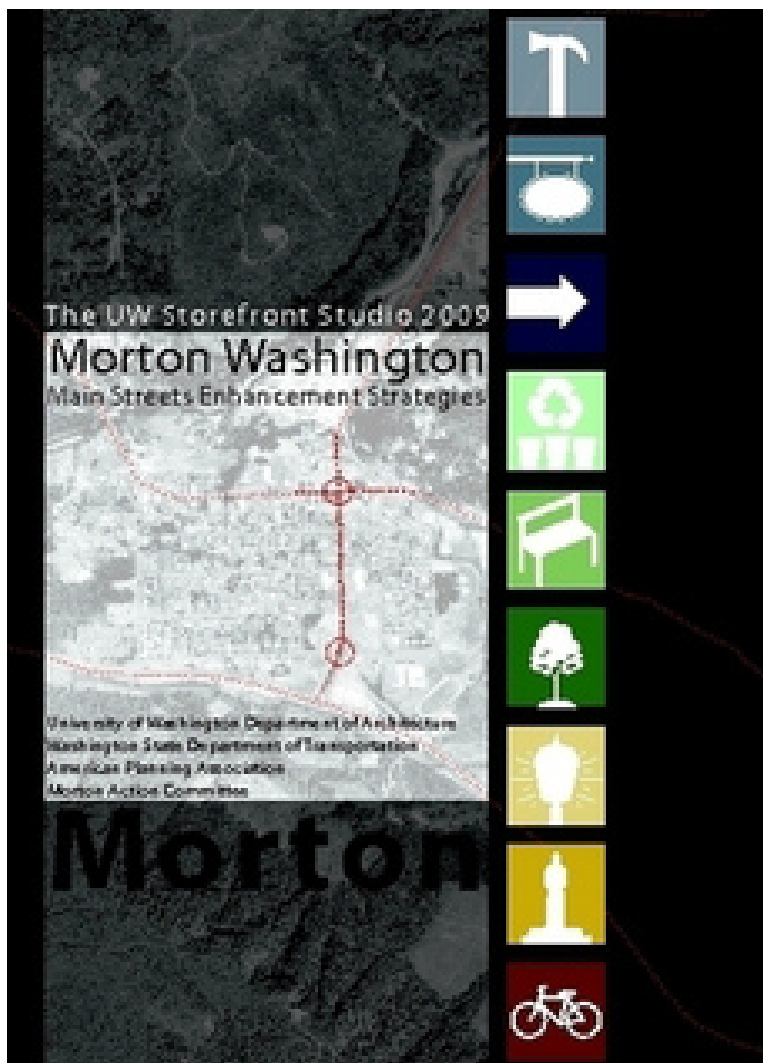


State Highways as Main Streets: A Study of Community Design and Visioning

WA-RD 733.1

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October 2009



Final Technical Report
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State Highways as Main Streets:
A Study of Community Design and Visioning

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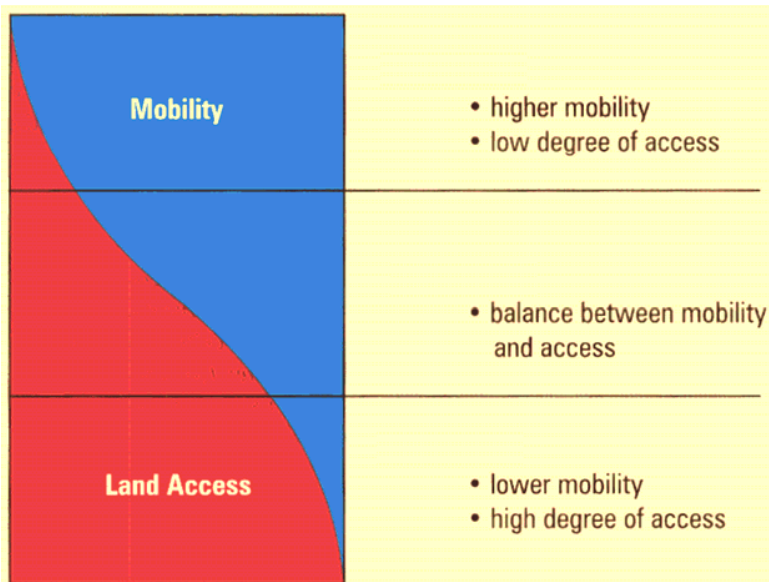
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Section I: Executive Summary

In Washington and across the country, sections of state highways serve as thoroughfares as well as main streets for cities of all sizes. In these cases, it is necessary to maintain through traffic flow, while still meeting the needs of these.

State highways range from those that focus on mobility to those intended to serve local access needs. Between these two extremes, there are sections of state highways that run through cities and therefore must serve as both thoroughfares and main streets. Since these “main street highways” must provide both access to the places we need to visit and at the same time, serve the regional mobility needs of the public (see Figure 1), they face twice the pressure to maintain traffic flow and ensure community livability.

Figure 1. Mobility and Access Graphic



Source: Safety Effectiveness of Highway Design Features, Volume 1, Access Control, FHWA, 1992.

Washington State Department of Transportation (WSDOT) recognizes the competing needs for these main street highways and commissioned this study to:

- explore community transportation design policy to improve collaboration when state highways serve as local main streets,
- determine successful approaches to meet the federal requirements for visioning set forth in SAFETEA-LU [23USC135(f)(3)(B)(ii)],
- find ways to assist local agencies in improving their grant applications to WSDOT,
- identify new ways to translate context sensitive design guidance into practice, and
- support staff and organizational development by connecting the architecture profession and transportation engineering.

For this study, student researchers participating in University of Washington’s Storefront Studio Program explored a number of community design methods. They reviewed recent case studies from Washington and other states, and based on findings, developed a recommended framework for community transportation design for main street highways.

Through archival research, photographic documentation, and digital collages, the students generated before-and-after streetscapes and individual design proposals. Business owners, property owners, and residents provided feedback to the students through various visioning exercises helping the students develop better designs for revitalizing main street highways in the Washington towns of Morton, Roslyn, Goldendale, and Sekiu.

