8% to the total cost of the projects in the sample.[40]

Target Populations and Special Needs

The majority of the 65 projects (80%) included some units targeted at tenants who required adaptive or special needs, housing, which differs from traditional market-rate housing. Examples of special needs populations include farmworkers, homeless, seniors,

[38] Although not explored in this study, stakeholder interviews suggest the number of bedrooms and average sizes are larger than comparable market-rate projects.
[39] These common areas served a number of roles including: amenities, child care, kitchen, dining, laundry, community spaces, counseling offices, managers' offices, play areas, personal storage, computer labs, and libraries.
[40] Since Housing Trust Fund investments are not used for commercial retail spaces, this report excludes them from the descriptive and statistical analysis.

veterans, and developmentally disable people.[41] Of the total number of units, 52% were targeted for populations with special housing needs. The significant focus on special needs residents has cost implications, and also helps explain some of the unique design and common-area requirements that differ from market-rate housing.

Table 19: Special Needs Breakdown

Target Populations	Projects w/Targets		Number of Units	
	Number	Percent of Sample	Number	Percent of Sample
Farmworkers	6	9%	202	8%
General Family	33	51%	1,131	46%
General Individuals	6	9%	77	3%
Homeless Beds *	5	8%	38	2%
Homeless Units	2	3%	28	1%
Senior Housing	12	18%	411	17%
Special Needs **	27	42%	558	22%
Manager Units	24	37%	28	1%

* Homeless beds adjusted to unit equivalents to standardize data

** Includes a variety of special needs

Overall, the average target rent for the 65 projects was 40% of median income ranging from a low of 30% to a high of 60%. Around 20% of the projects included homeless units, serving a particularly dependent portion of the market. To help cover operating expenses and pay back debt, 46% of the projects depended on operating subsidies.[42]

Project Timing and Sponsorship

The average time from award to completion was 2.4 years.[43] This does not include the time spent acquiring land or completing applications to the Housing Trust Fund, the Washington State Finance Commission, federal and local governments, banks, and other funding sources. Of the 65 projects, 72% were promoted by nonprofit sponsors, while

[41] The special needs category covered an array of target populations (See Appendix 4a(1)).

[42] Operating subsidies were funded from a variety of sources including: HUD Section 8, 811, 202; WA O&M – 2060; USDA Section 521; VA Lease and VA Grant; McKinney Operating O&M; Housing Trust Fund; Sound Families; Gates Foundation; Fundraising; and Neighborhood Community Block Grant.

[43] Interviews conducted for this study suggest that this is about double the time for comparable market-rate projects.

the rest were developed by government entities, typically housing authorities. Over a third of the sponsors were involved in more than one project during the two-year time frame for the sampling. In the majority of cases (57%), sponsors hired a third party developer, while in the balance they acted as the developer themselves. A significant majority (63%) of projects used federal financing and 37% of the projects involved Housing Trust Fund set asides.

Table 20: Sponsorship and Capital Structure

Attribute	Percent of Sample
Non Profit Sponsor	72%
Experienced Sponsor *	35%
Developer Hired	57%
Low-Income Housing Tax Credit Financing	63%
HTF Set Asides	37%

* Completed more than one project during the time period sampled.

Funding and Capital Sources

With respect to funding, the 65 projects required an average of 5.5 sources of capital.[44] Funding came from a diverse array of sources ranging from federal grants to local grants and capital campaigns. On average, Housing Trust Fund capital contributed 26% of total project capitalization. Because smaller projects have a higher Housing Trust Fund investment, this number is higher than the total percent of Housing Trust Fund capital investment of 14.6% for all 65 projects.

The most important source of capital – which affected 63% of projects – was federal Low-Income Housing Tax Credit equity, which accounted for 30% of total capital. Traditional sources of capital including debt and permanent equity which would account for almost the entire capital base for market-rate projects averaged 13% of the total. Federal funds averaged 18% of total costs, while local funds which included State/Local

[44] Based on market experience, this is more than double the number of finance sources typically required for market-rate projects.

2060 Funds provided another 10% of capital.[45] While Grants and Donations were only 4%, they are likely an important component of allowing sponsors to hit targeted rent levels due to the lack of access to more traditional sources of capital.

Table 21: Capital Structure

Source	Total Capital		Average Per Project
	Dollars	Share	
Housing Trust Fund	$63,252,513	14.6%	$973,116
State and Local Funds	$3,762,650	0.9%	$57,887
Local Funds	$41,974,885	9.7%	$645,767
Federal Funds	$50,456,244	11.7%	$776,250
Federal Low-Income Housing Tax Credit Investment	$167,945,863	38.9%	$2,583,783
Equity Investment	$52,922,912	12.2%	$814,199
Permanent Loan	$40,603,253	9.4%	$624,665
Grants and Donations	$11,319,804	2.6%	$174,151
Total	**$432,238,124**	**100.0%**	**$6,649,817**

Appendix 4b(2) - Relationships Among Project Attributes

To help understand the relationships among the types of projects and whether some characteristics moved together in pairs, either positively or negatively, a correlation analysis was conducted. These findings were treated as potential indicators of cost relationships. They are not final results, but instead, were used to develop the statistical analysis and associated results presented in Chapter 4. The results of this preliminary analysis are summarized below.

- **Size.** In general, smaller projects (fewer than 48 units) received more Housing Trust Fund dollars per unit and as a percent of the project's total funding. Larger projects had the opposite relationship and generally received less Housing Trust Fund dollars per unit (i.e., a negative correlation). In addition, costs declined as the Housing Trust Fund dollars per unit increased.

[45] 2060 Funds refer to HB 2060, effective June 2002, which enacted a surcharge of $10.00 per document recorded in each county. The surcharge is to be used for affordable housing for persons at 50% or less of the median family income.

- **Financing.** The cost of larger units increased significantly when federal Low-Income Housing Tax Credit financing was used. The cost of smaller projects had the opposite relationship. Although not as strong in terms of relationships, larger projects tended to be related to new construction instead of rehabilitation and located in urban areas of western Washington.
- **Urban versus rural.** The cost of urban projects increased along with the number of units, the total cost per unit, and number of loans. Due in part to larger size, the cost of urban projects also tended to increase with the amount of Housing Trust Fund awards.
- **New construction.** The cost of the 41 projects in this category increased along with the total cost per unit, the average size of units in square feet, the number of bedrooms, and the ratio of homeless beds to total beds.
- **Set Asides.** In general, projects that were funded with set asides had a higher total cost per unit and a higher average size per unit and number of bedrooms.
- **Federal Low-Income Housing Tax Credit Financing.** The cost of the 41 projects that used federal Low-Income Housing Tax Credit financing increased with the number of units, total cost per unit, number of capital sources, Housing Trust Fund awards, and location in western Washington. On the other hand, these projects had fewer special needs populations, lower Housing Trust Fund awards as a percent of total cost, fewer rehabilitation projects, and fewer projects with operating subsidies.
- **Housing Trust Fund Awards as a Percent of Total Cost.** The amount of Housing Trust Funds *increased* as the size of projects declined. In general, the amount of Housing Trust Funds per project decreased as several factors increased. These include the total cost per unit, target rent as a percent of median income, number of loans, projects in which a developer was hired, projects with federal Low-Income Housing Tax Credit financing, and, to a lesser extent, urban projects and projects in western Washington.
- **Homeless Ratio.** The homeless ratio was determined by calculating the percent of units that were targeted to homeless occupants. In general, as the homeless ratio rose, the costs were higher for smaller size (under 24 units) projects, along with rising Housing Trust Fund per unit awards, new construction projects, and projects receiving operating subsidies.
- **Rent as Percent of Median Income.** Projects with lower rents tended to be smaller projects under 24 units, projects with a higher homeless ratio, projects with a lower Housing Trust Fund awards as a percentage of cost, projects sponsored by nonprofits, and projects receiving set-asides.

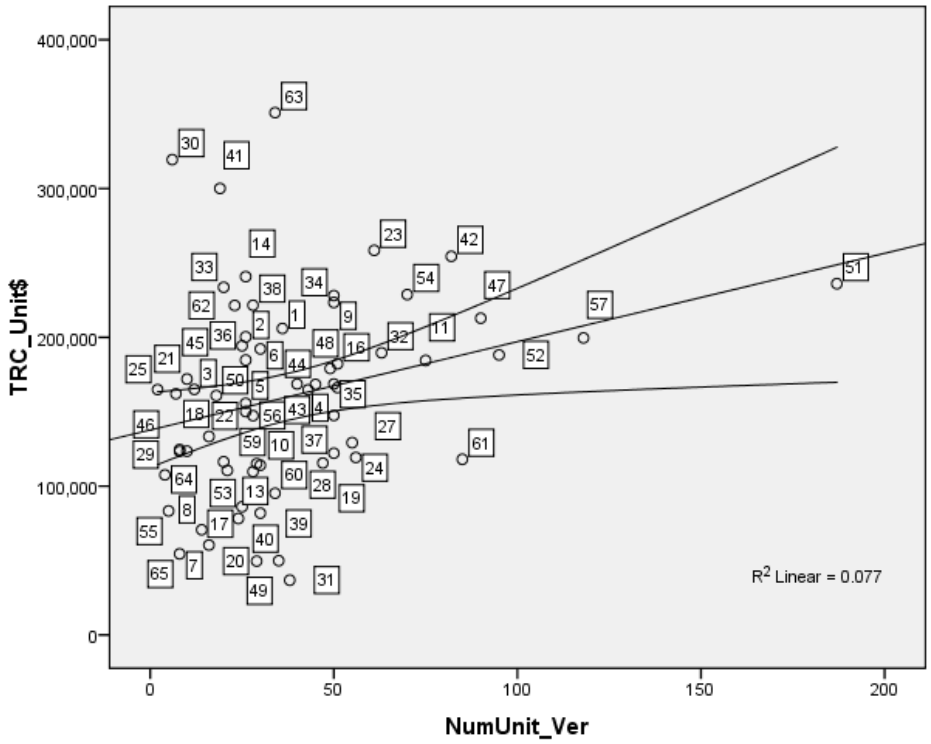
- **Total Residential Cost (TRC).** In general, the total residential cost increased with the number of units and total residential square feet. It also rose with increases in the number of loans, amount of the Housing Trust Fund award, capital sources, architectural fees as a percentage of cost, and financing fee as a percentage of cost. Total costs were higher for projects over-48 units, and smaller for under-48- and under-24-unit projects. Total costs were lower as increases occurred in Housing Trust Fund awards as a percentage of cost, awards per unit, and to a lesser extent, the ratio of acquisition cost to total project cost.
- **Total Residential Cost Per Unit (TRC/Unit).** Overall, an economy of scale did not appear to be evident. Instead, the TRC/Unit increased along with increases in total residential cost per unit TRC, number of units, total residential square feet, and number of bedrooms. These per unit-cost ratios are somewhat counterintuitive given the presumption that economies of scale would reduce costs. The total residential cost per unit also increased along with increases in the number of loans, Housing Trust Fund awards, and capital sources (e.g., state and local funding, and federal Low-Income Housing Tax Credit funding as a percentage of total cost), cost structure (e.g., construction and development costs as percent of total cost), architect fees as a percentage of total cost and construction cost, and financing fee as a percentage of total cost. Per-unit costs decreased (were negatively correlated) with smaller size categories (under 24 and under 48 units), the amount of Housing Trust Funds per unit, Housing Trust Fund award as a percentage of total costs, and the ratio of acquisition cost to the total project cost. .
- **Total Cost per Square Foot.** On average, the total cost per square foot rose in tandem with total residential cost, total residential cost per unit, total residential cost per bedroom, number of loans, Housing Trust Fund award, federal Low-Income Housing Tax Credit financing, cost structure (e.g., construction, development as percentage of total residential cost), and architect fees as a percentage of total residential cost, and construction costs.

The following summaries discuss the results of several data plots generated in order to explore patterns between the projects and help design the statistical analysis that is summarized in Chapter 4.

Cost Per Unit by Size

Assumption: Per-unit costs generally decline as a project gets larger.[46]
Test: To explore whether this assumption was true for the 65 projects, the cost per unit was plotted against the number of units (Figure 4).[47]
Result: At this stage of preliminary analysis, it did not look like the expected cost-per-unit would decline with the number of units and so additional analysis was completed.

Figure 4: TRC/Unit by Number of Units

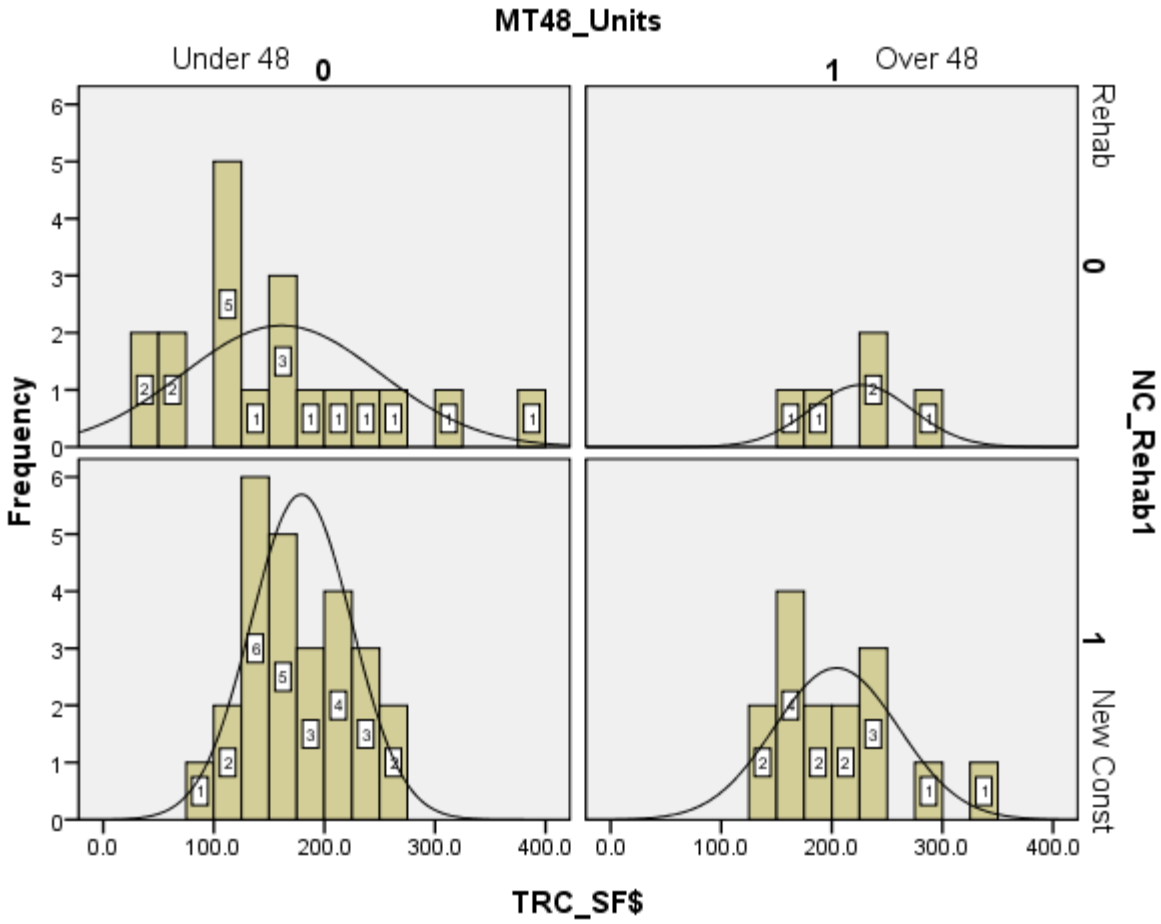


Cost Per Square Foot by Construction Type and Size

[46] The decreasing per unit cost may be due to a number of facts such as falling marginal costs, lower land costs due to higher densities, and greater efficiencies in construction. However, when a project size reaches certain thresholds that dictates the use of different materials (e.g., over five stories must be steel or concrete rather than wood), costs cannot increase with size. Similarly, larger projects may be subject to more reviews and approvals, which add to costs.
[47] The numbers are the codes that were assigned to each of the 65 projects in the sample.

Assumption: There is a cost difference between new construction versus rehabilitation.
Test: To explore these differences, the projects were grouped by the two variables: size and construction type. The size group was divided into under-48-units and 48-and-more-unit categories. In this case, the dependent variable was cost per square foot. Figure 5, presents a frequency distribution of the number of projects in each of the four size-by-construction-type categories. As noted, the range of cost per square foot (SF) for the under-48 rehabilitation projects was much wider than the under-48 new construction projects, although the average was about the same. Similarly, the over-48 rehabilitation project distribution was skewed to the left, while the new construction distribution was skewed to the right.
Result: These differences indicated that the statistical analysis would have to make further adjustments to ensure that new construction and rehabilitation projects were examined as subgroups.