Key Findings

- The four pilot community design workshops conducted through “storefront studios”, posting of drawings, renderings, and digital collages in a prominent downtown storefront for community engagement and discussion, confirmed that these community design and visioning exercises more effectively engaged the public than technical presentations and previews of nearly complete project proposals. (See Appendix A for links to the four community design plans completed through this project).
- Based on criteria, objectively applied to all state highways in Washington, approximately 600 miles of state highways currently operate as main streets (see Appendix B of this report for the resulting list of specific state highway segments identified as main streets and technical discussion).
- For WSDOT projects on main street highways (inside cities), this study finds that some scope and schedule adjustments may be avoided by applying a greater degree of community design consideration in systems analysis and project development resulting in a potential overall savings for the transportation agency.
- There is a need for more resources for community transportation design focused on main street highways, especially for projects in smaller communities with limited or no planning staff. See Figure 2. for an example of community design and visioning.
- Based on the review of policies and case studies, community transportation design policy should be focused on main street highways and establish specific selection criteria and performance objectives.
- Community transportation design ensures more than just advocates get involved in project development.
- Art (1 percent in federal projects) or community history/legacy can be used to engage the public in transportation projects.
- Public interest grows as input is reflected back.

Figure 2. Community Design and Visioning Example



Example - Current Conditions – State Route 508, Morton, WA



Example - Community Vision – State Route 508, Morton, WA

Section II: Background

Main Street Highways

Transportation improvement projects on main street highways are more complicated and can be more costly than similar projects in more rural settings. This study finds that for WSDOT projects on state highways inside cities, scope and schedule changes may be avoided by applying a greater degree of community design consideration in systems analysis and project development.

Reasons for scope and schedule changes on main street highways include limited right of way and the unanticipated need to acquire additional right of way which can be costly and politically unpopular. The projects inside cities and on state highways that serve as community main streets are likely to require multiple funding sources in order to incorporate all the desired design elements (e.g., separated path or sidewalk, pedestrian lighting, intersection treatments, parking considerations, additional work zone accommodations, etc). Main street highways projects often require more trade-offs in terms of transportation features, are scrutinized for their environmental impacts to a greater degree by communities and stakeholders, and require more complex designs.

The Association of American State Highway Transportation Officials (AASHTO) report, *Accelerating Project Delivery*, identifies the three leading causes of delay in the road-building process as environmental review, right-of-way acquisition, and utility relocation. This study supports this finding, and focuses on context sensitive community based design as a measure to avoid costly changes to scope and schedule where state highways also act as community main streets.

University of Washington Department of Architecture Storefront Studio

The Storefront Studio is an outreach design program from the University of Washington (UW) Department of Architecture, College of Built Environments specializing in context sensitive community based design. Founded in 2003, The Storefront Studio is dedicated to working with local communities to strengthen their connection to the built environment which should boost economic development and social interaction.

The Storefront Studio has worked in over a dozen communities in Washington State including Seattle, White Center, Auburn, Renton, Skyway, Kent, Carnation, Puyallup, and Des Moines. Starting in the summer of 2008 and finishing in the summer of 2009, the Storefront Studio partnered with the Washington State Department of Transportation to study context specific community design in Goldendale, Morton, Sekiu, and Roslyn. In particular, the study focused on the process of local community interaction in the visioning process.

The fieldwork engaged the four communities, each of which had downtown main streets that were also state highways, or intersected with one. Building on previous community planning and design efforts and working with local groups in each town, the study produced and documented four different community design and visioning exercises. A consistent set of tools and process were used, with variations that tested appropriate responses to local community planning efforts.

Section III: Research Approach

Review of Relevant Federal Policies and National Guidance

There are several recent federal policies that address, directly and indirectly, state highways that serve as main streets or, “main street highways.” Additionally, a recent partnership between USDOT, EPA, and HUD has been formalized. The Interagency Partnership for Sustainable Communities has identified six guiding principles including:

- Provide more transportation choices
- Promote equitable, affordable housing
- Enhance economic competitiveness
- Support existing communities
- Coordinate policies and leverage investment
- Value communities and neighborhoods

Other recent and relevant national level policies and guidance includes:

Safe, Accountable, Flexible, and Efficient Transportation Equity Act: A Legacy for the Users (SAFETEA-LU)

To meet the public participation requirement of SAFETEA-LU, states shall “employ visualization techniques to describe plans.” However, little guidance on best practices for accomplishing this requirement is provided.

1995 National Highway System Designation Act

This legislation initiated “Context Sensitive Design” efforts of many state departments of transportation by calling for designs that take into account "the constructed and natural environment of the area; the environmental, scenic, aesthetic, historic, community, and preservation impacts of the activity; and access for other modes of transportation."

Institute of Traffic Engineer’s *Designing Urban Thoroughfares for Walkable Communities*

ITE provides the first design guide to propose design standards for roadway types within the federal functional classification system that allow for greater design flexibility.

Review of Other State Policies

Since the passage of the Intermodal Surface Transportation Efficiency Act (ISTEA) in 1991, states have had the authority to develop highway design standards outside of the AASHTO Green Book criteria. Many states have developed or are developing policies, project development processes, and design standards in response to the Federal Highway Administration’s (FHWA) Context Sensitive Solutions initiative and encouragement from local governments. This study reviewed a number of state efforts to determine which approaches are having results.

California

In 2005, California Department of Transportation (Caltrans) defined specific sections of state highways that serve as main streets and adopted a philosophy of project development for these locations summarized in a publication titled, *Mainstreets: Flexibility in Design and Operation*. The guidance contained in this document addresses a list of design issues common to main streets including: lower speed limits, reduced lane widths, and street landscaping.

Minnesota

Minnesota Department of Transportation has conducted research to investigate the interaction between road section design and adjacent site design. The research titled, *Design and Development Principles for Livable Suburban Arterials*, also develops a set of design criteria that would guide coordination of land use and transportation planning. Similar to Vermont's design guidance, the research identified the need for at least three roadway classifications based on the land use context or setting.

Maryland

Maryland Department of Transportation has authored guidance titled, *When Main Street is a State Highway*. They have applied their *Main Street* transportation project development process outlined in this guidance to more than 120 roadway projects. Maryland's approach has garnered national awards from the American Association of State Transportation Officials (AASHTO) and from the National Partnership for Highway Quality, not only for the final design of their projects but also for the project development process itself.

New Jersey

The New Jersey DOT created a concept known as "HyperBuild" to ensure the most efficient, project delivery possible. "HyperBuild" evaluates every project, from concept to construction, to find out the most innovative, cost-cutting, and efficient ways to produce the project. HyperBuild integrates contracting and construction improvements and the community input process known as Context Sensitive Design. Under this initiative, all projects in the state's construction priority list are gone over systematically in search of efficiencies.

Oregon

Among the states, the Oregon Department of Transportation (ODOT) has taken one of the most aggressive approaches to maintaining a balance between through traffic and serving as the local main street in specific areas. ODOT has implemented the Urban Accessibility Policy that clarifies how they will work with local governments and others to link land use and transportation in transportation plans, facility and corridor plans, plan amendments, access permitting, and project development. Their policy also specifies criteria and defines the role of ODOT and local governments in designating highway segments as "Special Transportation Areas", "Urban Business Areas", and "Commercial Centers".

Vermont

The Vermont Agency of Transportation has organized their Design Manual and developed design standards based on a range of land use contexts in which the state highway exists including: towns and cities, small towns and villages, suburban commercial/residential corridors, and rural corridors. This approach ensures the standards are flexible and allow and encourage creative methods to minimize impacts on scenic, historic, archaeological, environmental, and other important resources.

Table 1. Community Design Approach by State

State	Project Development Policy	Design Guidance	State Law	Project Delivery Policy	Context Sensitive Design Policy (State Policy)	Complete Streets (City, County, or State Policy)
California		•			•	•
Minnesota		•			•	•
Maryland	•				•	•
New Jersey				•	•	•
Oregon	•		•		•	•
Vermont		•			•	•

Review of Washington’s Legal Framework

In Washington, project scope and schedule adjustments have been made to reach agreement on jurisdiction control and financial responsibility for both maintenance and construction of specific features of the state highway. Project scope and schedule adjustments made for these reasons are more common on state highways that serve as main streets. State law defines jurisdiction and control on state highways inside cities exceeding 25,000 in population. State law has been interpreted by state attorneys to assign some improvements as the responsibility of the respective city. Design authority for these locations rests with Washington State Department of Transportation (WSDOT) (Source: WSDOT) Table 2., Table 3. and Figure 3. Depict jurisdiction control and financial responsibility outlined in Washington State statute (RCW 47.24.020).

Table 2. City and State Responsibility for State Highways Inside Cities Under 25,000 Population

City Responsibility - Operational (consistent with state laws)
Street Illumination
Cleaning-streets, catch basins, snow plowing, etc.
Existing Stormwater facilities
Traffic and parking enforcement

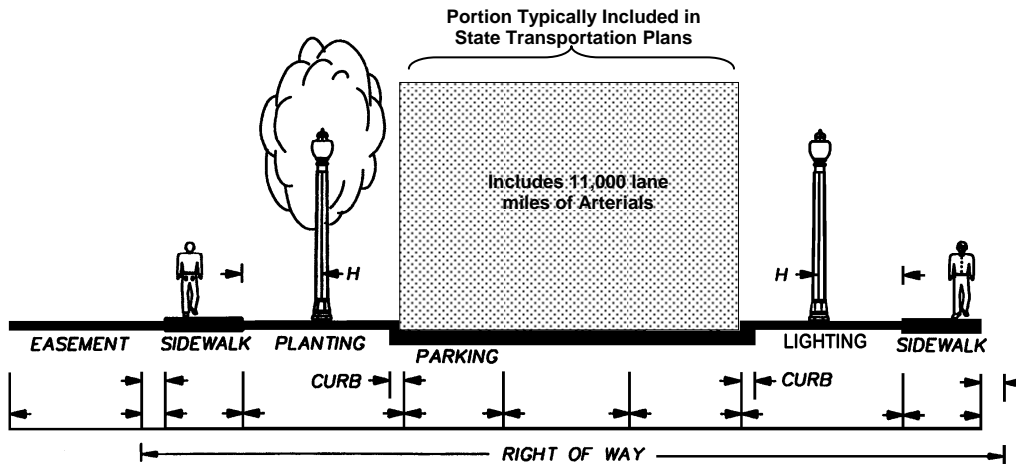
State Responsibility – Structural Integrity
Roadway surface and shoulders
Traffic Control Signals
Slope stability
State has snow plowing authority where necessary
Route markers,

Table 3. City and State Responsibility for State Highways Inside Cities Over 25,000 Population

City Responsibility - Operational (consistent with state laws)
Street Illumination
Cleaning-streets, catch basins, snow plowing, etc.
Existing Stormwater facilities
Traffic and parking enforcement
Slope stability
Traffic Control Signals

State Responsibility – Structural Integrity
Roadway surface and shoulders
State has snow plowing authority where necessary
Route markers, directional signs

Figure 3. City Responsibilities for State Highways



Source: Association of Washington Cities

*Note: Cities also manage the underground utilities (water, sewer, storm water), telecommunications, and power rights-of-way activities.

Review of Washington's Policies

Washington State has a number of policies that support community design and recognize the importance of these state highway corridors. Several of the most relevant policies in place in Washington State are listed in this section of the report.

WSDOT Context Sensitive Solutions Policy

WSDOT's Executive Order related to implementation of context sensitive design [WSDOT Executive Order 1028.00] states:

“Context Sensitive Solutions is a model for transportation project development that has recently received much discussion and broad acceptance. Its essence is that a proposed transportation project must be planned not only for its physical aspects as a facility serving specific transportation objectives, but also for its effects on the aesthetic, social, economic and environmental values, needs, constraints, and opportunities in a larger community setting.

WSDOT endorses the Context Sensitive Solutions approach for all projects, large and small, from early planning through construction and eventual operation. This means that WSDOT employees working on projects and facilities should:

- Engage from the project's inception with representatives of affected communities, including elected and appointed officials and a widely representative array of interested citizens.