Figure 5: Total Residential Cost per Square Foot by Construction Type by Size



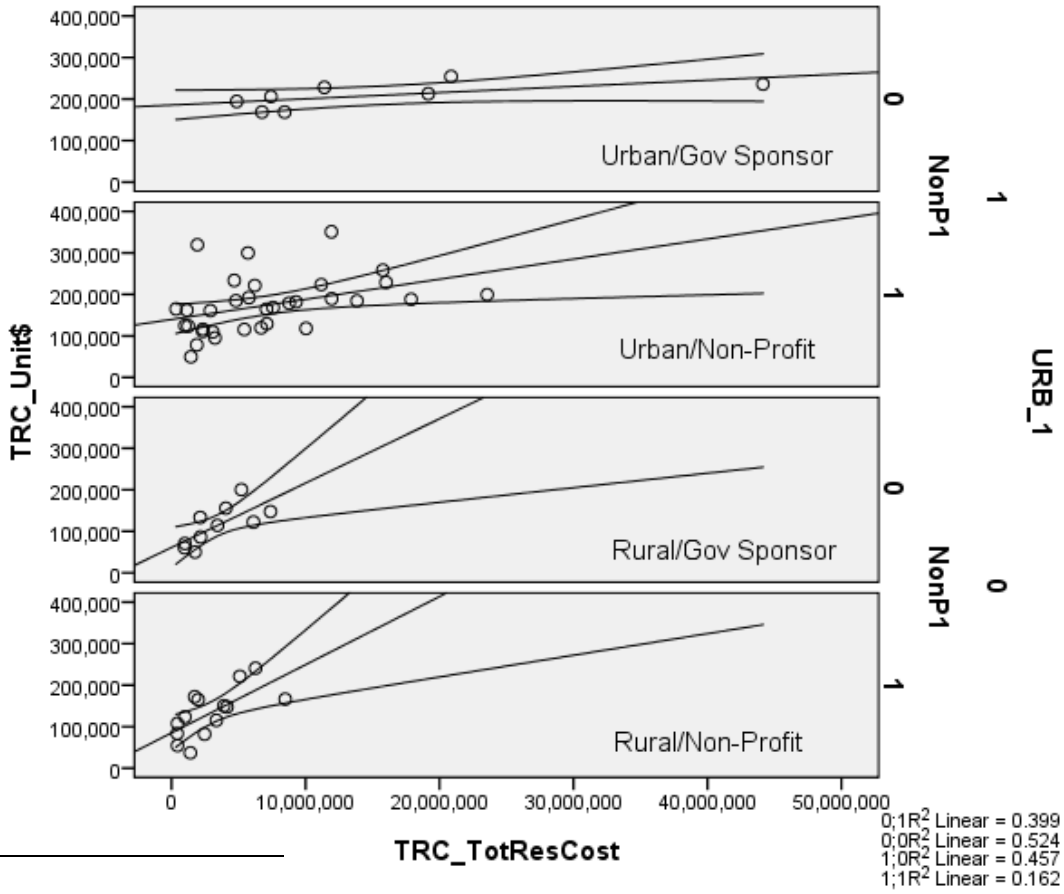
Cost per Unit by Market and Sponsorship

Assumption: Costs vary depending on the project location (i.e., urban versus rural), as well as by type of sponsorship (i.e., nonprofit versus government).

Test: The 65 projects were grouped by location and sponsorship. Figure 6, presents these paired graphs, with the cost per unit plotted against total cost. The line indicates the "best fit" line for a simple linear regression of the two variables; the curved lines represent the 95% confidence intervals for the respective lines.[48]

Result: The charts revealed some apparent differences among the two pairings of data. This suggested the need for more in-depth analysis to isolate the cost effects of size, location, and other factors to explore in the statistical analysis.

Figure 6: TRC/Unit by Sponsorship and Market

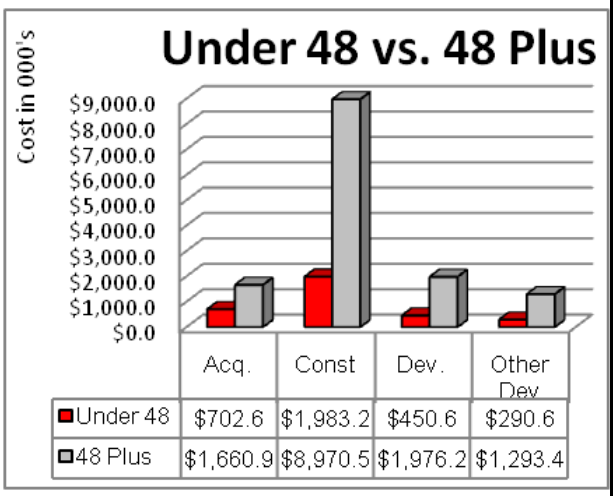


[48] As noted in the summary statistics, the R2 (the measure of correlation or relationships) for the rural, nonprofit projects was .399, compared to .54 for the rural/government-sponsored lines suggesting a lower relationship for the former. In the case of the urban projects at the top, the R2 for government was .457 but there were comparatively few such projects.

Appendix 4c - Supplementary Data Tables Regarding Differences Among Projects

Table 22: Under 48 Versus 48 and Over Unit Size (45 vs. 20 projects)

Snapshot	Size of Project by Number of Units	
Average/Project	**Under 48**	**48 Plus**
Residential SF	***20,262***	***65,935***
Units per project	***23***	***72***
Number of bedrooms	1.8	1.8
Unit Size in SF	***878***	***907***
Housing Trust Fund $	$834,900	$1,318,700
Cost Metrics	**Under 48**	**48 Plus**
Cost/unit	***$148,600***	***$186,820***
Cost/bedroom	$91,220	$125,120
Cost/SF	$172	$210
Construction $/SF	***$98***	***$136***
Average/Project	**Under 48**	**48 Plus**
New Construction	58%	75%
Nonprofit Sponsor	76%	65%
Sponsored over 1 *	40%	25%
Developer hired	56%	60%
Tax Credit financing	***51%***	***90%***
Legislature Set Aside	40%	30%
Some Special Needs	60%	75%
Has common space	58%	55%
Urban vs. Rural	***53%***	***85%***
West vs. East WA	***60%***	***90%***
Operating subsidy	***56%***	***25%***
Rent/median income	39%	43%
Arch. Fee as % of construction cost	5.2%	6.0%
Fees/Total Cost	**Under 48**	**48 Plus**
Architect fee	***3.0%***	***4.1%***
Legal fee	0.7%	0.6%
Developer Fee	6.3%	6.6%
Permit/Impact Fee	1.7%	2.8%
Financing fee	***2.1%***	***4.0%***
Operating reserve	***2.0%***	***1.1%***



Cost Categories	Under 48	48 Plus
Acquisition	***$702,600***	***$1,660,900***
Construction	***$1,983,200***	***$8,970,500***
Development	***$450,600***	***$1,976,200***
Other Development	***$290,600***	***$1,293,400***
Total Cost	***$3,427,100***	***$13,900,900***
Percent of total	**Under 48**	**48 Plus**
Acquisition	***27%***	***11%***
Construction	***53%***	***65%***
Development	12%	14%
Other Development	8%	9%
Total cost	100%	100%

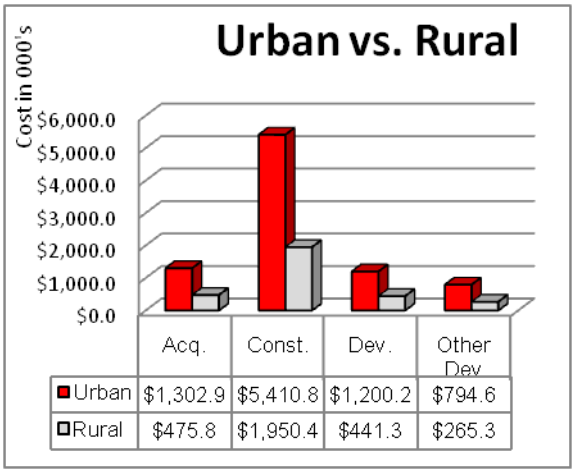
Share of Capital	Under 48	48 Plus
Housing Trust Fund	***33%***	***11%***
Local funds **	9%	10%
Federal funds	21%	13%
Tax Credit equity	***24%***	***44%***
Equity	3%	8%
Permanent loan	4%	12%
Grants/donations	***5%***	***1%***
Total capital	100%	100%

Italics/Bold indicates statistically significant difference based on t-test at the 95% confidence level.
Other observed differences not statistically determinable due to varying distributions of projects in sample.

* Sponsor completed 2 or more of the projects ** Includes State/Local 2060 Funds averaging under 1%

Table 23: Urban Versus Rural Location (41 vs. 24 projects)

Snapshot	Project Location	
Average/Project	**Urban**	**Rural**
Residential SF	***41,125***	***22,682***
Units Per Project	***46***	***24***
Number of Bedrooms	1.7	1.9
Unit Size in SF	895	873
Housing Trust Fund $	***$1,084,800***	***$811,100***
Cost Metrics	**Urban**	**Rural**
Cost/unit	$180,900	$125,300
Cost/bedroom	$119,200	$71,700
Cost/SF	$206	$144
Construction $/SF	***$103***	***$76***
Average/Project	**Urban**	**Rural**
New Construction	63%	63%
Under 48 Units	***59%***	***8%***
Nonprofit Sponsor	80%	58%
Sponsored over 1 *	34%	38%
Developer hired	59%	54%
Tax Credit financing	***73%***	***46%***
Legislature Set Aside	37%	38%
Some Special Needs	71%	54%
Common space	61%	50%
West vs. East WA	***85%***	***42%***
Operating subsidy	46%	46%
Rent/median income	39%	42%
Architect fee as a % of construction cost	5.7%	5.0%
Fees/Total Cost	**Urban**	**Rural**
Architect fee	3.4%	3.1%
Legal fee	.6%	.7%
Developer Fee	6.3%	6.5%
Permit/Impact Fee	2.2%	1.7%
Financing fee	***3.1%***	***1.9%***
Operating reserve	1.7%	1.7%



Cost Categories	Urban	Rural
Acquisition	$1,302,900	$475,800
Construction	***$5,410,800***	***$1,950,400***
Development	***$1,200,200***	***$441,300***
Other Development	***$794,600***	***$265,300***
Total Cost	***$8,708,500***	***$3,132,900***
Percent of total	**Urban**	**Rural**
Acquisition	21%	25%
Construction	58%	54%
Development	13%	13%
Other Development	9%	7%
Total cost	100%	100%

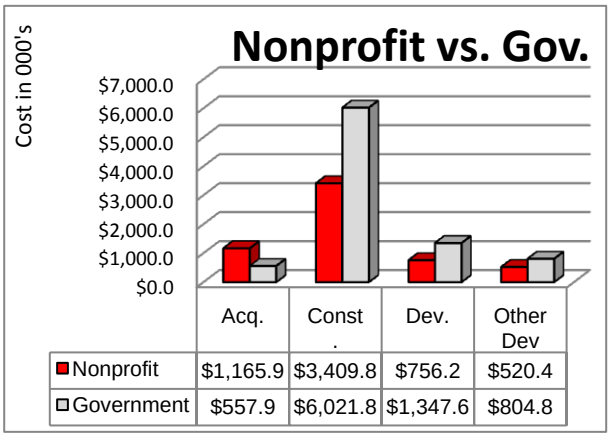
Share of Capital	Under 48	48 Plus
Housing Trust Fund	***22%***	***32%***
Local funds **	***13%***	***4%***
Federal funds	***12%***	***29%***
Tax Credit equity	34%	24%
Equity	***7%***	***1%***
Permanent loan	7%	6%
Grants/donations	4%	3%
Total capital	100%	100%

Italics/Bold indicates statistically significant difference based on t-test at the 95% confidence level.
Other observed differences not statistically determinable due to varying distributions of projects in sample.

* Sponsor completed 2 or more of the projects ** Includes State/Local 2060 Funds averaging under 1%

Table 24: Nonprofit Versus Government Sponsorship (47 vs. 18 projects)

Snapshot	Category	
Average/Project	**Nonprofit**	**Government**
Residential SF	30,605	44,003
Units per project	35	47
Number of bedrooms	1.7	1.9
Unit Size in SF	*891*	*875*
Cost Metrics	**Nonprofit**	**Government**
Housing Trust Fund $	$962,901	$1,038,141
Cost/unit	*$161,996*	*$156,086*
Cost/bedroom	$107,152	$87,295
Cost/SF	$183	$183
Construction $/SF	*$89*	*$103*
Average/Project	**Nonprofit**	**Government**
New Construction	62%	67%
Under 48 Units	72%	61%
Sponsored over 1 *	34%	39%
Developer hired	62%	44%
Tax Credit financing	62%	67%
Legislature Set Aside	40%	28%
Some Special Needs	66%	61%
Common space	64%	39%
Urban vs. Rural	70%	44%
West vs. East WA	70%	67%
Operating subsidy	47%	44%
Rent/median income	***39%***	***44%***
Arch fee as % Const. Cost	5.2%	5.9%
Fees/Total Cost	**Nonprofit**	**Government**
Architect fee	3.1%	3.9%
Legal fee	0.6%	0.7%
Developer Fee	6.1%	7.2%
Permit/Impact Fee	1.9%	2.3%
Financing fee	2.6%	2.7%
Operating reserve	1.7%	1.7%



Cost Categories	Nonprofit	Government
Acquisition	$1,165,854	$557,929
Construction	$3,409,827	$6,021,777
Development	$756,248	$1,347,617
Other Development	$520,422	$804,776
Total Cost	$5,852,352	$8,732,098
Percent of total	**Nonprofit**	**Government**
Acquisition	25%	16%
Construction	55%	61%
Development	12%	15%
Other Development	8%	8%
Total cost	100%	100%
Share of Capital	**Nonprofit**	**Government**
Housing Trust Fund	28%	22%
Local funds **	12%	4%
Federal funds	17%	22%
Tax Credit equity	29%	34%
Equity	3%	9%
Permanent loan	7%	6%
Grants/donations	4%	3%
Grants/donations	100%	100%

Italics/Bold indicates statistically significant difference based on t-test at the 95% confidence level.

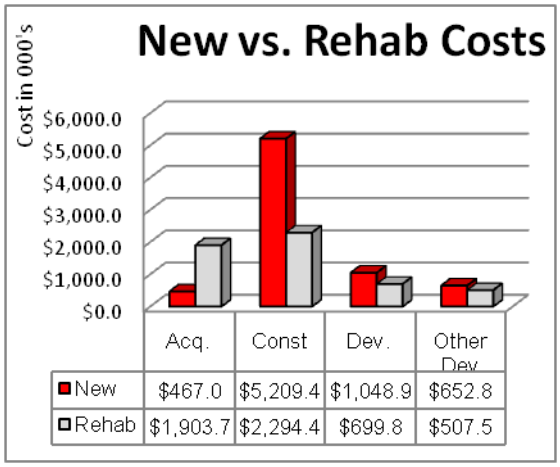
Other observed differences not statistically determinable due to varying distributions of projects in sample.

* Sponsor completed 2 or more of the projects ** Includes State/Local 2060 Funds averaging under 1%

Table 25: New Construction Versus Rehabilitation (41 vs. 24 projects)

Snapshot	Construction Type	
Average/Project	**New**	**Rehab**
Residential SF	37,073	29,604
Units Per Project	39.0	36.3
Number of bedrooms	***1.9***	***1.5***
Unit Size in SF	***958***	***765***
Housing Trust Fund $	$1,063,000	$848,400
Cost Metrics	**New**	**Rehab**
Cost/unit	***$177,313***	***$131,400***
Cost/bedroom	$103,970	$97,690
Cost/SF	$188	$175
Construction $/SF	***$111***	***$63***
Average/Project	**New**	**Rehab**
Under 48 Units	63%	79%
Nonprofit Sponsor	71%	75%
Sponsored over 1 *	29%	46%
Developer hired	61%	50%
Tax Credit financing	63%	63%
Legislature Set Aside	41%	29%
Some Special Needs	68%	58%
Common space	63%	46%
Urban vs. Rural	63%	63%
West vs. East WA	63%	79%
Operating subsidy	49%	42%
Rent/median income	40%	41%
Architect fee as a % of construction cost	5.8%	4.8%

Fees/Total Cost	New	Rehab
Architect fee	***4.0%***	***2.1%***
Legal fee	0.6%	0.7%
Developer Fee	6.2%	6.7%
Permit/Impact Fee	***3.0%***	***0.4%***
Financing fee	2.5%	3.0%
Operating reserve	***1.2%***	***2.5%***



Cost Categories	New	Rehab
Acquisition	***$467,000***	***$1,903,700***
Construction	***$5,209,400***	***$2,294,400***
Development	$1,048,900	$699,800
Other Development	$652,800	$507,500
Total Cost	$7,378,200	$5,405,500
Percent of total	**New**	**Rehab**
Acquisition	***11%***	***42%***
Construction	***68%***	***38%***
Development	*13%*	*12%*
Other Development	*8%*	*8%*
Total cost	*100%*	*100%*

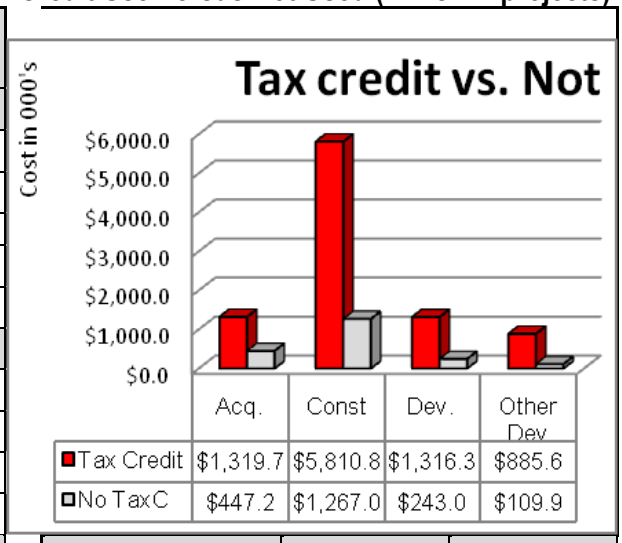
Share of Capital	New	Rehab
Housing Trust Fund	24%	30%
Local funds **	10%	9%
Federal funds	21%	15%
Tax Credit equity	29%	32%
Equity	7%	2%
Permanent loan	6%	8%
Grants/donations	3%	5%
Total capital	100%	100%

Italics/Bold indicates statistically significant difference based on t-test at the 95% confidence level.
Other observed differences not statistically determinable due to varying distributions of projects in sample.