- Assure that transportation objectives of projects are clearly described and discussed with local communities in a process that encourages reciprocal communication about local views and needs in the overall project setting.
- Pay attention to and address community and citizen concerns.
- Ensure the project is a safe facility for both the user and the community.

Context Sensitive Solutions is a process that places a high value on seeking, and if possible, achieving consensus. WSDOT's belief is that consensus is highly advantageous to all parties and may help avoid delay and other costly obstacles to project implementation.

The offices of Highways and Local Programs and the State Design Engineer are charged with developing training, rules, and procedures for WSDOT employees to carry out this Executive Order.”

Selection of Project Locations for Community Design Technical Support

Cities with populations between 1,000 and 6,000 were the focus of this study because State Highway planning, design, maintenance, and operations in these communities are the responsibility of the WSDOT.

The year of incorporation was another important selection criteria because most cities that incorporated before 1930 are a single city center built up around a main street and grid system vs. multiple community centers throughout the city; more commonly seen in cities where transportation infrastructure developed after 1930. This study finds a statistical relationship between year of incorporation and the presence of a state highway that serves as a community main street.

Highway characteristics, including posted and design speeds, highway designations, and access management designations were also identified as a criteria in order to evaluate various relationships that may exist between characteristics of main streets and speed.

Finally, current land use was used as a criteria in determining whether a state highway operates as a community main street. Zoning maps for each city were acquired and evaluated to determine the proximity of the state highway to the community's commercial core and other commercial development. The role the state highway plays in the community transportation grid system was also a factor.

Although each local context produced unique constraint variables for the study, Goldendale, Morton, Sekiu, and Roslyn were selected for a common ground of smaller sized, older communities, with the state highway running through the downtown district. Each community also had an existing historical character to their main street, preserved primarily through lack of development, but valued and considered an asset. An active local group in each town was already engaged with community revitalization and WSDOT related efforts. Some had successfully developed clear community plans and had begun implementing them. Others were at earlier stages of developing consensus.

All the communities were underserved by professional design and technical assistance, and had few resources to draw on, usually because of isolation, small scale, and transitional economies. As models, they had physical and social characteristics that made them prototypical case studies.

The presence of an active community group and the assistance of a local partner were critical to the success of the Storefront Studio. They were the entry key to the community, setting up contacts, meetings, tours, and local resources. The community groups included a full spectrum or comprehensive cross-section of the community, including business, city officials, residents, historical groups, economic revitalization groups, environmental groups, educators, new comers, and old timers. They were all active organizers and already engaged in local visioning and planning efforts. They provided a network of local participants whose information and input edited and revised each community vision. The community participants provided continuity between previous community design exercises and with The Storefront Studio study, and are the local players charged with carrying the proposed community vision forward.

Process for Context Based Community Design Technical Support

A definitive characteristic of the Storefront Studio's technical support is street level engagement and visibility as a physical location, and as a community outreach approach. As a forum for interaction, the studio holds community open houses with illustrated exhibits of the visioning process. These are held in active and empty storefronts, located on the street the study is looking at. The storefront location ensures local visibility and accessibility, while the open house format allows the community to drop in and participate according to their own schedule and availability. The students and community organizers act as hosts, giving individual guided tours of all the projects, and collecting feedback. More formal presentations are also used as capstone events. The number of open houses and meetings varies with each community, but three or four meetings are ideal. Rather than a single, fast paced workshop format the exchange takes place over a greater length of time, several weeks to several months, and allows an extended interaction, with input, reiteration, and revisions. In addition, email and the web allows for constant collaboration. Although the distance from the Studio's home base in Seattle to the community being assisted varies, and greater travel distance sets up fewer visits, that loss of contact time is balanced out by longer, overnight visits.

As a principle format for the studio, 'Before and After' images are used to illustrate the community design process, communicating in familiar terms that allow the greatest opportunity for understanding and engagement. An existing condition is shown, and then along side, a proposed enhancement. Rather than starting with a master plan, a set of community enhancements emerge from a survey of existing assets, which are then linked into broader strategies. The architecture students' technical and professional skills provide a kind of virtual makeover of the main street, and with their support, the expressed vision of the community is illustrated. Those proposed images are presented at community open houses through the simple but effective format of posters and postcards. The 'Before and After' images, revised by community editing and shaping, become part of a set of Community Enhancement Proposals and Strategies. Experienced faculty lead teams of

graduate and undergraduate architecture students through each exercise. The composition and the size of the student team vary with each community, from two students to twelve.

To achieve a context driven design, the Studio follows a consistent format, beginning with a research phase. Before visiting the community, the students explore information available in print and on the web. They come to the first field meeting with maps, images, and questions for the local community, concerning both its physical form and social make-up. Local and State archives are mined for the historical condition of buildings and streets, and for cultural context. The studio documents the existing streetscape, and change overtime is compared. Existing design guidelines and building regulations are reviewed. Previous community planning and visioning initiatives are incorporated, often acting to focus the scope of the study.

A first community open house uses the initial photography, mapping, and research to create an exhibition portrait, past and present, social and physical, of the community. The community reviews the work, correcting errors and omissions. In brief presentations, local representatives each address their perspective on the community. The result of the student research and community input is compiled in an Asset Map of existing conditions, identifying the found potentials and opportunities for development and enhancement.

For the second open house with the community, the students digitally alter photographs to illustrate different strategies for enhancing the community's physical assets. These virtual makeovers follow constraints and ambitions set out in the previous public forum. The open house acts as a catalyst for discussion, and results in an edited and annotated list of preferred strategies for the students to develop. These community revised enhancement proposals are then refined and combined. A more formal final presentation leaves the results of each study with the community, to use to set goals, priorities and action plans.

Digital tools make the technical support possible. The digital photo manipulation of satellite and street photography is central to the studio. Community acceptance, understanding and ownership of these images enable a high level of communication between the studio and the community. Laptops, digital cameras, and cell phones mean that the studio is portable. Large format printers and plotting allows poster and exhibit sized printing for open house venues, while the Internet facilitates distant communication and remote presentations and feedback. For each community, clear and concise printed books, avoiding jargon and aimed at a broad readership, document the final product, providing a reference for further work. Local print press and community TV often cover the activities, with the university and community collaboration being a draw, helping to generate exposure and community response.