* Sponsor completed 2 or more of the projects ** Includes State/Local 2060 Funds averaging under 1%

Table 26: Federal Low-Income Housing Tax Credit Use Versus Not Used (41 vs. 24 projects)

Snapshot	Use of Low-Income Housing Tax Credits	
Average/Project	**Tax Credit**	**Not used**
Residential SF	***45,884***	***14,553***
Units Per Project	***49***	***19***
Number of bedrooms	***1.9***	***1.5***
Unit Size in SF	***939***	***797***
Housing Trust Fund $	***$1,174,900***	***$657,100***
Cost Metrics	**Tax Credit**	**Not used**
Cost/unit	***$182,870***	***$121,900***
Cost/bedroom	$108,720	$89,570
Cost/SF	***$199***	***$157***
Construction $/SF	***$103***	***$76***



Average/Project	Tax Credit	Not used
New Construction	63%	63%
Under 48 Units	***56%***	***92%***
Nonprofit Sponsor	71%	75%
Sponsored over 1 *	34%	38%
Developer hired	63%	46%
Legislature Set Aside	44%	25%
Some Special Needs	59%	75%
Common space	61%	50%
Urban vs. Rural	***73%***	***46%***
West vs. East WA	***80%***	***50%***
Operating subsidy	***34%***	***67%***
Rent/median income	40%	40%
Architect fee as a % of construction cost	5.8%	4.7%

Fees/Total Cost	Tax Credit	Not used
Architect fee	3.6%	2.8%
Legal fee	***0.8%***	***0.3%***
Developer Fee	***7.3%***	***4.9%***
Permit/Impact Fee	2.2%	1.6%
Financing fee	***3.7%***	***0.9%***
Operating reserve	1.7%	1.7%

Cost Categories	Tax Credit	Not used
Acquisition	***$1,319,700***	***$447,200***
Construction	***$5,810,800***	***$1,267,000***
Development	***$1,316,300***	***$243,000***
Other Dev	***$885,600***	***$109,900***
Total Cost	***$9,332,400***	***$2,067,000***
Percent of total	**Tax Credit**	**Not used**
Acquisition	18%	29%
Construction	58%	54%
Development	***14%***	***11%***
Other Development	***10%***	***6%***
Total cost	100%	100%

Share of Capital	Tax Credit	Not used
Housing Trust Fund	***17%***	***41%***
Local funds **	9%	10%
Federal funds	***8%***	***36%***
Tax Credit equity	***48%***	***1%***
Equity	***7%***	***1%***
Permanent loan	8%	4%
Grants/donations	2%	7%
Total capital	100%	100%

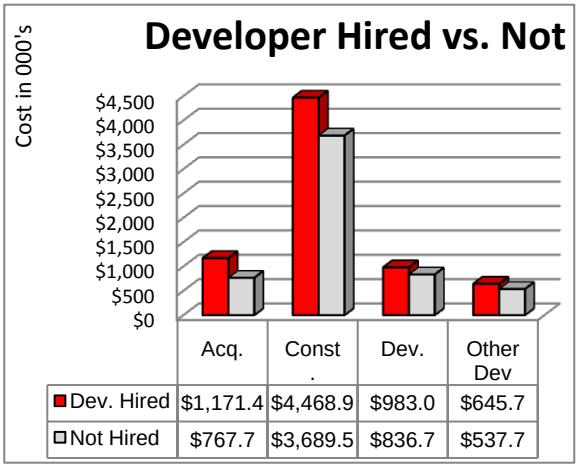
Italics/Bold indicates statistically significant difference based on t-test at the 95% confidence level.
Other observed differences not statistically determinable due to varying distributions of projects in sample.

* Sponsor completed 2 or more of the projects ** Includes State/Local 2060 Funds averaging under 1%

Table 27: Developer Hired Versus Sponsor as Own Developer (37 vs. 28 projects)

Snapshot	Developer Status	
Average/Project	**Hired**	***Not Hired***
Residential SF	37,223	30,474
Units Per Project	42	33
Number of bedrooms	1.7	1.7
Unit Size in SF	872	907
Housing Trust Fund $	$945,357	$1,034,452
Cost Metrics	**Hired**	**Not Hired**
Cost/unit	$162,670	$157,310
Cost/bedroom	$104,480	$97,910
Cost/SF	$190	$1744
Construction $/SF	$101	$84
Average/Project	**Hired**	**Not Hired**
New Construction	68%	57%
Under 48 Units	68%	71%
Nonprofit Sponsor	78%	64%
Sponsored over 1 *	30%	43%
Tax Credit financing	70%	54%
Legislature Set Aside	38%	36%
Some Special Needs	59%	71%
Common space	62%	50%
Urban vs. Rural	65%	61%
West vs. East WA	62%	79%
Operating subsidy	51%	39%
Rent/median income	39%	41%
Arch fee as % Const. Cost	5.5%	5.3%

Fees/Total Cost	**Hired**	**Not Hired**
Architect fee	3.5%	3.0%
Legal fee	0.8%	0.4%
Developer Fee	6.4%	6.4%
Permit/Impact Fee	2.1%	1.8%
Financing fee	2.9%	2.4%
Operating reserve	1.5%	1.9%



Cost Categories	**Hired**	**Not Hired**
Acquisition	$1,171,422	$767,688
Construction	$4,468,874	$3,689,482
Development	$983,047	$836,715
Other Development	$645,702	$537,672
Total Cost	$7,269,045	$5,831,558
Percent of total	**Hired**	**Not Hired**
Acquisition	0%	0%
Construction	18%	28%
Development	60%	52%
Other Development	13%	12%
Total cost	8%	8%

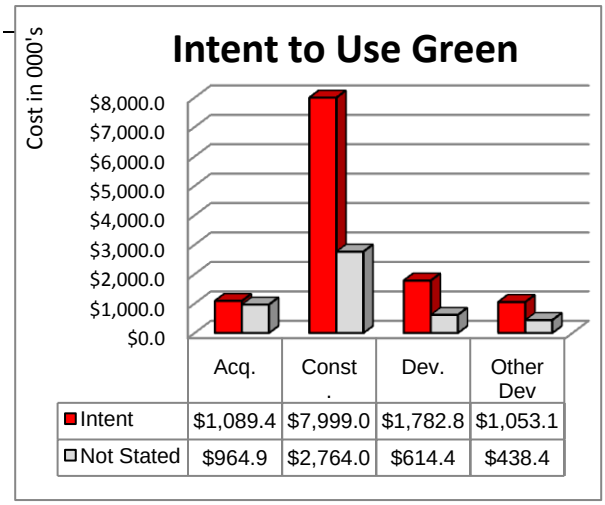
Share of Capital	**Hired**	**Not Hired**
Housing Trust Fund	***19%***	***35%***
Local funds **	8%	12%
Federal funds	23%	12%
Tax Credit equity	***37%***	***21%***
Equity	5%	5%
Permanent loan	5%	10%
Grants/donations	3%	4%
Grants/donations	100%	99%

Italics/Bold indicates statistically significant difference based on t-test at the 95% confidence level.
Other observed differences not statistically determinable due to varying distributions of projects in sample.

* Sponsor completed 2 or more of the projects ** Includes State/Local 2060 Funds averaging under 1%

Table 28: Intent to Incorporate Green Versus No Statement (17 vs. 48 projects)

Snapshot	Stated intent to use green features	
Average/Project	**Intent**	**Not Stated**
Residential SF	***55,160***	***26,933***
Units per project	***58.3***	***30.9***
Number of bedrooms	1.6	1.8
Unit Size in SF	978	854
Housing Trust Fund $	$1,169,600	$917,900
Cost Metrics	**Intent**	**Not Stated**
Cost/unit	***$207,120***	***$143,800***
Cost/bedroom	***$139,400***	***$88,280***
Cost/SF	***$214***	***$173***
Construction $/SF	$109	$88
Average/Project	**Intent**	**Not Stated**
New Construction	71%	60%
Under 48 Units	***35%***	***81%***
Nonprofit Sponsor	76%	71%
Sponsored over 1 *	29%	38%
Developer hired	41%	63%
Tax Credit financing	76%	58%
Legislature Set Aside	47%	33%
Some Special Needs	***88%***	***56%***
Common space	47%	60%
Urban vs. Rural	88%	54%
West vs. East WA	***94%***	***60%***
Operating subsidy	35%	50%
Rent/median income	41%	40%
Arch fee as % Const. Cost	5.9%	5.2%
Fees/Total Cost	**Intent**	**Not Stated**
Architect fee	3.9%	3.1%
Legal fee	0.6%	0.7%
Developer Fee	6.1%	6.5%
Permit/Impact Fee	2.1%	2.0%
Financing fee	3.4%	2.4%
Operating reserve	***1.4%***	***1.8%***



Cost Categories	Intent	Not Stated
Acquisition	$1,089,434	$964,948
Construction	***$7,999,009***	***$2,763,973***
Development	***$1,782,850***	***$614,423***
Other Development	***$1,053,103***	***$438,397***
Total Cost	***$11,924,396***	***$4,781,741***
Percent of total	**Intent**	**Not Stated**
Acquisition	17%	24%
Construction	60%	55%
Development	14%	12%
Other Development	9%	8%
Total cost	100%	100%
Share of Capital	**Intent**	**Not Stated**
Housing Trust Fund	20%	28%
Local funds **	12%	9%
Federal funds	11%	21%
Tax Credit equity	32%	30%
Equity	9%	3%
Permanent loan	11%	5%
Grants/donations	5%	4%
Total capital	100%	100%

Italics/Bold indicates statistically significant difference based on t-test at the 95% confidence level.
Other observed differences not statistically determinable due to varying distributions of projects in sample.

* Sponsor completed 2 or more of the projects ** Includes State/Local 2060 Funds averaging under 1%

APPENDIX 5: METHODS FOR THE STEPWISE LINEAR REGRESSION ANALYSIS

The stepwise linear regression analysis was completed using SYSTAT statistical software to make models to test several factors at the same and define the ones that had the strongest relationship to development costs. As summarized in Chapter 4 the data was drawn from the sample of 65 affordable housing projects that received financing from the Housing Trust Fund.

In applying and interpreting the results of the stepwise linear regression modeling, consideration was give to the descriptive statistics regarding each of the variables, as well as the paired tests for differences among the major pairings of data presented in the previous section.

Before analysis, factors were tested for normality and log-transformed if they failed normality tests. This ensures that the model can run with the data that is available and helps to avoid generating wrong conclusions.

Numeric factors that could not be transformed to pass normality tests were not examined. Systat was used to create the models. Up to three outliers and high-leverage values identified by Systat were removed without knowledge of whether this would strengthen or weaken the model. Residuals were all saved and examined for violations of the assumptions.

The individual cost factors were assumed to have a significant relationship to development costs if there was less than a 5% chance that the relationship was random (p value was less than 0.05).

Significance means that there is a strong relationship between the factor and the cost. It does not mean that the factor causes the cost. Conversely, just because something was determined not to have a significant relationship, it does not mean that it has no impact on cost. Instead, it means that there may be other influences that are more significant.

The following independent variables were tested for their impact on costs.

- Urban versus rural
- Special needs projects versus projects with no special needs populations
- Architect fee as percent of the project cost
- Developer fee as percent of the project cost
- Type of project (e.g., new construction or rehabilitation)
- Amount provided by the Housing Trust Fund as percent of cost
- Whether the project was financed by federal Low-Income Housing Tax Credits or not
- Number of units or bedrooms (indication of project size)
- Type of sponsor (nonprofit or government)
- Location (county , and west or eastern regions of the state)

Prior to running the model, the following steps were completed.

- All efficiency metrics (e.g., cost/unit, cost/bedroom) were tested for normality as were all continuous independent variables
- Non-normal data was log-transformed and did not fail normality tests
- The stepwise regression was set up to back out non-significant factors at the 0.08 significance level and no model ran more than four steps
- Statistical analyses were considered significant at the $p<0.05$ level
- Tolerance (interaction between factors) was set at 0.1 (0 is perfect inter-correlation, 1 is no correlation)

Outliers were identified by SYSTAT and removed from each model without examining whether they would strengthen or weaken the model. Residuals were all saved and examined for violations of the assumptions. In preliminary analyses architect cost/construction cost was a significant factor, so the measures of efficiencies above excluded architect cost and made the tests independent.

APPENDIX 6: KEY FINDINGS

Four Research Questions and Key Findings

5. What costs are associated with affordable housing development projects financed through the Washington State Housing Trust Fund?

- **On average, construction costs account for more than half (62%) of the development costs.** Construction costs are primarily composed of labor and materials and are influenced by market conditions, prevailing wage requirements, project management, and other factors.
- **Following construction costs, the three other primary cost categories are:** 1) acquisition (15%); 2) project management, which includes architects, developers and other consultants (14%); and 3) costs associated with financing, permitting, impact fees and reserve requirements (9%).
- **Depending on how development costs are measured, different projects can appear to be more or less cost efficient than others**. The cost per unit, cost per bedroom, and cost per square foot metrics each assess slightly different aspects of the project.

6. What are the primary market factors, public benefit requirements, policies, and other conditions that contribute to development costs?

- **Developing publicly funded affordable housing is influenced by three main factors:** 1) real estate, construction, and finance market conditions; 2) public benefit policies and associated legal requirements; and 3) the discretionary practices of affordable housing sponsors, developers, financers, the Housing Trust Fund, and other stakeholders.
- **Location, construction type, the amount of architect fees, and special needs tenant populations were characteristics related to higher development costs**. In addition, many affordable housing projects include tenant service areas such as childcare, common space, counseling areas, and other features designed for the needs of residents. The costs of building features related to these service areas are currently rolled into the cost per unit.
- **Developer, legal, and permitting fees.** Based on a statistical analysis of project costs, the amount of the developer, legal, and permitting fees were not found to be linked to, nor a statistically valid indicator of more expensive projects.

- **Contingency requirements and other discretionary policies unique to the Housing Trust Fund were estimated to account for approximately 4% of a project's development cost.** The majority of Housing Trust Fund requirements and associated costs are related to federal, state, or local government regulations such as prevailing wage, zoning, green building standards, and local government parking and design standards.

7. Is there significant variation between the development costs of market-rate projects and projects that receive financing from the Housing Trust Fund?

- **Construction costs for affordable and market-rate housing are similar**, but compared to market-rate housing, affordable housing has more "soft costs" associated with financing and project management.
- **Publicly funded affordable housing is a long-term public asset.** Market-rate housing is built to maximize financial return to the developer, while publically funded affordable housing is built to meet Washington's affordable housing goals. Location, design, and construction emphasize long-term durability and affordability.
- **Projects must comply with federal, state, and local government public benefit policies and regulations.** These policies contribute to increased costs for construction, labor, legal fees, and other project elements.
- **On average, publicly funded affordable housing requires an average of five financing sources and takes twice as long to complete.** Because local, state and federal subsidy sources often require leveraging and are awarded through separate competitive funding processes, it generally takes twice as long to assemble the financing as market-rate projects. The multiple funding sources and associated complexities contribute to increased legal and other transaction costs.
- **Available land often has conditions that make it expensive to develop.** Examples include infrastructure needs, density limits, variable and unpredictable design requirements, and other factors. Affordable housing projects generally have less available capital to cover pre-development costs and are less able to raise the capital through rents.
- **Affordable housing sponsors often pay a higher premium for land** because they must pay the seller for an option to "hold" the land while they secure the funds to buy it. This can take two years or more.
- **Sponsors must often take out bridge loans to get interim financing** while they are trying to secure permanent funds. They generally have limited internal capital coupled with higher pre-development costs.

- **The projects tend to be smaller scale and have fewer units than market-rate projects.** In some cases, this can make it harder to achieve economies of scale.
- **Tenant service areas** such as childcare, treatment facilities, and other co-located services are often considered part of the cost per unit and can appear to inflate the cost per unit.
- **Construction costs can be higher** due to the need to comply with public benefit policies and the use of design and materials features to ensure the units meet the requirements of special needs populations.
- **Costs for project management, financing, and other activities tends to be higher than for market-rate projects**. Sponsors are required to maintain certain levels of contingencies and reserves, often hire outside expertise to develop or manage the project, and face more finance and regulatory requirements

8. What are possible strategies and associated performance measures to reduce the development costs of affordable housing that receives financing from the Housing Trust Fund?

This is a period of declining government funding, including reduced Housing Trust Fund appropriations and a tight capital market which has shrunk levels of federal Low-Income Housing Tax Credit equity, the largest single source of affordable housing subsidy. Given this climate, stakeholders and professionals working in the design and construction field were both cooperative and motivated to generate recommendations regarding cost containment.

Cost containment recommendations were developed by reviewing the results of the costs analysis, input from the Affordable Housing Cost Study Steering Committee and the Policy Advisory Team, in-depth interviews with construction and development experts, and a stakeholder survey of more than 200 funders, developers and related professionals.

APPENDIX 7: MARKET-RATE AND AFFORDABLE HOUSING DEVELOPMENT MODELS

This appendix provides a numerical example of the two development models and developed by Dr. James R. DeLisle who was as a consultant for this study.

Market-rate Example

Assume a developer wants to develop a 32-unit apartment project. The land cost is $750,000 and the estimated soft costs are $1,000,000 (i.e., architect fees, financing fees, and carrying expenses). The developer has a commitment from a contractor for a maximum cost of $3,250,000 which is around $126/square foot. In their experience, the operating expenses are around 20% of income, leaving 80% as a return to investors. The developer has lined up investors who will require an 8% cash rate of return. Before going forward, the developer wants to determine what rents are needed per month to make sure there is a demand for the project. Figure 7 presents the basic calculations.

Figure 7: Market-rate Case Example

Items	Base Case	Share	Return Reduced from 8% to 5%	$750,000 Cost Overrun
Land Cost	$750,000	15%	$750,000	$750,000
Soft Costs	$1,000,000	20%	$1,000,000	$1,000,000
Hard Costs	$3,250,000	65%	$3,250,000	$4,000,000
Total Development Cost	$5,000,000	100%	$5,000,000	$5,750,000
Capital				
Required Return	8%		5%	5%
Required Net Income			$250,000	$287,500
Net Income/Month		$ 33,333	$20,833	$23,958
Expense Ratio	20%		20%	20%
Net Income Ratio		80%	80%	80%
Required Gross Income		$41,667	$26,042	$29,948
Number of Units			32	32
Rent/unit/month		$1,302	$814	$936

As noted in Figure 7, the total development cost is $5,000,000. Since the investors require an 8% return per year, the required net income is $400,000. When converted to months, the net income required is $33,333 which will all go back to compensate the investors. The expenses are 20% which means the net income must be divided by 80% to convert it to the gross income that must be paid by the tenants. This figure is $41,667 and, when divided by 32 units, gives a required rent of $1,302/month.

Affordable Example

In this case, assume a developer is trying to build a 32-unit project with an average of 700 square feet per unit. The median income in the market is $40,000/year and the targeted percent of median income is 60% with a housing affordability ratio of 35%. Operating expenses are 20% of gross rent and investors require an 8% return. Estimates for soft costs as a percent of total are 20%, while land is 15% and the rest is for hard costs. The developer wants to know the hard cost budget to see if the project makes economic sense.

Table 29: Affordable Housing Base Case

Items	Base Case	Calculated Dev. Budget	Decrease Return from 8% to 5%	Lower Target % Income to 40%	Size Calc if Cost Min $130
Unit Size	700		700	700	531
Gross SF	22,400		22,400	22,400	
Median Income	$40,000		$40,000	$40,000	
Targeted % of Median	60%		60%	40%	
Affordability Ratio	35%		35%	35%	
Targeted Annual Rent/Unit	$8,400		$8,400	$5,600	
Monthly Rent	$700.00		$700.00	$466.67	
Number of Units	32		32	32	
Total Annual Rent	$268,800		$268,800	$179,200	
Net Income Ratio	80%		80%	80%	
Net Income Targeted	$215,040		$215,040	$143,360	
Capital					
Required Return	8%		5%	5%	
Capital Supported	$2,688,000		$4,300,800	$2,867,200	
Soft Costs (% Total)	20%	$537,600	$860,160	$573,440	
Land Costs (% Total)	15%	$403,200	$129,024	$86,016	
Residual Hard Costs	65%	$1,747,200	$3,311,616	$2,207,744	
Hard Cost/SF		$78	$148	$99	$130

As noted in Table 29, the targeted rent per unit is $700/month, or $268,800 per year. Of that, 80% is left after expenses are paid. Since that is the net income, the total capital supported is calculated by dividing the net income by the required return of 8%. This gives a development cost budget of $2,688,000 which is allocate to soft costs and land, leaving a hard cost residual budget of $1,747,200. Since the units are 700/SF each, the budgeted hard cost per square foot is $78.00. If the estimated costs are higher, the project is not feasible unless some other assumptions change such as higher income, lower return, or building or smaller units.

APPENDIX 8: RESULTS OF STAKEHOLDER SURVEY

Stakeholder Survey

Response Rate. The stakeholder survey was distributed via e-mail to some 440 potential respondents. The initial email request was followed up with a second request, as well as a targeted request to solicit responses from constituencies under-represented in the initial responses.

The responses were anonymous, but the respondents were asked to classify themselves into areas of expertise and interest, as well as the types of projects and markets in which they concentrated their efforts to affect affordable housing. In total, 213 responses were received, which was a 50% response rate.

Affordable Housing Concepts: Familiarity with and Impact Assessment. The respondents were asked to indicate their familiarity with key affordable housing concepts. In addition, they were asked to rate the concepts/programs in terms of their impact on affordable housing in Washington.

Stakeholder Survey Scoring. The scoring scale provided respondents with the opportunity to choose from strongly disagree to agree on a five point range. The higher the average indicates the higher the agreement. Each option was then ranked on a one to ten scale, with one reflecting higher agreement.

As summarized by Table 30, the majority of these professionals developed affordable housing in King County (37%), Pierce County (17%), Snohomish County (12%), Spokane County (10%), Kitsap County (10%), Yakima County (10%) and Grant County (8%).

Table 30: Respondent Demographics

Respondent Demographics					
Adams County	1.9%	3	Lewis County	5.0%	8
Asotin County	0.6%	1	Lincoln County	3.1%	5
Benton County	4.4%	7	Mason County	2.5%	4
Chelan County	5.7%	9	Okanogan County	4.4%	7
Clallam County	1.9%	3	Pacific County	1.9%	3
Clark County	4.4%	7	Pend Oreille County	1.3%	2
Columbia County	0.0%	0	**Pierce County**	**17.0%**	**27**
Cowlitz County	3.1%	5	San Juan County	3.8%	6
Douglas County	5.0%	8	Skagit County	5.7%	9
Ferry County	1.3%	2	Skamania County	0.6%	1
Franklin County	4.4%	7	**Snohomish County**	**12.6%**	**20**
Garfield County	0.0%	0	**Spokane County**	**10.7%**	**17**
Grant County	**8.2%**	**13**	Stevens County	1.9%	3
Grays Harbor County	1.3%	2	Thurston County	6.3%	10
Island County	4.4%	7	Wahkiakum County	0.6%	1
Jefferson County	2.5%	4	Walla Walla County	3.1%	5
King County	**37.1%**	**59**	Whatcom County	3.8%	6
Kitsap County	**10.1%**	**16**	Whitman County	2.5%	4
Kittitas County	3.1%	5	**Yakima County**	**8.8%**	**14**
Klickitat County	2.5%	4			
				Answered Question	**159**
				Skipped Question	**54**

As summarized by Table 31, the majority of respondents were private sector professionals (41%) followed by affordable housing sponsors (28%), advocates (12%), and government staff or elected officials (11%).

Table 31: Respondent Profile

Private Sector Professionals		Number	Subtotal	Percent	Subtotal
	Architect	9		2%	
	Developer	84		23%	
	Consultant	31		8%	
	Contractor	6		2%	
	Lawyer	5		1%	
	Lender	3		1%	
	Property Manager	14	152	4%	41%
Advocates					
	Private Sector	42		11%	
	Nonprofit Sector	4	46	1%	12%
Sponsors					
	Government	69		19%	
	Nonprofit	35	104	9%	28%
Government					
	State	15		4%	
	Local	3		1%	
	Elected	24	42	6%	11%
Other			**26**		**7%**
Total Areas of Involvement			**370**		**100%**

As summarized by Table 32 the majority of respondents believe the Housing Trust Fund, federal Low-Income Housing Tax Credits and the Evergreen Standard have a positive impact on the development of affordable housing in Washington State and were familiar with these programs.

Table 32: Comparative Responses

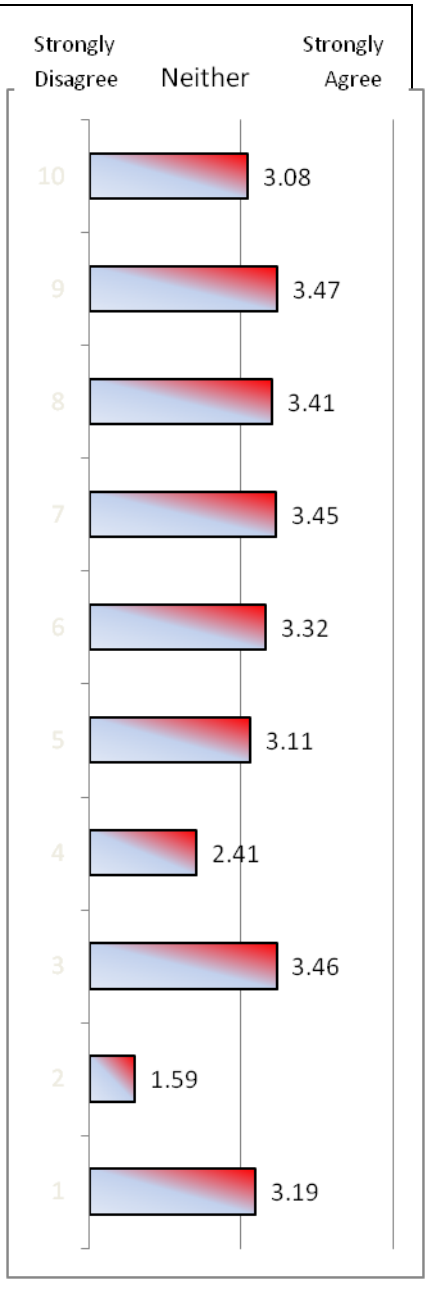
Concept/Program	Average Rating		Above/Below Average	
	Familiar	Impact	Familiar	Impact
Local Design Review Standards	3.86	2.95	1.1%	-12.5%
State Growth Management Act	3.61	3.07	-5.3%	-9.1%
Land Use Entitlement	3.14	3.02	-17.7%	-10.5%
Special Needs Housing Requirements	3.88	3.54	1.6%	4.8%
The Affordable Housing Durability Standard	2.82	3.23	-26.0%	-4.3%
Mandated Set Aside Programs	3.68	3.17	-3.5%	-6.1%
Prevailing Wage Requirements	4.25	2.43	11.5%	-27.9%
The Evergreen Standard	4.13	3.34	8.3%	-0.9%
Low-Income Housing Tax Credits	4.15	4.35	8.9%	29.0%
State of Washington Housing Trust Fund	4.62	4.63	21.1%	37.3%
Average on All Concepts/Programs	3.81	3.37		

Comparing Market-rate to Affordable. The respondents: acknowledged the advantages that market-rate housing has; noted the cost of affordable housing was justified in part because of the complexity of such projects, their durability, and public benefit policies; and believed the private sector could not deliver affordable housing on its own.

Figure 8(a): Comparison of Affordable versus Market-rate Housing

Question: Please indicate how strongly you agree or disagree with the following statements comparing affordable and market-rate housing.

Statement **	Avg	Rank 1-10
Developing affordable housing is riskier than market-rate.	3.08	8
The private sector can produce market-rate housing at a lower cost than affordable housing.	***3.47***	***1***
Many of the cost differentials between market-rate and affordable housing could be eliminated.	***3.41***	***4***
Affordable housing costs more due to the higher durability requirement than market-rate projects.	***3.45***	***3***
The relatively small size of affordable housing projects is a major factor behind higher costs.	***3.32***	***5***
The average unit size in newly built affordable housing projects is greater than renovation projects.	3.11	7
Affordable housing projects sponsored by nonprofits are more expensive than government sponsored.	2.41	9
The added costs of financing affordable housing are justified in light of the added complexity and public benefit policies.	***3.46***	***2***
The private sector can meet the need for affordable housing without government support.	1.59	10
Professional fees for affordable housing projects are higher than for comparable market-rate projects.	***3.19***	***6***



* The scale was Strongly Disagree to Agree; higher averages indicate higher agreement.

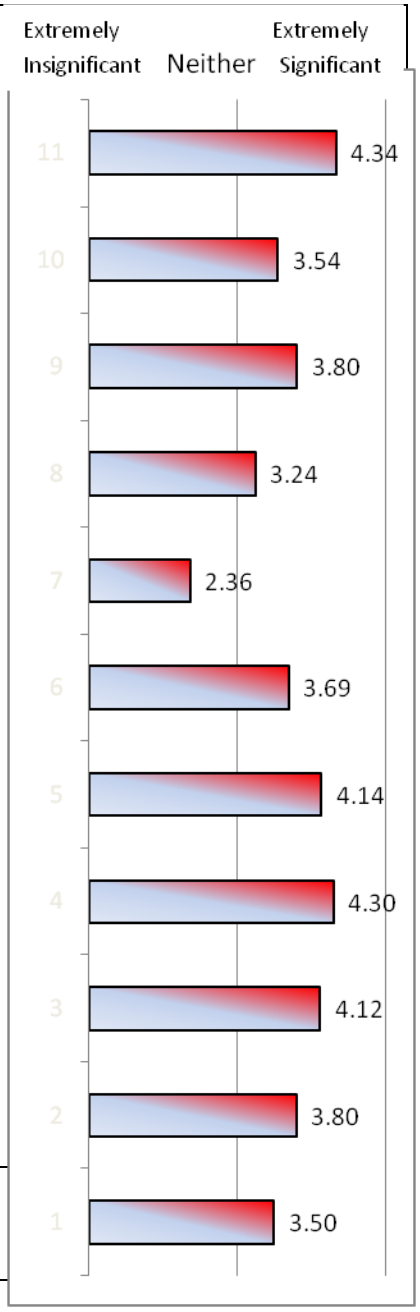
*** The Italics indicate the most common (mode) response was Agree or Strongly Agree*

Risk Comparison and Cost Implications. Financing was defined as the top risk factor affecting affordable housing

Figure 8(b): Comparative Risks of Affordable versus Market-rate Housing

Question: Producers of affordable housing may face different risks than those encountered in typical market-rate housing. Please indicate how significant they are in terms of impacts.

Statement**	Avg	Rank 1-10
Accessing sufficient capital to cover costs of acquisition and development.	***4.34***	***1***
Obtaining competitive construction bids with guaranteed costs.	***3.54***	***8***
Overcoming local resistance to a project or population.	***3.80***	***5***
Obtaining local design approvals.	3.24	***10***
Finding enough eligible tenants to maintain occupancy.	2.36	***11***
Obtaining decisive, consistent and timely decisions from sponsors and stakeholders.	***3.69***	***7***
Satisfying federal program requirements associated with Low-Income Housing Tax Credits or operating subsidies.	***4.14***	***3***
Dealing with uncertainty regarding availability and access of Housing Trust Fund awards.	***4.30***	***2***
Covering extra operating and management costs to comply with program requirements.	***4.12***	***4***
Addressing unexpected capital requirements due to delays, cost overruns, or change orders.	***3.80***	***6***
Satisfying unique design requirements to serve special needs tenants.	***3.50***	***9***



* The scale was extremely insignificant to significant; higher averages are more significant.

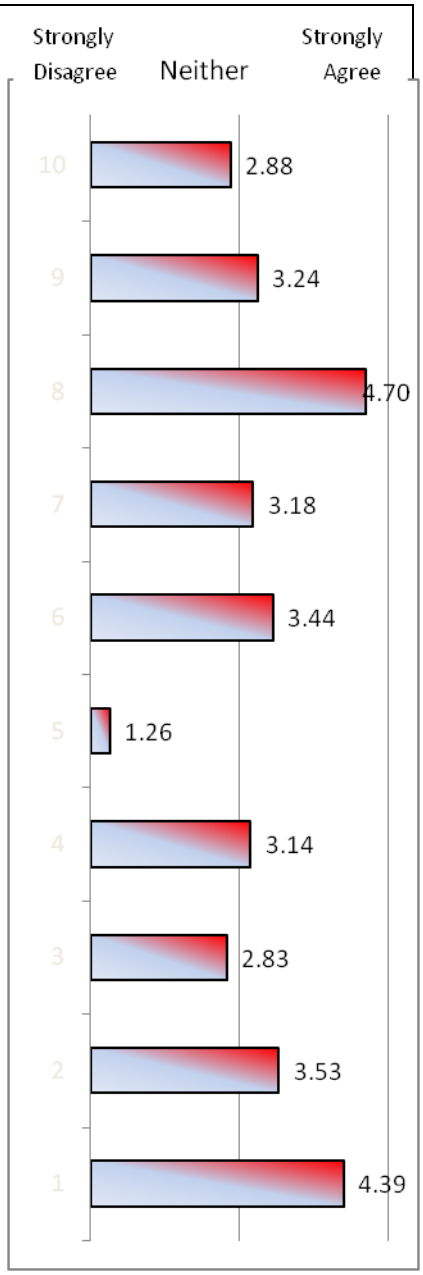
*** The Italics/Bold indicate the most common (mode) response was Agree or Strongly Agree*

Housing Trust Fund and State Programs. The respondents were asked to indicate how strongly they agreed or disagreed with a series of statements regarding affordable housing programs in the state. The strongest agreement from respondents referred to the critically important role of the Housing Trust Fund; they suggest the state should increase financial support.

Figure 8(c): Housing Trust Fund and other State Programs

Question: Please indicate how strongly you agree or disagree with the following statements regarding affordable housing programs in the State of Washington.