Review of the Community Design Case Studies

Case studies were conducted by University of Washington's Storefront Studio program in order to demonstrate various low-cost community design and visioning tools and

determine their potential effectiveness in improving project delivery when state highways serve as main streets. For this study, the Storefront Studio produced a final book or set of drawings for each community.

In the first community, Morton, the Storefront Studio followed up on pro-bono assistance from Washington Chapter of the American Planning Association (APA) Community Planning Assistance Team which provides focused planning assistance workshops and design charrettes in communities with limited or no available planning resources to develop specific community goals and action strategies. Their report had identified two key intersections and the main street as critical for consideration. The local partner providing input and encouraging community participation was the Morton Action Committee. Open houses were held in a main street historical bank that was under renovation, and across the street at a historic theater the community had restored. The study produced enhancement strategies for the two intersections that stressed their character area gateway potential while also addressing pedestrian safety. A general set of enhancement strategies were developed and applied to main street buildings, along with a linked set of green spaces. A building painting campaign, inspired by the digital versions produced by the Studio had been implemented by the time the Studio ended, including the incorporation of proposed colors on two buildings.

In Goldendale, community contact was through the Chamber of Commerce, and the City of Goldendale, who set up a stakeholders meeting and community presentations, while the local Museum supplied a very good collection of historical photographs. Without a previous community vision to act as a point of departure, existing conditions of the main street were compared to conditions at different historical periods. An analysis of existing and historical street facades, awnings, and recent energy and climate issues, resulted in a preferred restoration and renovation scenario for their design guidelines. A similar study looking at historical precedent examined changes in business signs, and made design guideline recommendations. In addition, proposals suggested enhancements to the downtown character identity and streetscape with tree plantings for shade, the inclusion of bicycle paths, and the temporary public use of open space on empty lots. Intersection design studies addressed pedestrian safety, district identity, and community connections.

In Sekiu, in a previous planning workshop also supported by Washington Chapter of the American Planning Association (APA) Community Planning Assistance Team, the community had identified three open space improvement projects adjacent to, or on road allowances. All had gateway, or waterfront, public park potential. A local project manager with the Clallam Bay - Sekiu Community Action Team facilitated the meetings. Presentations were made and feedback was collected in the field, in person, and over the Internet. Conditions, constraints, and local contacts were identified in a first meeting. A preliminary presentation was delivered digitally to the local project manager to present and collect feedback, and an exchange of revised designs took place via the Internet. A final field presentation to the community was made locally. The clear focus, defined scope, and concise and constructive community participation, facilitated the studio and produced highly detailed proposals that are now being used by the community for costing and fundraising.

In Roslyn a very engaged local project manager with the partner group Roslyn Revitalization facilitated community interaction, resulting in active open houses and extensive regional press and community TV coverage. Over a period of three months and four community open houses, a broad set of enhancement strategies were developed that together embody a local vision of the town. Four general categories grouped individual studies into *Street Character*, *Community Platforms*, *Stories and Paths*, and *Places to Stay*. *Street Character* showed enhancements to building facades, streetscapes, and street furniture. *Community Platforms* were a series of steps, benches, and stages to support sidewalk activities such as the farmers market or open air cinema. Roslyn's history was told through projects in *Stories and Paths*. *Places to Stay* proposed infill projects on Main Street allowing small-scale tourism and an active street. It also proposed renovating the historic miner's cottage backyard buildings into bed and breakfast lodging. A permanent seven hundred foot long public art project marking the abandoned railway through the town was installed by a collaborative community effort at the end of the Storefront Studio project.

Evaluation of the Case Studies

The case studies demonstrated the value of clarifying community goals and priorities through community design exercises prior to developing designs and visualizations in order to achieve the most lasting designs. The work done by Storefront Studio to develop a community asset map and designs based on community input is a model for low-cost context specific community design that translated into successful grant applications.

The use of the Storefront Studio format for community design and visioning provided several opportunities. The students, working with the community, were able to understand and communicate the highway corridor as a main street in a community context. The unique character, assets, opportunities, and constraints of each community were clearly expressed. Each town was at a different stage in their community design process, from working on expressing values and priorities, to developing a clear vision and direction, to detailing plans and strategies for implementation. The more planning work the community had already done the more effective the Storefront Studio could be. When the communities had defined specific projects and developed concise community goals for those projects, the Storefront Studio was able to provide detailed designs that were accepted and supported by the community and ready for fundraising and construction.

Advance work done by each community in planning and design workshops, focused the study and defined the key objectives of the main street revitalization project. Options for key intersections identified by previous community planning workshops were illustrated, and a preferred alternative developed through additional community input. General goals established in previous planning initiatives became detailed design strategies.

In the absence of previous community planning exercises to build on, the Studio relied on the existing streetscape and historical photos to focus community dialogue on what their vision for their main street could be. To begin the process of developing a clear

community vision, a historical range of possibilities was illustrated and a preferred scenario put forward for consideration. Although the studio was able to provide the range of inherent possibilities, it could not manufacture consensus or negotiate a compromise between conflicting agendas. The more internal direction each community had, the more it could make effective use of external assistance.

Multiple jurisdictions and agendas were included in each enhancement strategy the Storefront Studio developed. In a process of moving from the detail to the whole, the community is invested in the outcome because they have been listened to, and they can see their input in the results. The strategic enhancements, developed in the Before and After images became clear articulations of the community vision.

Section IV: Analysis of the State Highway System

Applying the Criteria Statewide

Criteria developed and used to select the four pilot cities for community design assistance described in Section III of this report included:

- Population
- Average Daily Traffic
- Highways of Statewide Significance
- National Highway System
- State Access Control Classification
- Federal Functional Classification
- Existing Land Use
- Design and Posted Speeds
- Year of Incorporation
- Freight Classification
- Collision History (including motor vehicle collisions with pedestrian and bicycles)
- Role of the State Highway in City's Transportation Grid

This same criteria was also objectively applied to all state highways in Washington, resulting in identification of approximately 600 miles of state highways currently operating as main streets (see Appendix B of this report for the resulting list of specific state highway segments identified as main streets and technical discussion).