Statement **	Avg	Rank 1-10
The Housing Trust Fund program adds unnecessary and avoidable costs to affordable housing.	***2.88***	***8***
There is a significant cost premium associated with the use of the State's affordable housing programs.	***3.24***	***5***
The Housing Trust Fund program is critically important to the delivery of affordable housing.	***4.70***	***1***
State programs supporting the development of affordable housing are clear and easy to use.	***3.18***	***6***
State efforts should focus on maximizing the production of affordable housing over other social goals.	3.44	4
The State should not be providing funding for affordable housing projects.	***1.26***	***10***
There is enough flexibility in the Housing Trust Fund program to adjust to changing market conditions.	***3.14***	***7***
The Housing Trust Fund is effective in helping keep development costs down.	***2.83***	***9***
While the Housing Trust Fund plays a critical role, it is only a small piece of the affordable housing puzzle.	***3.53***	***3***
In the current economic environment, the State should increase financial support for the Housing Trust Fund	***4.39***	***2***



* The scale was Strongly Disagree to Agree; higher averages indicate higher agreement.

*** The Italics/Bold indicate the most common (mode) response was Agree or Strongly Agree*

Significant Drivers of Costs. The top ranked factor was dependence on multiple financing sources to fund a project. This is reinforced by the risk associated with the inability to determine if viable projects will be funded. Respondents also noted the requirement to pay prevailing wages as a significant cost driver. With respect to real estate fundamentals, responses also noted the challenges in assembling and getting suitable sites entitled to allow development.

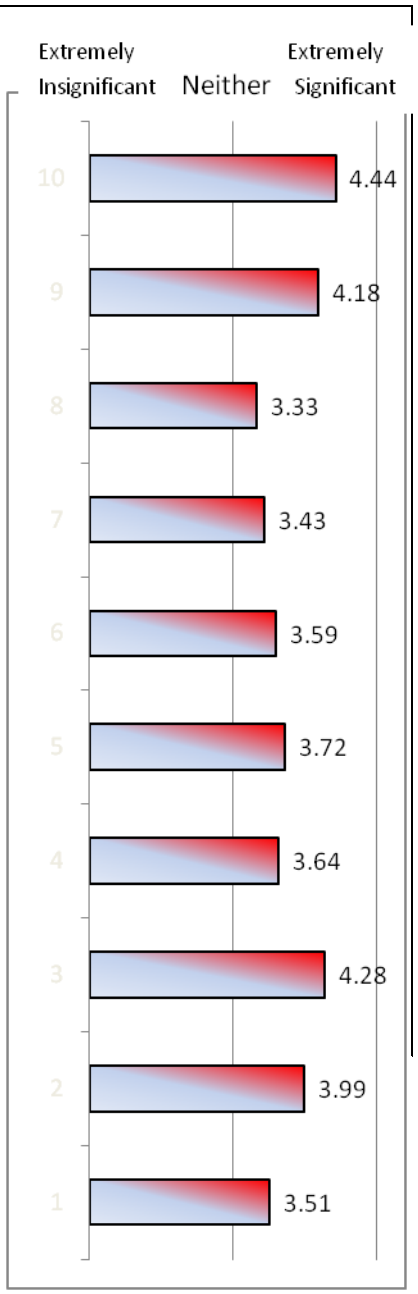
Figure 8(d): Drivers of Costs

Question: Please indicate how significant you believe the following items are in terms of creating cost premiums for publicly supported affordable housing in the State of Washington.

Statement **	Avg	Rank 1-10
Dependence on multiple financing sources to fund a project	***4.44***	***1***
The requirement to pay prevailing wages	***4.18***	***3***
The need to adhere to local design review and building requirements	3.3	10
Design complications associated with serving special needs populations.	***3.43***	***9***
Adherence to the Evergreen Standard for green buildings	***3.59***	***7***
The requirement to build for long-term durability that exceeds market standards	***3.72***	***5***
Inefficiency in the public funding application and approval process	***3.64***	***6***
The inability to determine if projects will be funded due to uncertain funding levels.	***4.28***	***2***
Challenges in assembling and entitling suitable and readily buildable sites	***3.99***	***4***
Overcoming local or neighborhood opposition	***3.51***	***8***

* The scale was extremely insignificant to significant; higher averages are more significant.

*** The Italics/Bold indicate the most common (mode) response was Significant or Extremely Significant*

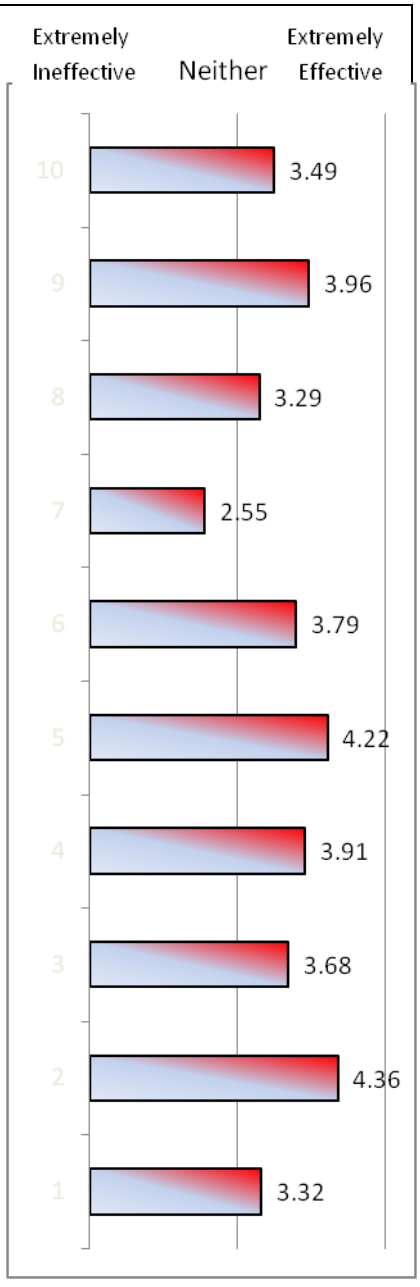


Housing Trust Fund Policies. A series of options were presented to the respondents to determine if selected Housing Trust Fund initiatives would be effective in reducing costs. The top response was for streamlining the application and award process among different funding sources. They also reacted positively to increasing flexibility in financing and bidding processes.

Figure 8(e): Housing Trust Fund Policies

Question: Within the Housing Trust Fund program please rate how effective the following strategies would be for reducing affordable housing development cost in Washington State?

Statement **	Avg	Rank 1-10
Tracking, analyzing, and disseminating current cost data	***3.49***	***7***
Encouraging and facilitating flexibility in bidding process	***3.96***	***3***
Developing and publishing standard design and construction benchmarks	***3.29***	***9***
Concentrating funding on larger projects	2.6	10
Creating a single award agreement among state and local funders per project.	***3.79***	***5***
Creating and implementing flexible financing tools to quickly respond to the market.	***4.22***	***2***
Funding deeper into each project	***3.91***	***4***
Identifying best practices in design and construction	***3.68***	***6***
Streamlining application /award deadlines among different funding sources	***4.36***	***1***
Utilizing cost benchmarks as criteria for funding affordable housing projects.	***3.32***	***8***



* The scale was extremely ineffective to effective; higher averages are more effective.

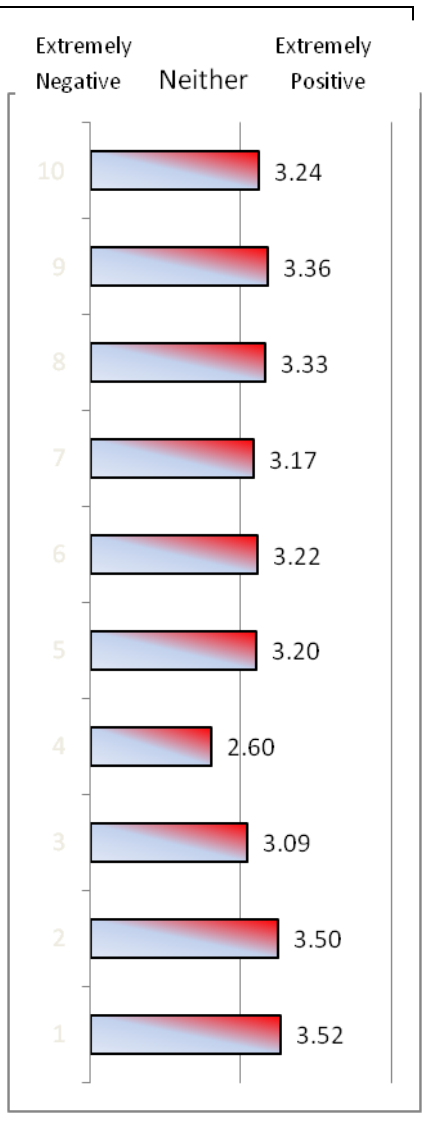
*** The Italics/Bold indicate the most common (mode) response was Effective or Extremely Effective*

Housing Trust Fund Policies: *Review by Experienced Respondents*. To help qualify respondents, they were asked if they had direct experiences with the Housing Trust Fund processes which yielded a 73% response. The respondents who indicated they had experience were asked to indicate if they thought these policies have a positive or negative impact. In general respondents indicated that the majority of processes were necessary. Policies helping flexible financing and amending applications were viewed positively.

Figure 8(f): Experienced Respondent Review of Housing Trust Fund

Question: The Housing Trust Fund has a number of policies and procedures. Please indicate whether you think these policies have a positive or negative impact on the cost-effectiveness of the program.

Statement **	Avg	Rank 1-10
Application review and approval process	3.24	5
Contracting, drawing down of funds, & monitoring process	3.36	3
Placed in Service process	3.33	4
Application requirements and materials	3.17	8
Annual reporting policy	3.22	6
Monitoring, operation & maintenance policy	3.20	7
Checking compliance with Evergreen, durability, prevailing wage and other policies	2.60	10
Auditing procedures for financial statements and uses of funds	3.09	9
Policy for helping coordinate multiple funding sources	***3.50***	***2***
Project amendment process	3.52	1



* The scale was extremely negative to positive; higher averages are more positive.

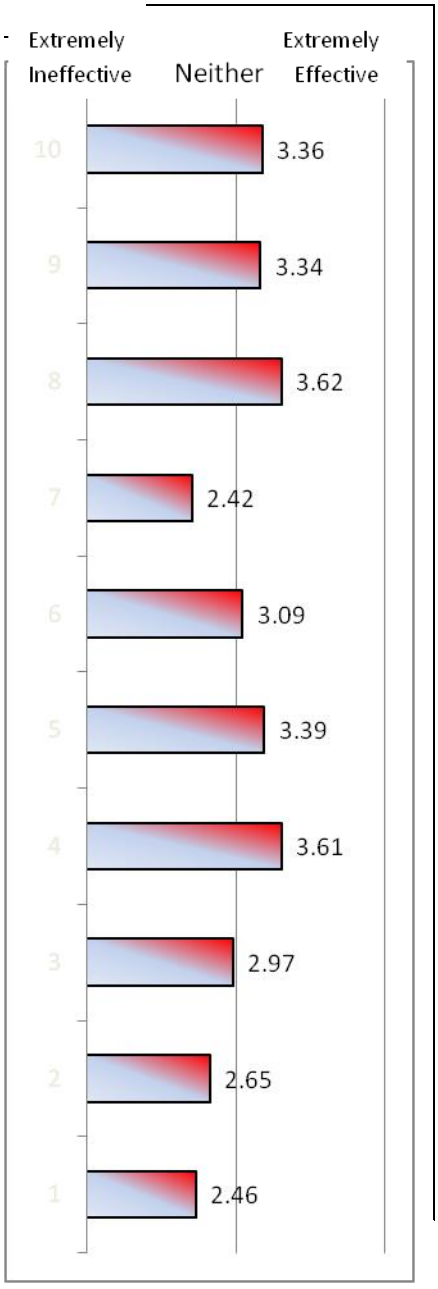
*** The Italics/Bold indicate the most common (mode) response was Positive orExtremely Positive*

Sponsor/Developer Initiatives. The top response in terms of cost-reduction strategies was the creation of replicable affordable housing designs. However, the ability to modify projects to take advantage of changing market conditions was also an attractive strategy. Respondents also thought developers could achieve cost savings by focusing project management on cost reduction.

Figure 8(g): Sponsor/Developer Initiatives

Question: How effective would the following strategies that sponsor/developers could adopt be in helping reduce the cost of affordable housing without compromising quality?

Statement **	Avg	Rank 1-10
Utilizing high volume modular housing for multi-family projects	***3.36***	***4***
Conducting peer review project development cost	***3.34***	***5***
Creating replicable affordable housing design	***3.62***	***1***
Ignoring special needs requirements	2.4	10
Establishing and adhering to cost benchmarks	3.1	6
Placing greater project management emphasis on cost reduction	***3.39***	***3***
Modifying projects to take advantage of changing market conditions	***3.61***	***2***
Establishing site selection standards	3.0	7
Using competitive bidding processes for all third-party services	2.7	8
Building to a lower durability standard	2.5	9



* The scale was extremely ineffective to effective; higher averages are more effective.

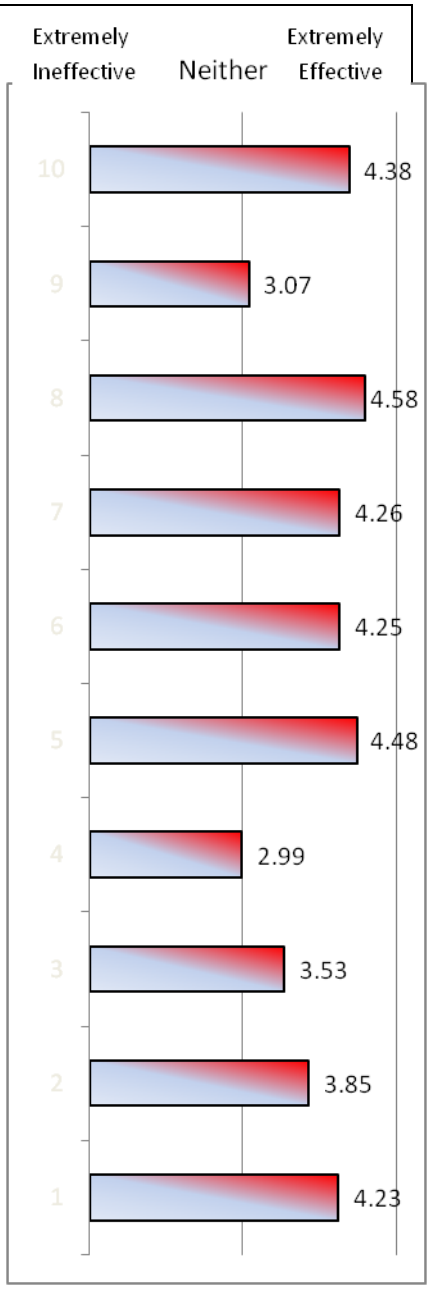
*** The Italics/Bold indicate the most common (mode) response was Effective or Extremely Effective*

Local Jurisdictional Policies and Procedures. A series of questions were asked to determine what local jurisdictions can do to help reduce costs. The responses to this question were fairly strong suggesting respondents thought much could be done at the local level. The top-ranked question was in regard to waiving impact fees taxes or providing incentives to encourage affordable housing at the local level. Expedited approvals were also attractive.

Figure 8(h): Local Jurisdictional Policies

Question: How effective are --or would be-- the following local jurisdictional policies and procedures in reducing the costs and improving the quality of affordable housing?

Statement **	Avg	Rank 1-10
Providing expedited approvals	***4.38***	***3***
Downzoning land to reduce density and cost	***3.07***	***9***
Waiving impact fees, taxes or providing other incentives	***4.58***	***1***
Creating flexible zoning options (e.g., cottage housing, home sharing, accessory dwellings)	***4.26***	***4***
Upzoning well-located, accessible sites	***4.25***	***5***
Creating incentive programs for affordable housing	***4.48***	***2***
Adopting statewide design criteria	3.0	10
Approving modular/manufactured housing	***3.53***	***8***
Encouraging and incentivizing adoptive re-use	***3.85***	***7***
Land banking and/or disposition at below market values	***4.23***	***6***



* The scale was extremely ineffective to effective; higher averages are more effective.

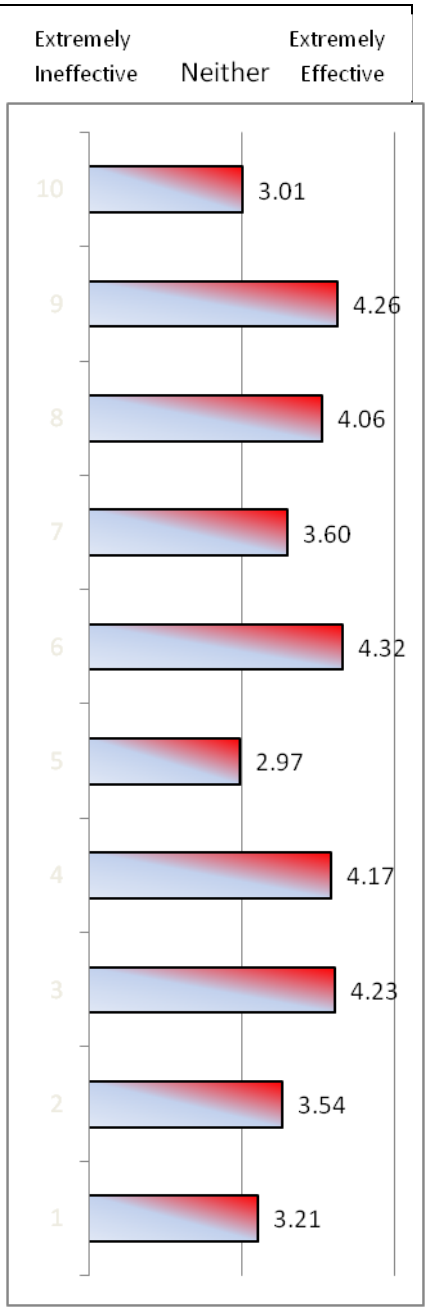
*** The Italics/Bold indicate the most common (mode) response was Effective or Extremely Effective*

Legislative Changes. Respondents were asked to respond to various legislative changes with respect to their impact on cost reduction. The top response was in the provision of additional funding including bridge financing to predevelopment and revolving loans. Respondents also reacted favorably to waiving sales taxes and providing more funding for operating subsidies to help maintain the quality of existing stock.

Figure 8(i): Legislative Changes to Reduce Costs

Question: How effective would the following legislative changes be to reducing the costs associated with developing and operating affordable housing in the State of Washington?

Statement **	Avg	Rank 1-10
Establishing architectural & engineering cost estimates requirements	***3.01***	***9***
Waiving sales tax regulatory requirements	***4.26***	***2***
Waiving prevailing wage rates and other public policy regulatory requirements	***4.06***	***5***
Engaging in bulk purchasing or negotiating for building materials	***3.60***	***6***
Providing more financing tools for bridge financing, pre- development and revolving construction loan account	***4.32***	***1***
Setting limits on specific development budget items	2.97	10
Providing more flexible tools for land acquisition and transfer of rights	***4.17***	***4***
Providing more funding for operating subsidies	***4.23***	***3***
Allowing overrides of local jurisdictional policies	***3.54***	***7***
Eliminate set-asides which decrease funds for non-specified projects	3.21	8



* The scale was extremely ineffective to effective; higher averages are more effective.

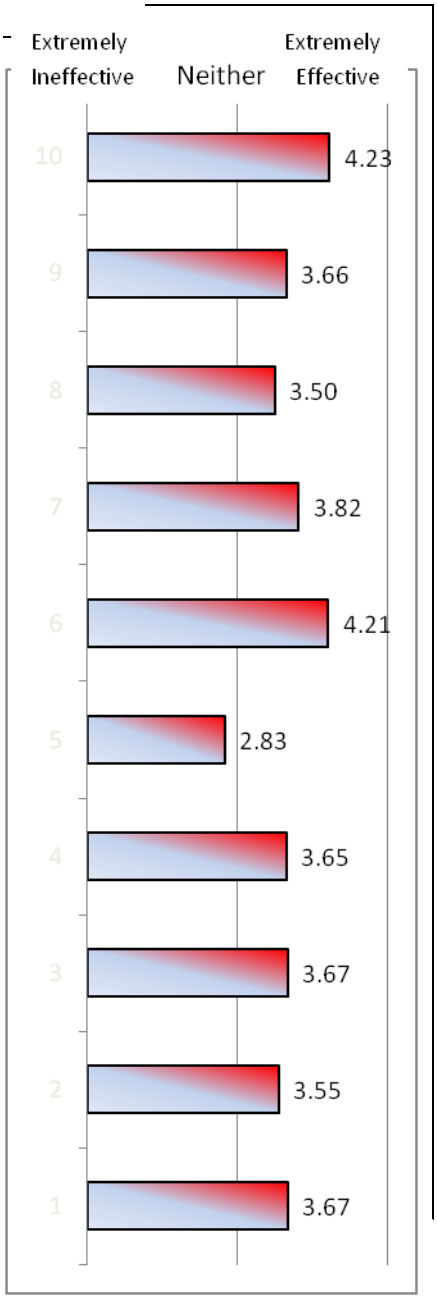
*** The Italics/Bold indicate the most common (mode) response was Effective or Extremely Effective*

Effectiveness of Proposed Strategies to Promote Affordable Housing. The respondents were asked to rate the effectiveness of selected strategies. The top-ranked strategy was the provision of more financial tools. Reducing or waiving impact fees or other requirements was also seen as a very positive strategy. Respondents indicated that shifting to life-cycle costing would be attractive, as would be the creation of a best practices manual.

Figure 8(j): Efficacy of Proposed Strategies

Question: Please rate the effectiveness of the following cost-reduction strategies.

Statement **	Avg	Rank 1-10
Providing more finance tools such as the ability to bridge equity and other related strategies.	*4.23*	*1*
Defining best practices regarding design and durability.	*3.66*	*6*
Developing and publishing cost benchmarks.	*3.50*	*9*
Redefining costs beyond initial cost to life-cycle costs.	*3.82*	*3*
Requiring impact fee reductions or waivers.	*4.21*	*2*
Requiring that all projects are bid.	2.83	10
Reducing or eliminating public benefit policies that add significantly to the development costs.	*3.65*	*7*
Exploring ways to use the state's purchasing power to buy materials and achieve economies of scale.	*3.67*	*5*
Creating state-wide educational programs for potential sponsors	*3.55*	*8*
Establishing a best practices manual to guide efforts	*3.67*	*4*



* The scale was extremely ineffective to effective; higher averages are more effective.

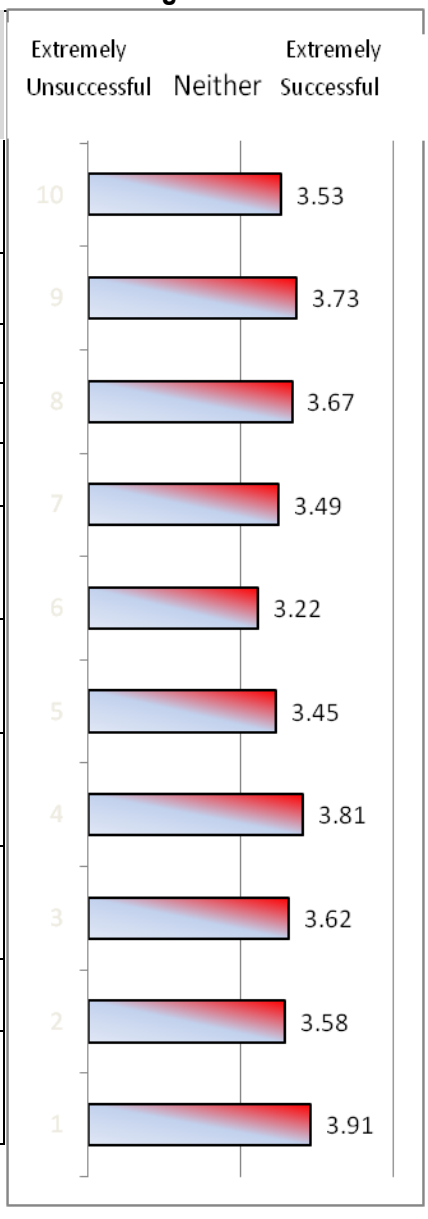
*** The Italics/Bold indicate the most common (mode) response was Effective or Extremely Effective*

Performance Measurement Strategies. A series of questions was asked regarding the effectiveness of various performance measurement options. The highest rated response was in regards to compiling and publishing data on sources of funding. Respondents saw that creating benchmarks for processing time would be attractive. They also favored tracking how various public policies affect costs, as well as using benchmarks to help with process improvements to reduce time delays.

Figure 8(k): Performance Measurement

Question: How successful would the following performance measurements be to help track and assess the Housing Trust Funds efforts to reduce the costs of affordable housing?

Statement **	Avg	Rank 1-10
Track how certain policies (e.g., durability, maintenance) serve to increase, or decrease, life-cycle costs.	*3.79*	*3*
Establish & track benchmarks for certain component costs (e.g., land, construction)	*3.53*	*8*
Time saved through process improvements	*3.73*	*4*
Track and publish average cost per unit data	*3.67*	*5*
Create before and after strategy specifics	3.49	9
Establish benchmarks for land costs in dollar and percent of cost terms	3.22	11
Calculate cost benchmarks by type of construction (e.g., new vs. rehabilitation)	*3.45*	*10*
Create benchmarks for processing time for applications	*3.81*	*2*
Establish & track benchmarks for professional fees	*3.62*	*6*
Calculate cost benchmarks by project size	*3.58*	*7*
Compile and publish data on sources of financing for affordable housing projects	*3.91*	*1*



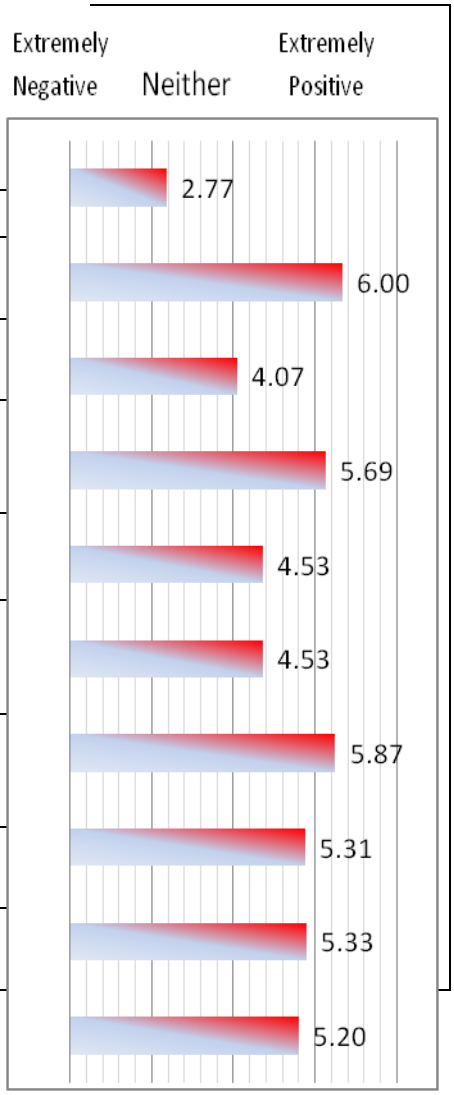
* The scale was extremely successful to unsuccessful; higher averages are seen as more successful.

*** The Italics indicates the most common (mode) response was Successful or Extremely Successful*

Figure 8(I): Incentive Strategies

Question: Please indicate how negative or positive the following incentive strategies would be regarding affordable housing.

Incentive Strategies	Avg	Rank
Public trust: costly projects sit out a round	2.77	10
Bridge loan option available	6.00	1
Cost reduction: the more cost effective the more HTF funding	4.07	9
Message cost-control as a funding decision factor	5.69	3
Fund programs that maximize urban land use; combining (affordable/market-rate; housing/commercial; rental/homeownership)	4.53	7
Fund projects which create synergies via partnerships with other developers	4.53	7
Incentives for contractors, developers and sponsors: regulatory flexibility on density, consistent application of wage requirements	5.87	2
Incentives for project exceeding expectations regarding finishes, unit sizes, and building amenities	5.31	5
Contract requirements incentivize cost savings	5.33	4
Encourage simpler designs and reuse of effective designs	5.20	6
Average Ranking	4.93	



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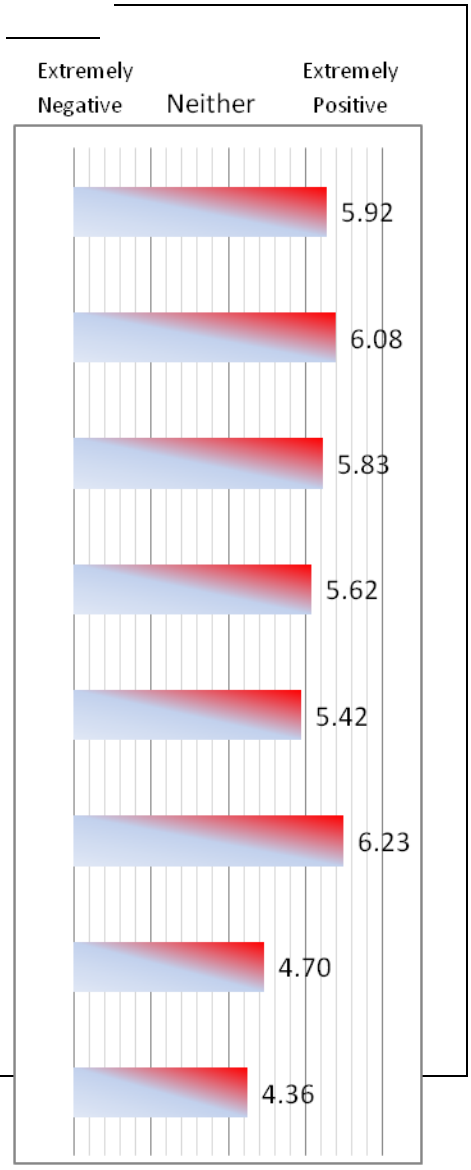
Best Practice Strategies. Of the 10 options, the creation of utility and infrastructure collaboration between cities and projects sponsors was rated was the highest rated option. This was followed by establishing durability benchmarks. Training and education was also important to improving the cost-effectiveness of housing programs.

Figure 8(m): Best Practice Strategies

Question: Please indicate how negative of positive the following general best practice strategies would be regarding affordable housing.

Best Practice Strategies	Avg	Rank
Provide training for nonprofit housing developers: evaluate sites, work with architects, negotiate fees, and inject cost containment into their projects while still meeting project and service goals	5.92	3
Establish durability benchmarks and documentation features: quality assurance and control of the built improvements is essential to long-term operations and maintenance	6.08	2
Provide feedback loop between building maintenance and developer: flooring types, gutters for multi-family or dishwashers for Farmworker	5.83	4
Fund projects deeper when small leverage opportunity exist in specific communities	5.62	5
Provide flexibility on funding source complications for Rehabilitation projects	5.42	6
Organize utility / infrastructure collaboration between city/ public partners to plan in advance overlapping construction, avoid unaccounted cost at beginning ultimately reducing infrastructure cost	6.23	1
Seattle specific: Preference for funding 5 floors over one story of concrete. -under ground parking and structure with 2 floors of concrete drive high cost per unit	4.70	7
Reduce number of outside resources to manage, i.e. the more done in-house, the more control	4.36	8
Average Ranking	5.52	



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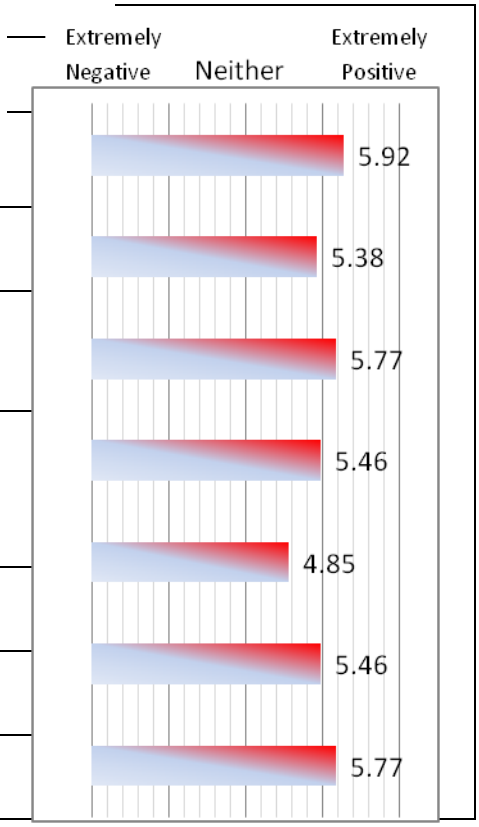
Design-oriented Best Practices. Of the proposed items, requiring experience with cost effective housing design, as well as affordable housing were the highest rated options. These were followed by preferring experience and stability among developers and sponsors, as well as by requiring more upfront analysis to understand the cost implications of targeted properties.

Figure 8(n): Design-oriented Best Practice Strategies

Question: Please indicate how negative or positive the following design-oriented best practices would be in terms of their impacts on affordable housing.

Design-oriented Strategies	Avg	Rank
Improve cost effective building by ensuring design team is experienced in cost effective construction	5.92	1
Require experience in building for special needs population construction	5.38	6
Employ more rigorous cost-reduction review early in project (site selection, initial drawings) for both applicants and HTF application reviewers	5.77	2
Rehabilitation design: construction experts evaluate work upfront before purchasing property. Spend more money up front: higher experts to insure an understanding of the property	5.46	4
Establish design standards for building interiors: Architect focus on the outside of the building	4.85	7
Focus HTF investments on sponsors/developers with experience in sustainable organizations	5.46	4
Require engagement of experienced architect in the field of multi-family affordable housing	5.77	2
Average Ranking	5.52	



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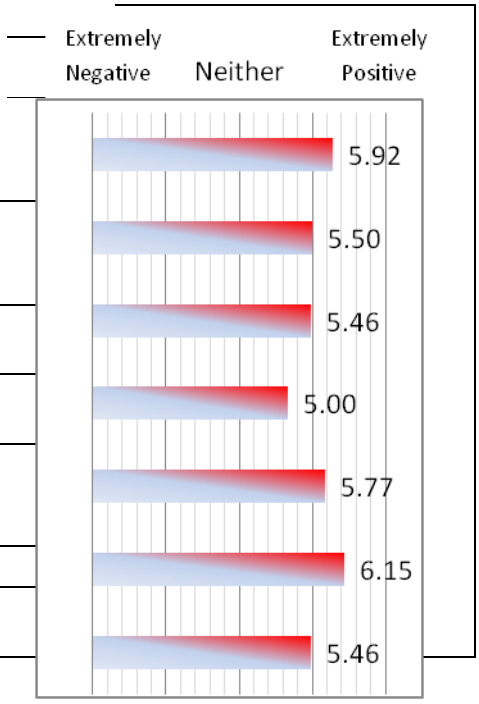
Collaboration. The highest rated item focused on raising awareness of best practices among the various professionals. In addition, respondents noted the importance of using focus groups or other collaborative tools to develop standards or guidelines to ensure the special needs of target residents were considered in the design process.