Additional analysis was conducted to determine whether scope and schedule changes were more frequent on these segments of state highway. Over 400 highway projects in all were evaluated. This study finds that scope and schedule adjustments may be avoided by applying a greater degree of community design consideration in systems analysis and project development resulting in a potential overall savings for the WSDOT. Fifty projects with scope and schedule changes on main street highways were identified as projects that could have directly benefited from additional community design work.

Section V: Discussion and Conclusions

Based on the findings of this study, development of an agreed upon set of criteria to identify main street highways, similar to what was developed for the purposes of this study, is needed. These criteria should be applied to help transportation agencies anticipate scope and schedule adjustments and resulting project cost adjustments.

Additionally, further study should be conducted to determine the potential for development and implementation of design guidance, project development and project delivery policies associated with main street highways.

Low-cost community design and visioning techniques applied in four pilot cities as part of this study clearly demonstrated benefits including:

- increased community input,
- increased community support,
- reduced project development and design time, and
- improved and increased chances for project funding.

These community design efforts appear to improve project delivery times. Follow-up studies should be conducted to confirm project delivery efficiencies were realized in these communities.

For these communities, the street level storefront open house formats were an effective forum for exchange and community engagement. The illustrated enhancement strategies are potent catalysts for community dialogue. They initiated a process that resulted in context driven projects such as a facade improvement program, a landmark public art project, a right-of-way park, or in improved gateway intersection. Although the community must have local internal direction, the outside technical assistance provides an invaluable tool for research, visualization, communication, and detailed design development. By using prior community design exercises to focus the activities of the study, communities were able to achieve action plans ready to implement from previously agreed to general goals. By locally embedding technical support, and pairing that with community participation and engagement in the process, the Storefront Studio facilitates and promotes context specific community based design.

Appendix A: Examples – Morton, Goldendale, and Roslyn Vision Reports

To download a PDF or to order a printed copy the reports for

Morton WA,

<http://www.lulu.com/product/paperback/main-streets-enhancement-strategies-2009---morton-wa/5356535>

Goldendale WA,

<http://www.lulu.com/product/paperback/goldendale-washington-historic-downtown-district-enhancement-strategies/5398654>

Roslyn WA,

[http://www.lulu.com/product/paperback/roslyn-wa-storefront-studio-spring-2009-\(perfect-bound\)/534598](http://www.lulu.com/product/paperback/roslyn-wa-storefront-studio-spring-2009-(perfect-bound)/534598)

Appendix B: Identification of State Highways as Main Streets

Year of Incorporation	City	County	National Highway System	2006 Population	2007 Population	Growth Rate	State Routes with *Main Street Characteristics	Approximate Miles of State Highway as Mainstreets within City
1890	Aberdeen	Grays Harbor	1	16470	16720	1%	12, 101, 105	16.32
1955	Airway Heights	Spokane	0	4840	5020	4%	2	4.39
1891	Anacortes	Skagit	1	16170	16450	2%	20	12.48
1903	Arlington	Snohomish	1	15430	16240	5%	9, 530, 531	4.4
1890	Asotin	Asotin	0	1165	1180	1%	129	1.96
1891	Auburn	King	1	48955	50470	3%	18, 164, 167	24
1947	Bainbridge Island	Pierce	0	22600	24710	9%	305	3
1964	Battle Ground	Clark	0	15810	16280	3%	502, 503	18.13
1945	Benton City	Benton	1	2840	2860	1%	225	3
1924	Bingen	Klickitat	0	680	680	0%	14, 141	8.99
1959	Black Diamond	King	0	4085	4120	1%	169	3
1890	Blaine	Whatcom	1	4480	4540	1%	543, 548	3.38
1949	Bonney Lake	Pierce	0	15230	15520	2%	410	5
1909	Bothell	King	1	31690	32400	2%	522, 527	6
1901	Bremerton	Kitsap	1	35910	36210	1%	303, 304, 310	7
1910	Brewster	Okanogan	0	2200	2195	0%	173	1
1910	Bridgeport	Douglas	0	2075	2105	1%	173	1.55
1890	Buckley	Pierce	0	4535	4650	2%	410	2
1910	Bucoda	Thurston	0	650	655	1%	507	0.7
1993	Burien	King	1	31080	31300	1%	509, 518	2.5
1902	Burlington	Skagit	1	8120	8400	3%	020	2
1906	Camas	Clark	1	15880	16290	3%	14, 500	6
1912	Carnation	King	0	1900	1990	5%	203	0.95
1890	Castle Rock	Cowlitz	1	2135	2175	2%	411	0.5
1907	Cathlamet	Wahkiakum	0	555	560	1%	4, 409	1
1886	Centralia	Lewis	1	15430	15740	2%	507	6
1902	Chelan	Chelan	0	3755	3835	2%	97, 150	3.5
1883	Cheney	Spokane	0	10130	10390	3%	904	3.1
1903	Chewelah	Stevens	0	2315	2350	1%	395	1.02
1902	Clarkston	Asotin	0	7275	7280	0%	12, 129	3.5
1902	Cle Elum	Kittitas	1	1810	1855	2%	903	2.79
1881	Colfax	Whitman	1	2895	2950	2%	26, 195	2
1890	Colton	Whitman	0	415	420	1%	195	0.8
1890	Colville	Stevens	0	4990	5075	2%	20, 395	2.5
1909	Concrete	Skagit	0	840	870	3%	020	1.6
1910	Connell	Franklin	1	3200	3235	1%	260	1.4
1890	Cosmopolis	Grays Harbor	0	1635	1645	1%	101	1.2
1959	Coulee Dam	Okanogan	0	1025	1060	3%	155	1.6
1997	Covington	King	1	17240	17440	1%	18, 516	3.5
1903	Creston	Lincoln	0	255	260	2%	002	0.5
1945	Darrington	Snohomish	0	1465	1492	2%	530	1.8
1890	Davenport	Lincoln	0	1745	1750	0%	2, 25	1.8
1881	Dayton	Columbia	0	2720	2725	0%	012	1.5
1959	Des Moines	King	0	29020	29390	1%	509, 516	3.2

*Note: Mainstreet Characteristics are defined by criteria outlined in this study.