Figure 8(o): Process Collaborative Best Practices

Question: Please indicate how negative or positive you think the following process collaboration best practices would be in terms of their impacts on affordable housing.

Process Collaborative Best Practices	Avg	Rank
Create a Design & Cost focus group: benchmark land, developer, consultant, construction, housing, cost/unit; regional and sub-market differences	5.92	2
Establish a design benchmark/standard focus group to establish standards for families, elders, or disabled, hardware, flooring, building quality	5.50	4
Explore new housing production methods ex: modular housing	5.46	5
Encourage coordination to establish average public subsidy levels	5.00	7
Engage cost committee/constituencies to brainstorm on cost-reduction & improving efficiency	5.77	3
Make best practice public forum presentations	6.15	1
Continue to analyze data public developing vs. Market-rate cost	5.46	5
Average Ranking	5.61	



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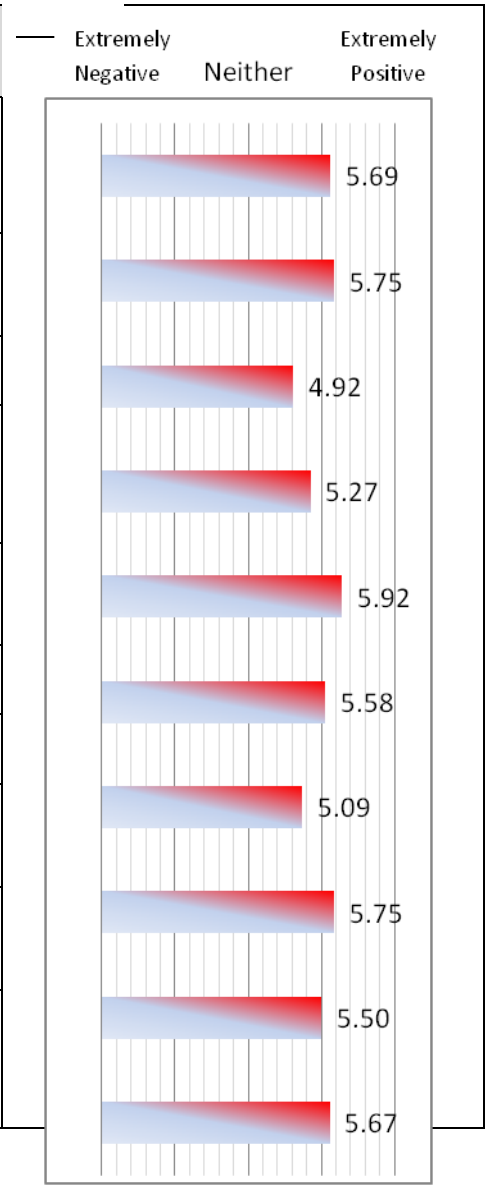
Project Management Strategies. During interviews and exploratory discussions, the benefits of project management were raised. To determine how collaboration could help reduce costs, respondents were asked to indicate if a series of project management programs could make a difference. In general, the respondents encouraged collaboration among various parties. They emphasized the value added of project management, but noted it should be comprehensive and cut across various professions and project elements of design, construction and financing. They pointed to the importance of information sharing to establish accurate and timely inputs, as well as to create a project management team early in the process. They also suggested that project management should not be focused on cost-reduction alone, but should also consider impacts on quality and long-term durability. Finally, a number of respondents noted that current affordable housing teams already rely heavily on project management which, for many, is an already established way of doing business.

Figure 8(p): Project Management Strategies

Question: Please indicate how negative or positive you think the following project management strategies would be to elevating best practices for affordable housing.

Project Management Strategies	Avg	Rank
Focus on cost: Track cost data and increase awareness and create benchmarks. Matrix the categories of costs discussions during application, post lessons learned	5.69	4
Peer review & "Information sharing" "knowledge excellence" value engineer, preliminary design, mechanicals, foundation, site size.	5.75	2
Develop a more aggressive and formal project management pilot program	4.92	10
PM team should oversee project from start to finish, review design, negotiating construction cost from initial to actual, incorporate innovations	5.27	8
PM Team skill set: funding sources, construction, time, materials, durability, managing contractor and architect, schedule, funding cash flows	5.92	1
PM planning to establish cost-controls measures in relation to understanding risk	5.58	6
Reduce time and money spent on architectural drawings and revision expense.	5.09	9
PM Team engages contractors involved on the team early in the process for estimating, constructability reviews and value engineering.	5.75	2
PM Team action; if early cost concerns, team to demonstrate budget reduction without removing the quality and long-term maintainability.	5.50	7
PM Team should start all pre-construction efforts with a "teaming" session to define all important project objectives and owner's expectations and create a formal communication process.	5.67	5
Average Ranking	5.51	



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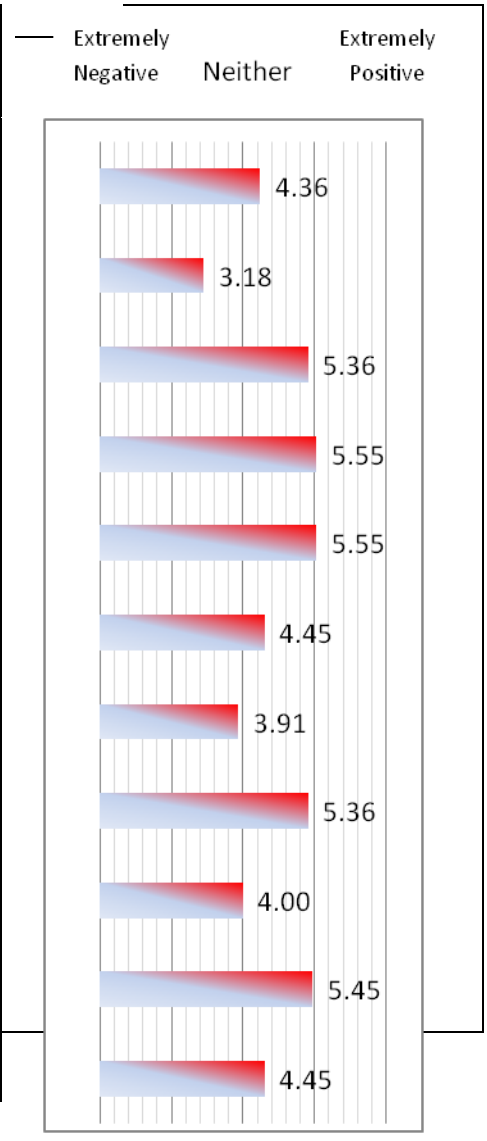
Competitive Bidding and Program Flexibility. Of the themes that emerged, flexibility, ingenuity and entrepreneurship were commonly cited. They also noted the importance of creating incentives to ensure developers and sponsors push projects regardless of the fate of the local housing market. The responses to competitive bidding versus negotiated contracts were divided, suggesting a desire for flexibility.

Figure 8(q): Competitive Bidding/Program Flexibility

Question: Please indicate how negative or positive the following strategies regarding competitive bidding and program flexibility would be relative to affordable housing.

Competitive Bidding/Program Flexibility	Avg	Rank
Encourage competitive bidding in which contractor and consultant participate in design and bid process	4.36	8
Hire HTF staff contractor to review projects	3.18	11
Promote use of design/build negotiated contracts in which partners dialogue throughout development process and provide the most efficient design or build projects encouraging savings	5.36	4
Create an incentive to contractors and developers to ensure an on-time under budget project.	5.55	1
Encourage ingenuity to help manage major cost drivers such as materials	5.55	1
Give preference for negotiated contracts which lend to more flexibility to change aspects of the project and adjust toward higher quality	4.45	6
Establish cost limits on projects	3.91	10
Replicate construction elements, design elements, or buying practices disaggregate unique design and utilize modular housing practices	5.36	4
Limit unit sizes (e.g., 650 SF, 1 bedroom, 800 SF, 2 bedroom, 950 SF 3 bedroom, 1100 SF 4 bed room)	4.00	9
Reduce contingency to 5% on new construction and 10% on rehabilitations	5.45	3
Allow excess contingency funds to be used for enhancements or other incentives	4.45	6
Average Ranking	4.69	



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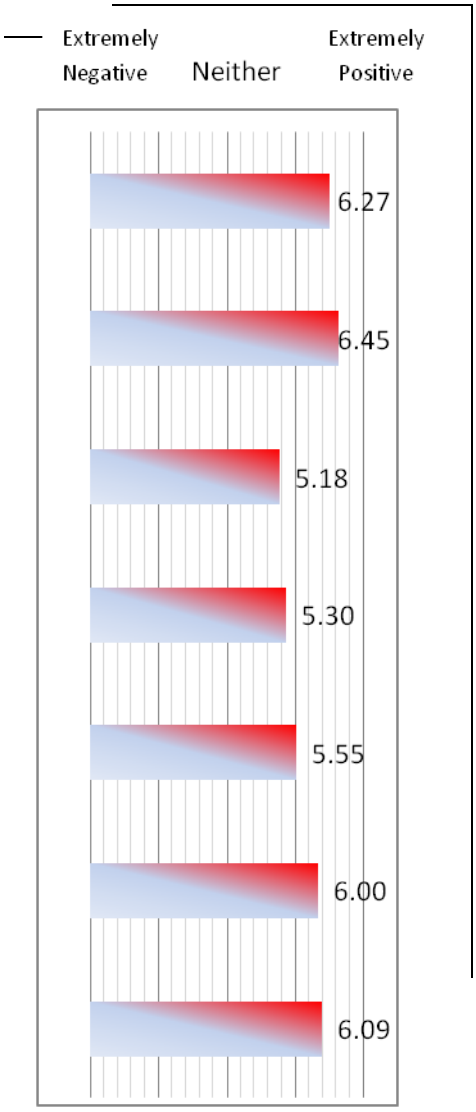
Process Time Reduction. Respondents indicated that streamlining the application process by standardizing forms and creating boilerplate documents could have a positive effect on cost reduction. They also indicated by getting the various funding sources in the same room, delays and processing time could be reduced. Finally, they thought processing time and costs could be reduced by reducing the number of capital sources needed to put a project together.

Figure 8(r): Process Time Reductions

Question: Please indicate how negative or positive the effects of following efforts to achieve process time reductions would be on affordable housing costs.

Process Time Reductions	Avg	Rank
Integrate process, schedules and requirements: shorten finance assembly, shorten compliance to one process, application review within a 6 month time period	6.27	2
Coordinate applications, awards, reporting requirements and avail resources efficiently to keep cost down for land holding, consulting with lawyers, cost to redo cost estimators and market studies to keep site control alive	6.45	1
Streamline the application and review process so that if a project meets certain specified benchmarks, the sponsors know the project will get funded	5.18	7
Diminish the number of different fund sources: one allocation process or one budget allocation of funds or grow the investment of the HTF; focus less on indirect exemptions and increasing the direct HTF appropriation to fund projects deeper…	5.30	6
Put funders in one room, put all the projects on the table, make a public announcement, and have more certainty about what is going to go on	5.55	5
Common set of boilerplate loan documents; combine multiple funders into one set of loan docs and regulatory agreement to reduce legal costs and review time	6.00	4
Share reporting information to minimize fees	6.09	3
Average Ranking	5.84	



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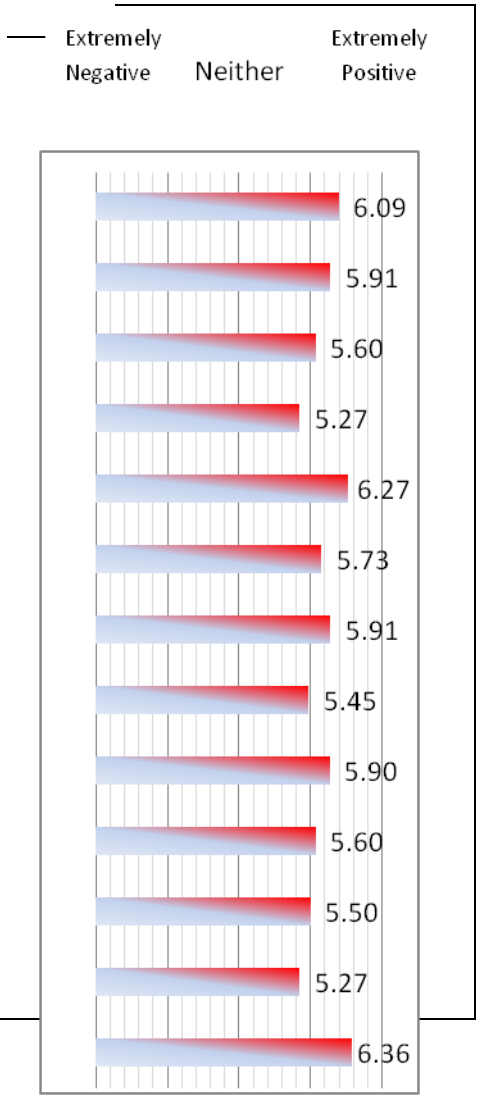
Legislative Policies Oriented to Financing. The highest rated financial policy was the creation of sales tax waivers for affordable housing projects. In addition to lowering cost via taxes, respondents also indicated the importance of enabling the Housing Trust Fund to use new, innovative financing tools. In responding to a number of questions, they indicated the Legislature should give the Housing Trust Fund more flexibility to respond to market forces and allow it to take advantage of changing market conditions. One of the more favorable initiatives highlighted was the use of land banking or a land acquisition fund to take advantage of weak markets over the business cycle.

Figure 8(s): Legislative Policies Oriented to Financing

Question: Please indicate how negatively or positively the following legislative policies oriented toward financing would impact affordable housing costs.

Legislative Policies Oriented to Financing	Avg	Rank
Enable more flexible financing and construction process regulations: wage control, public benefit standards, apprentice program, and provide sales tax exemption	6.09	3
Allow more flexible finance strategies to combat project delays: bridge loaning, revolving construction loan account, and short term lending	5.91	4
Allow state to help with real estate upfront and holding costs during processing	5.60	8
Increase HTF asset management focus	5.27	12
Add new financing tools to the box (e.g., bridge loans)	6.27	2
Create opportunities for HTF to be more opportunistic, to take action when the price is right	5.73	7
Allow more creative, nimble acquisition practices	5.91	4
Encourage more creative building options (e.g., modular construction)	5.45	11
Develop capacity to be able to respond to market trends, either positive or negative	5.90	6
Push incentives to lower acquisition cost of land and building	5.60	8
Land Bank when acquisition costs are low	5.50	10
Create land acquisition fund	5.27	12
Create state sales tax waiver for affordable housing	6.36	1
Average Ranking	5.76	



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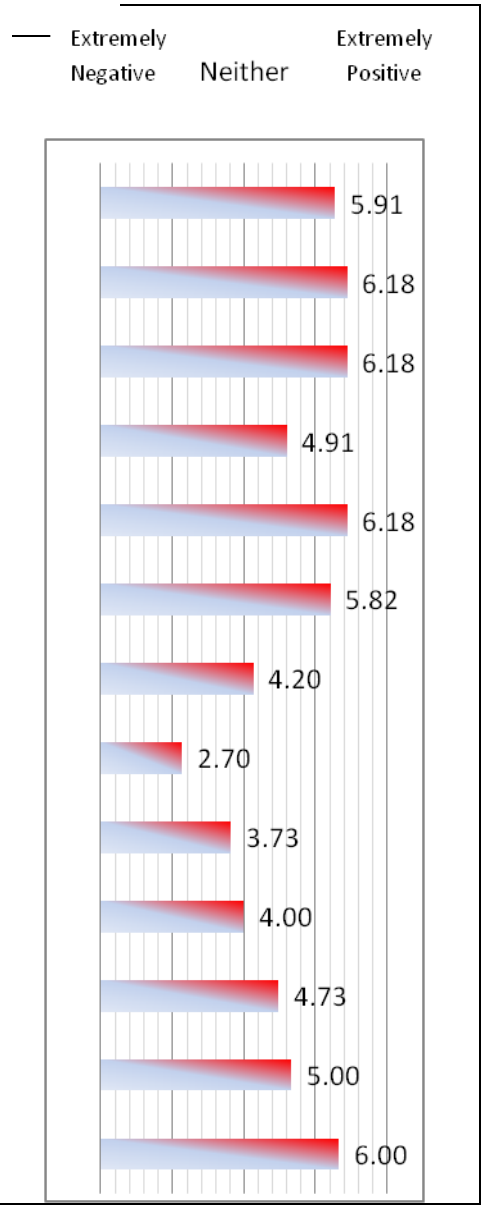
Local Government. Personal interviews and committee meetings suggested one of the most contentious barriers issues surrounding state efforts to encourage new affordable housing development is resistance or lack of accommodating policies at the local level. Thus, the respondents were asked to rate a series of local initiatives or overrides would be for affordable housing. The top ranked response was requiring local governments to waive fees for affordable projects (e.g., impact, sales tax), as well as helping in waiving labor and prevailing wage requirements, along with encouraging flexible zoning to accommodate affordable housing. To make these interventions more palatable, they encouraged the state to create incentives for local governments. They did not support the imposition of minimum project sizes of 40 units. They did, however, indicate below market sales of suitable government-owned sites would be a positive. In addition, they viewed state incentives/requirements for providing adequate infrastructure to affordable housing projects as a positive move that could reduce costs.