Year of Incorporation	City	County	National Highway System	2006 Population	2007 Population	Growth Rate	State Routes with *Main Street Characteristics	Approximate Miles of State Highway as Mainstreets within City
1909	Eatonville	Pierce	0	2385	2440	2%	161	1.4
1996	Edgewood	Pierce	0	9510	9560	1%	161	3
1890	Edmonds	Snohomish	1	40360	40560	0%	99, 104, 524	9
1950	Electric City	Grant	0	955	970	2%	155	0.8
1947	Elmer City	Okanogan	0	241	255	5%	155	0.75
1944	Entiat	Chelan	0	1105	1130	2%	097AR	3.2
1913	Enumclaw	King	0	11220	11480	2%	164, 169	2.3
1909	Ephrata	Grant	0	6950	7045	1%	28	4.5
1893	Everett	Snohomish	1	101100	101800	1%	99, 526, 527, 529	15.3
1929	Everson	Whatcom	0	2135	2165	1%	544	2.2
1990	Federal Way	King	1	86530	87390	1%	18, 99, 161	8.75
1957	Fife	Pierce	1	6135	6270	2%	99	0.6
1945	Forks	Clallam	0	3165	3205	1%	101	3
1890	Garfield	Whitman	0	630	630	0%	27	1
1946	Gig Harbor	Pierce	1	6765	7025	4%	016	2.3
1910	Gold Bar	Snohomish	0	2125	2135	0%	2	2
1879	Goldendale	Klickitat	0	3715	3715	0%	142	1.5
1935	Grand Coulee	Grant	0	930	930	0%	155, 174	3.2
1903	Granite Falls	Snohomish	0	3095	3140	1%	92	0.75
1902	Harrington	Lincoln	0	420	420	0%	23	0.7
1890	Hoquiam	Grays Harbor	1	8845	8970	1%	101, 109	8
1890	Ilwaco	Pacific	0	1015	1025	1%	100, 101	2
1910	Ione	Pend Oreille	0	420	420	0%	31	0.8
1892	Issaquah	King	1	19570	19940	2%	900	2
1907	Kahlotus	Franklin	0	220	220	0%	21, 260, 263	0.8
1890	Kelso	Cowlitz	1	11840	12770	7%	4, 411	2.25
1998	Kenmore	King	0	19680	20810	5%	522	2.04
1904	Kennewick	Benton	1	61770	62520	1%	240, 395	8
1890	Kent	King	1	85650	86660	1%	99, 181, 515, 516	13.8
1905	Kirkland	King	1	47180	47890	1%	908	0.9
1961	Lake Forest Park	King	0	12770	13340	4%	104, 522	3.5
1892	Latah	Spokane	0	207	205	-1%	027	0.8
1906	Leavenworth	Chelan	0	2195	2195	0%	002	1.3
1902	Lind	Adams	0	565	564	0%	21	1.7
1922	Long Beach	Pacific	0	1455	1485	2%	103	2.3
1924	Longview	Cowlitz	1	35570	35870	1%	4	5
1959	Lynnwood	Snohomish	1	35230	35810	2%	99, 524	6
1911	Mansfield	Douglas	0	325	330	2%	172	0.8
1997	Maple Valley		0	19140	19940	4%	169, 516	5.6
1910	Marcus	Stevens	0	168	175	4%	025	0.8
1891	Marysville	Snohomish	0	32150	35490	9%	528, 529, 531	5
1943	McCleary	Grays Harbor	0	1540	1555	1%	108	2
1890	Medical Lake	Spokane	0	4510	4555	1%	902	3.3
1948	Metaline	Pend Oreille	0	165	165	0%	031	0.9
1911	Metaline Falls	Pend Oreille	0	225	241	7%	031	0.3

*Note: Mainstreet Characteristics are defined by criteria outlined in this study.

Year of Incorporation	City	County	National Highway System	2006 Population	2007 Population	Growth Rate	State Routes with *Main Street Characteristics	Approximate Miles of State Highway as Mainstreets within City
1983	Mill Creek	Snohomish	0	17460	17620	1%	96, 527	5.4
1907	Milton	Pierce	0	6490	6780	4%	99, 161	2.2
1903	Monroe	Snohomish	1	16170	16400	1%	2, 203	3
1914	Morton	Lewis	0	1127	1140	1%	7, 508	1.6
1938	Moses Lake	Grant	1	16830	17190	2%	17, 171	5.9
1890	Mount Vernon	Skagit	1	28710	29090	1%	536, 538	4.6
1947	Mukilteo	Snohomish	0	19620	20020	2%	525, 526	5.5
1903	Newport	Pend Oreille	1	1985	2065	4%	2, 20, 41	2.5
1912	Nooksack	Whatcom	0	1004	1020	2%	9	1.2
1953	Normandy Park	King	0	6415	6520	2%	509	2.7
1909	North Bend	King	1	4690	4735	1%	202	2.3
1898	Northport	Stevens	0	275	286	4%	25	0.9
1915	Oak Harbor	Island	0	22290	23080	3%	20	4
1890	Oakesdale	Whitman	0	420	420	0%	27	1.2
1905	Oakville	Grays Harbor	0	710	715	1%	12	0.6
1902	Odessa	Lincoln	0	950	955	1%	21, 28	1.1
1907	Okanogan	Okanogan	0	2485	2445	-2%	215	3.4
1911	Omak	Okanogan	0	4705	4845	3%	155, 215	3.3
1908	Oroville	Okanogan	0	1665	1710	3%	97	1.5
1890	Orting	Pierce	0	5560	5700	2%	162	2.2
1910	Othello	Adams	0	6205	6435	4%	024	1.5
1890	Palouse	Whitman	0	1015	1020	0%	27, 272	2.2
1891	Pasco	Franklin	1	47610	50210	5%	397	3.8
1913	Pateros	Okanogan	0	625	627	0%	97	0.9
1906	Pe Ell	Lewis	0	666	655	-2%	6	0.9
1886	Pomeroy	Garfield	0	1525	1520	0%	12	2.8
1890	Port Angeles	Clallam	1	18970	19010	0%	101	4.7
1893	Port Orchard	Kitsap	1	8310	8600	3%	166	4.5
1860	Port Townsend	Jefferson	0	8820	8865	1%	020	2.75
1907	Poulsbo	Kitsap	1	7490	7560	1%	305	2.8
1903	Prescott	Walla Walla	0	315	315	0%	124	0.75
1890	Pullman	Whitman	1	27030	26860	-1%	27, 270	7.1
1890	Puyallup	Pierce	1	36360	36790	1%	161, 167	3.2
1907	Quincy	Grant	0	5395	5455	1%	28, 281	4.1
1947	Rainier	Thurston	0	1665	1705	2%	507	1.1
1907	Raymond	Pacific	0	3005	3005	0%	101, 105	4.6
1903	Reardan	Lincoln	0	620	620	0%	2, 231	1.2
1912	Redmond	King	1	49890	50680	2%	202, 908	7
1901	Renton	King	1	58360	58950	1%	169, 515, 900	14
1900	Republic	Ferry	0	990	985	-1%	20	1.5
1909	Ridgefield	Clark	1	3225	3340	3%	501	2.8
1890	Rockford	Spokane	0	488	495	1%	278	1
1890	Roslyn	Kittitas	0	1020	1040	2%	903	1.5
1908	Roy	Pierce	0	875	900	3%	507	1.3
1906	Ruston	Pierce	0	740	750	1%	163	0.5