Figure 8(t): Legislative Policies Affecting Local Jurisdictions
Question: Please indicate how negatively or positively the following legislative policy changes that affect local jurisdictions and selected projects would impact affordable housing?

Legislative Policies Affecting Local Jurisdictions	Avg	Rank
Encourage local municipalities to sell publically held land at below market-rate prices	5.91	5
Require local governments waive selected fees for affordable projects (e.g., impact fees, sales tax)	6.18	1
Encourage flexible zoning requirements for mixed use buildings	6.18	1
Allow funding for commercial space in mixed-use projects	4.91	8
Create some waivers for labor requirements and prevailing wages especially for smaller projects. (R)	6.18	1
Establish a statewide, uniform limit on permit fees/impact fees on affordable housing development projects	5.82	6
Create expense limits for Low-Income Housing Tax Credit projects	4.20	10
Establish a minimum of project size of 40 units built per project.	2.70	13
Re-evaluate the extension of the Evergreen Standard to affordable housing projects.	3.73	12
Encourage developers to incorporate green features without imposing the Evergreen Standard for affordable housing projects.	4.00	11
Exempt affordable housing projects that meet statewide design standards from local design review.	4.73	9
Require local jurisdictions to develop inclusionary zoning to ensure sites are available for affordable projects.	5.00	7
Create incentive programs to encourage local jurisdictions to accommodate affordable housing.	6.00	4
Average Ranking	5.04	



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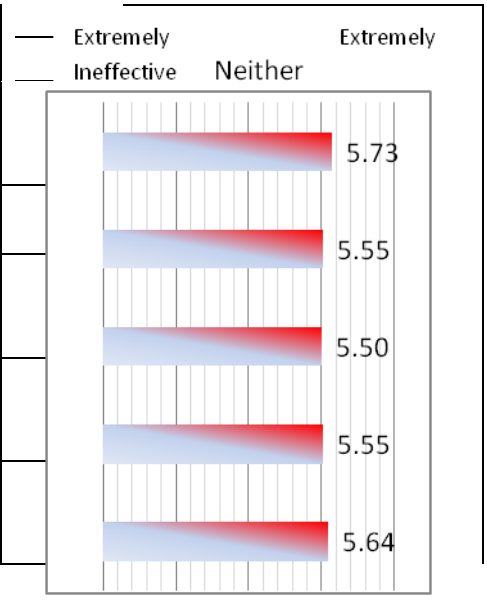
Research Needs. To determine what kinds of research and/or publications could increase awareness and understanding regarding affordable housing. The top-ranked response was the development of cost benchmarks. They also recommended that research should be conducted to determine the impact on affordable housing of various policy initiatives would entail as part of the approval process. They encouraged research into life-cycle costing, as well as the imposition of various public policy requirements (e.g., Evergreen, prevailing wage). The notion of creating benchmarks was attractive to some, although only if they were interpreted as guidelines and not strict targets or thresholds.

Figure 8(u): Research/Publication Initiatives

Question: How effective would the following research/publication initiatives be in terms of advancing affordable housing in the State of Washington?

Research/Publication Initiatives	Avg	Rank
Develop more precise cost benchmarks in terms of cost per unit by project size, location, development type.	5.73	1
Calculate life-cycle costing rather than focusing solely on upfront construction costs.	5.55	4
Create a list of the top 10 reasons why the private sector unit and public sector unit have different costs.	5.50	5
Evaluate the cost implications of some of the requirements such as the Evergreen Standard and the union Apprenticeship Program.	5.55	3
Require research into the cost implications of all public policy initiatives that are to be extended to affordable housing projects.	5.64	2
Average Ranking	5.59	



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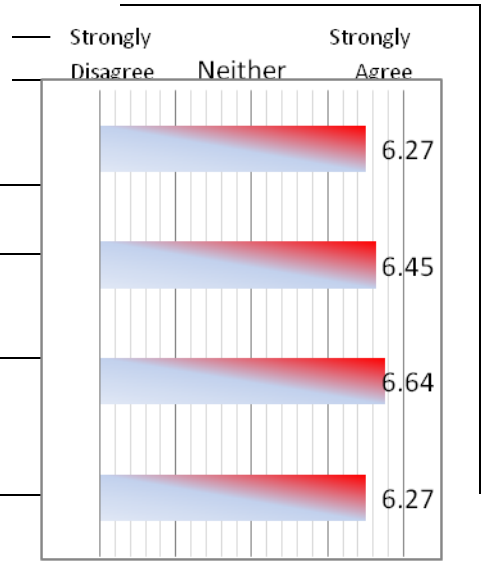
Guiding Principles. To provide some direction and a sense of prioritization, the respondents were asked a series of potential guiding principles for reviewing the Housing Trust Fund's affordable housing program. The highest rated principle which was more of a framework than a principle, emphasized that much work would have to be completed to help get the housing market back on track. Respondents also noted the government should avoid encumbering the public with another set of regulations, incentives and best practices.

Figure 8(v): Guiding Principles

Question: Based on committee discussions to date, we have drafted the following principles to help guide the strategies that are recommended. Please indicate the extent you disagree or agree with each of them. If you have others to suggest, please list them in the Comments Box.

Guiding Principles	Avg	Rank
Focus on areas that generate significant development costs and that can be influenced by the legislature, HTF, or sponsors	6.27	3
Minimize the creation of new regulations and instead, focus on incentives and best practices	6.45	2
Recognize the diversity of projects that HTF helps to finance and avoid a one size fits all approach	6.64	1
Be presented as initial recommendations that in some cases will require a work group to further develop: this report no way should just state them as the thing to do, now, for sure.	6.27	4
Average Ranking	6.41	



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Prioritization of Housing Trust Fund Initiatives. Input was sought from the committee to start planning for the next major wave of new business activity. Overall, respondents emphasized Housing Trust Fund priorities should emphasize the construction/design processes, which is likely in response to the fact construction costs are the most significant cost center, accounting for some 65% of total costs. As revealed in previous questions, financial strategies and enhancements were also very attractive.

Table 33: Housing Trust Fund Prioritization

Question: To help establish overall priorities, it is important to understand where you think the Housing Trust Fund should focus its efforts. Please indicate how we should allocate 100% of our efforts on these competing actions. For example, if 20% on Regulation indicate 20 and make sure they add to 100; do not add % sign.

Housing Trust Fund Prioritizations	Avg	Rank
State Regulations	20.6	4
HTF Policies	21.1	3
Finance Strategies	25.0	2
Construction/Design Processes	33.3	1
Average Ranking	25.00	

Ranking Regulatory Actions. To explore changes in regulatory actions that might help reduce the costs of affordable housing, respondents were asked to rank various interventions on a scale of one to 10. The responses reveal the Committee's interest in stabilizing expectations by providing a minimum level of unrestricted funding (i.e., no set asides) and a minimum level of total funding per year. They were also interested in changing legislation to provide more flexibility to the Housing Trust fund, as well as to allow it to engage/fund/support land banking for affordable housing.

Table 34: Rank of Regulatory Actions

Question: Please rank order the following REGULATORY ACTIONS from 1 to 10 with 1 having the most positive impact on affordable housing.

Regulatory Actions Rank: 1-10	Avg	Rank
Create maximum per unit costs ceilings by construction type (new vs. rehabilitation)	6.67	8
Mandate minimum density requirements	5.56	7
Waive Evergreen Standard	9.11	10
Establish statewide building codes	8.13	9
Waive prevailing wage requirements	5.33	6
Establish minimum funding levels to provide stability	3.56	2
Pass enabling legislation to provide more flexibility to HTF	3.56	3
Minimize "set-asides" unless supported by added funding over minimum	5.00	5
Allow HTF to engage/fund/support land banking	4.33	4
Establish a minimum level of unrestricted funding for each year	3.56	1
Average Ranking	5.48	

Housing Trust Fund Policy Priorities. With respect to Housing Trust Fund policy changes, the top suggestions included: creating incentives for cost savings relative to budgets; giving preference to communities providing local support; establishing experience/certification requirements for development teams; requiring sponsors to attend or waive out of basic training, and establishing formal cost-reduction strategies.

Table 35: Rank of Housing Trust Fund Policies

Question: Please rank order the following Housing Trust Fund Policies from 1 to 10 with 1 having the most positive impact on affordable housing.

Housing Trust Fund Policy: Rank 1-10	Avg	Rank
Give preference to lower per unit cost projects	6.86	10
Establish experience/certification requirements for members of development team	3.78	3
Develop formal cost-reduction strategies and incorporate in underwriting	4.44	5
Develop and publish minimum design standards for various special needs residents	6.00	7
Require sponsors to attend or waive out of basic training in affordable housing	3.78	4
Give preference for communities providing local funds, land, etc.	3.50	2
Require submission of formal project management plan	5.38	6
Create incentive for cost-savings relative to budget	3.22	1
Establish maximum prices	6.71	9
Make per unit costs a major funding factor	6.13	8
Average Ranking	4.98	

Construction/Design Process Priorities. Respondents recognized the importance of providing incentives for reducing cost, adopting an integrated project management team approach, and developing a best practice manual for materials and assembly. They did not recommend going to generic, standard design, or to adopt modular housing or to force developers to use competitive bidding. They saw the benefits of life-cycle costing as an underwriting tool and suggested the ratios be kept in mind at each major decision point.

Table 36: Construction/Design Issues

Question: Please rank order the following CONSTRUCTION/DESIGN elements from 1 to 10 with 1 having the most positive impact on affordable housing. If you think some should not be adopted, market the column to the right and stop numbering.

Construction/Design Rank 1-10	Avg	Rank
Clearly define durability requirements by component	4.78	6
Require life-cycle cost analysis	4.67	5
Develop best practice manual for materials and assembly	3.50	3
Require adherence to standardized design specifications	5.56	7
Engage in negotiated design/build projects	4.50	4
Use modular housing or components	7.11	9
Focus on functionally oriented, generic design	5.63	8
Adopt an integrated project management team approach	2.89	2
Provide incentives for reducing costs	2.78	1
Use competitive bidding	7.25	10
Average ranking	4.87	

Finance Strategy Priorities. The 10 options with the highest responses included: creating incentives for overall cost savings, reduce contingency to 5% for new and 10% for rehabilitation, develop a single document/process for all admissions, and adding new financial tools to increase flexibility.

Table 37: Rank of Financial Strategies

Question: Please rank order the following Housing Trust Fund Policies from 1 to 10 with 1 having the most positive impact on affordable housing.

Financial Strategies: Rank 1-10	Avg	Rank
Increase level of funding for targeted projects	6.89	10
Set contingency to 5% for new and 10% for rehabilitation	2.78	2
Create incentive for overall cost savings	2.67	1
Allow flexible use of excess contingency funds, if any, to improve project	6.11	7
Develop a single document/process for all funders	4.00	3
Create standard buyers consortium to get lower prices construction materials	5.89	6
Add new financial tools to increase flexibility	4.67	4
Fund deeper into projects	6.22	8
Provide up-front seed funding to source sites and/or rehabilitation projects	5.50	5
Provide short-term loans to cover unexpected gaps	6.67	9
Average ranking	5.14	

Table 38: Rank of Housing Trust Fund Policies

Question: Please rank order the following Housing Trust Fund Policies from 1 to 10 with 1 having the most positive impact on affordable housing.

Housing Trust Fund Policy: Rank 1-10	Avg	Rank
Give preference to lower per unit cost projects	6.86	10
Establish experience/certification requirements for members of development team	3.78	3
Develop formal cost-reduction strategies and incorporate in underwriting	4.44	5
Develop and publish minimum design standards for various special needs residents	6.00	7
Require sponsors to attend or waive out of basic training in affordable housing	3.78	4
Give preference for communities providing local funds, land, etc.	3.50	2
Require submission of formal project management plan	5.38	6
Create incentive for cost-savings relative to budget	3.22	1
Establish maximum prices	6.71	9
Make per unit costs a major funding factor	6.13	8
Average ranking	4.98	

APPENDIX 9: PREVAILING WAGE INFORMATION

State of Washington Attorney General Opinion

Washington State Attorney General's Office Opinion. 1983. (AGO 1983 No. 2) Public Housing Authorities – Applicability of State Prevailing Wage Law. Attorney General Opinion interprets RCW 39.12, Washington State's prevailing wage law and concludes that the construction, alteration, repair, or improvement (other than ordinary maintenance) of low-income housing facilities by a public housing authority is considered a public works project subject to state prevailing wage laws where it is paid for with state or municipal funds or meets other conditions as specified.

Recent Legislative Actions

HB 1138 requires deposit of prevailing wage fines into the Public Works Account.
SB 5236 provides additional funding for the state to enforce prevailing wage standards.

Recent Studies[49]

Azari-Rad, Hamid, Peter Philips, and Mark Prus. 2003. "State Prevailing Wage Laws and School Construction Costs." Industrial Relations. Vol. 42, No. 3, pp. 445-47. This 50-state study of school construction from 1991 to 1999 shows that prevailing wage laws have no significant effect on school construction costs. The models included controls for business cycle, building size, school type, the season in which the project broke ground, and public versus private funding. Controlling for other effects on construction costs, there was no statistically significant increase associated with prevailing wage regulations. The findings showed economies of scale, and that doubling the size of a school raised costs by 93%. New high schools were 5-8% more expensive, possibly because of the increased complexity of science labs, language centers, and

[49] Economic Policy Institute, July 2008.Supplemented with several studies specific to Washington State.

recreational specifications. Public schools cost 15.5% more than private schools, independent of prevailing wage regulations.

Center for Government Research. 2008. Prevailing Wage in New York State: The Impact on Project Cost and Competitiveness. Prepared for the New York State Economic Development Council. Rochester, N.Y.: Center for Government Research. The Center for Government Research (CGR) estimated that prevailing wage laws raised construction costs by 36% in New York's metro regions. However, the study did not test whether the increase was related to prevailing wage regulations. CGR assumes that the wage differences fully transfer in government costs. The model compared prevailing wage rates with the market-rates of construction occupations in several metropolitan areas in New York and several others across the country. The study then compared labor costs to total construction costs using a prototype project, or a model created to mimic typical construction costs. It then applied the markup rates to total construction costs. The calculation assumed that productivity, material costs, and the labor share of construction remained constant.

Dunn, Sarah, John Quigley, and Larry Rosenthal. 2005. "The Effects of Prevailing Wage Requirements on the Cost of Low-Income Housing." Industrial & Labor Relations Review. Vol. 59, No. 1, pp. 141-57. In a study of prevailing wage laws and construction costs in the low-income housing sector, the authors used econometric approaches to measure the effect of prevailing wage laws on final project costs across California. The sample of 205 subsidized housing projects undertaken from 1997 to 2002 included a control group of 30 projects that were not subject to prevailing wage laws. Construction data were collected on projects approved and completed over a five-year period through May 1, 2002. In California, some public housing construction was exempt from the statute, so prevailing wages were not paid on 30 of the projects. In the model preferred by the authors, instrumental variables (IV) were used to control for endogenous factors that affected prevailing wage laws across regions. The information for this variable was extracted from voter registration information, union membership, homeownership, age, and income data. The authors reasoned that political influences and economic conditions were likely to affect whether a region adopted prevailing wage legislation. The IV model showed that prevailing wage laws raised costs of low-income residential projects 19-37%. The ordinary least squares model showed that prevailing wages raised contract costs 9-11%.

Glassman, Sarah, Michael Head, David Tuerck, and Pal Backman. 2008. The Federal Davis-Bacon Act: The Prevailing Mis-measure of Wages. Boston, Mass.: Beacon Hill Institute for Public Policy Research, Suffolk University. This paper argues that the Davis-Bacon Act should be repealed on grounds that the wage determinations set by the Department of Labor (DOL) do not reflect the true wage prevailing in a local area. Prevailing wage rates set by the DOL were on average 13% higher than market-rates. This difference was applied to the federal budget to estimate a 9.91% cost increase, or $8.6 billion annually. The authors attributed the wage differences to unrepresentative surveys and measurements that resulted in an upward bias in wage estimates.

Kelsay, Michael, Randall Wray, and Kelly Pinkham. 2004. The Adverse Economic Impact From the Repeal of the Prevailing Wage Law in Missouri. Working Paper, Department of Economics, University of Missouri. An input-output analysis using RIMS II multipliers estimated total economic losses of between $318 million and $384 million annually from proposed repeals of prevailing wage laws. The breakdown included $294-356 million in lost income, $5.7-6.9 million in lost sales tax collections, and $17.7-21.4 million in lost income taxes. In addition, the authors calculated societal impacts of better pay and benefit packages for workers under prevailing wage laws.

Philips, Peter. 2006. Construction: The Effect of Prevailing Wage Regulations on the Construction Industry in Iowa. Working Paper, Economics Department, University of Utah. Productivity was found to play a major role in explaining why less expensive labor does not always result in lower government construction costs in the absence of prevailing wage laws. Using 2002 Census of Construction data, Philips compared average annual incomes of construction workers and the value-added per construction worker by state. Workers in states with prevailing wage laws earned more income, but they also had higher productivity. In prevailing wage states, construction workers earned an average of 15% more in wages and about 25% more in Social Security, unemployment insurance, and worker's compensation. States with prevailing wage laws showed 13-15% more value-added per worker compared to states without the legislation.

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