*Note: Mainstreet Characteristics are defined by criteria outlined in this study.

Year of Incorporation	City	County	National Highway System	2006 Population	2007 Population	Growth Rate	State Routes with *Main Street Characteristics	Approximate Miles of State Highway as Mainstreets within City
1990	SeaTac	King	1	25230	25530	1%	99	3.4
1869	Seattle	King	1	578700	586200	1%	99, 513, 522, 900	17.7
1891	Sedro-Woolley	Skagit	0	9755	10210	4%	9, 20	4.2
1919	Selah	Yakima	0	6840	7045	3%	823	1.8
1890	Shelton	Mason	1	8805	8860	1%	3	1.9
1995	Shoreline	King	1	52830	53190	1%	99, 104	2.6
1903	Snoqualmie	King	0	7815	8350	6%	202	2.8
1919	Soap Lake	Grant	0	1740	1745	0%	17, 28	1.5
1890	South Bend	Pacific	0	1770	1770	0%	101	3.1
1909	South Prairie	Pierce	0	440	440	0%	162	0.5
1881	Spokane	Spokane	1	201600	202900	1%	2, 290, 291	15.7
2003	Spokane Valley	Spokane	1	87000	88280	1%	27, 290	13.1
1903	Springdale	Stevens	0	270	275	2%	231	1.5
1904	St. John	Whitman	0	517	530	2%	23	0.8
1903	Stanwood	Snohomish	0	4940	5030	2%	532	2.4
1907	Stevenson	Skamania	0	1315	1370	4%	14	0.7
1905	Sultan	Snohomish	0	4440	4530	2%	2	3
1891	Sumas	Whatcom	1	1125	1135	1%	9, 547	1.4
1891	Sumner	Pierce	1	9025	9150	1%	162	0.5
1902	Sunnyside	Yakima	1	14930	15130	1%	241	1.6
1875	Tacoma	Pierce	1	199600	201700	1%	7, 163, 167	9.3
1890	Tekoa	Whitman	0	835	845	1%	27, 274	1.7
1906	Tenino	Thurston	0	1515	1520	0%	507	2.3
1892	Toledo	Lewis	0	685	685	0%	505	0.6
1927	Tonasket	Okanogan	0	1000	990	-1%	20, 97	1
1907	Toppenish	Yakima	0	9015	9105	1%	022	2.2
1908	Tukwila	King	1	17930	18000	0%	181	2.4
1909	Twisp	Okanogan	0	990	980	-1%	20	2.1
1890	Uniontown	Whitman	0	345	350	1%	195	1
1906	Vader	Lewis	0	615	620	1%	506	0.7
1857	Vancouver	Clark	1	156600	160800	3%	501	7.6
1881	Waitsburg	Walla Walla	0	1230	1370	10%	12, 124	1.8
1910	Warden	Grant	0	2575	2575	0%	170	1.1
1908	Washougal	Clark	0	12270	12980	5%	14	3.3
1903	Washtucna	Adams	0	260	275	5%	260	0.9
1890	Waterville	Douglas	0	1175	1191	1%	2	1.5
1893	Wenatchee	Chelan	0	29920	30270	1%	285	5.7
1955	West Richland	Benton	0	10520	11150	6%	224	3.6
1914	Westport	Grays Harbor	0	2325	2380	2%	105	3
1907	White Salmon	Klickitat	0	2245	2225	-1%	141	2
1890	Wilbur	Lincoln	0	895	900	1%	2, 21	1.4
1909	Wilkeson	Pierce	0	450	450	0%	165	1.2
1890	Winlock	Lewis	0	1350	1370	1%	505	1.3
1924	Winthrop	Okanogan	0	370	380	3%	20	1.7
1993	Woodinville	King	1	10350	10850	5%	202	4.2

*Note: Mainstreet Characteristics are defined by criteria outlined in this study.

Year of Incorporation	City	County	National Highway System	2006 Population	2007 Population	Growth Rate	State Routes with *Main Street Characteristics	Approximate Miles of State Highway as Mainstreets within City
1906	Woodland	Cowlitz	1	4730	4960	5%	503	2
1958	Woodway	Snohomish	0	1165	1180	1%	104	0.25
1924	Yelm	Thurston	0	4565	4705	3%	507, 510	3.8
							TOTAL MILES	610

*Note: Mainstreet Characteristics are defined by criteria outlined in this study.

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