

# ROAD *work*

Public Process – June 2000

Community Involvement in Rural Road Design  
Clallam County, Washington



## The goals of the Committee are

1. To propose revision and formalization of the public process associated with road construction in Clallam County.
2. To inform citizens about some aspects of road design.

We want to bring citizens into the process early, before design alternatives are developed, and to keep them involved throughout the design process. Citizens will bring essential information to the table regarding the historical, environmental, scenic, economic, and social implications of a proposed project. These factors are important because they help give a community its identity, serve as a source of local pride, and provide the foundation for quality of life. We believe using this information to guide project design will ensure a smoother, less contentious process, and an outcome that meets community needs.

The committee intends for the public process described in this report to aid the design of any project which will change road geometry significantly or affect multi-modal\* road capacity. We invite other interested citizens to take part in the process and offer improvements.

\* Multi-modal refers to a road's ability to accommodate differing modes of transportation such as pedestrian, bicycle, horseback, and motorized vehicle.

## Introduction

Constructing and reconstructing roads is a potentially contentious process, frequently pitting angry taxpayers against their elected officials and professional staff. Excluding the condemnation of property for right-of-way, there is nothing more emotionally charged for people than a proposed change in their neighborhood that they feel will potentially threaten their safety, decrease their property value, or degrade their quality of life.

In order to address this issue, the Clallam County Board of Commissioners in 1999 solicited and appointed citizen volunteers to the Rural Roads Design Standards Advisory Committee. The Committee was charged with reviewing county road construction issues, and advising the Commissioners on improvements. This document and another to follow constitute our product.

## Acknowledgements

The authors have borrowed from portions of the excellent publication Flexibility in Highway Design, publication number FHWA-PD-97-062, from the Federal Highway Administration. We refer the reader to the original document for a more comprehensive treatment of road design and construction. It is available free of charge from the U.S. Department of Transportation.

**A successful process includes DESIGNER and COMMUNITY INVOLVEMENT from the beginning.**

## Overview of the Road Planning and Development Process

The six basic phases in the road development process are concept, planning, project development (preliminary design), final design, right-of-way, and construction. After construction is completed, ongoing operation and maintenance activities continue throughout the life of the road facility.

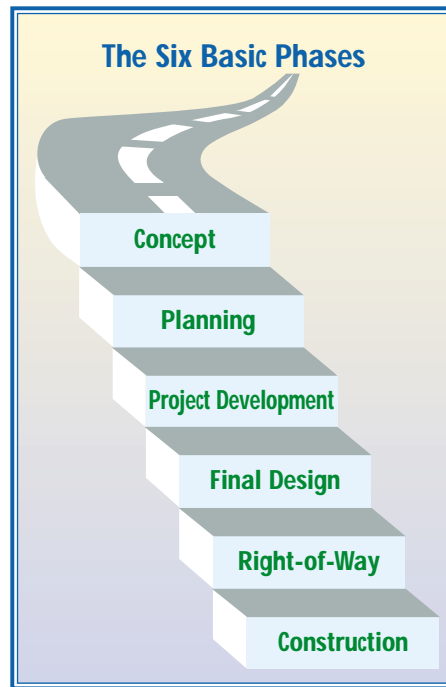
**It is during the first three phases, concept, planning, and project development, that designers and citizens working together can have the greatest impact on the final design features of the project.**

In fact, the flexibility available for road design during the later phases is limited a great deal by the decisions made earlier in the process.

### 1. The Concept Phase

During the concept phase an idea is born. This idea may come from the general public, from an interest group (cycling club, equestrian group, etc.), or from county staff. The idea may be related to a perceived problem on a road or to possible improvements or new features.

The concept phase is a flexible and informal opportunity for county staff and citizens to discuss the merits of an idea. Staff representatives from Community Development Department must participate in these discussions to ensure compliance with the Clallam County Comprehensive Plan.



### The Tasks of the Concept Phase

- ◆ Staff and interested citizens discuss possible road project informally
- ◆ The Community Development Department must provide oversight

A group of staff and citizens might “knock the idea around” and define the basic scope of an improvement project. Alternatively, the group may find that there are insurmountable problems or unacceptable tradeoffs associated with the idea and do nothing further.

If an idea appears to have merit, the concept team will pass it on to the planning phase and formal process will begin. Staff and public members of the concept team could follow the idea into the planning phase and become a part of the planning team.

The Clallam County Comprehensive Plan encourages preservation of rural character.



## 2. The Planning Phase

The refinement of the idea into a “definition of need” for any road improvement project takes place during the planning phase. From the definition of need, the goals of a proposed project are derived. If citizens are not already involved, this is the key time to initiate their involvement in the decision-making process.

Perceived needs commonly fall into one or several of the following four categories, and may apply to either motorized or non-motorized travel:

1. An existing physical structure needs major repair/replacement.  
**(Structure Repair)**
2. Existing or potential travel volume exceeds available capacity.  
**(Capacity)**
3. The route is experiencing an inordinate number of safety and accident problems that only can be resolved through physical, geometric changes.  
**(Safety)**
4. Developmental pressures along the route trigger a reexamination of the number, location, and physical design of access points.  
**(Access)**

When needs are identified, it is important that all parties agree that the need exists, the need is defined clearly, and the need should be fulfilled considering the expense and any related tradeoffs.

Obtaining community consensus requires active citizen involvement beyond conventional public hearings at which already developed design alternatives are presented for comment. **If a consensus cannot be reached on the definition of the need at the beginning, it will be**



Clallam County Courthouse – Increased public involvement is essential to success.

**difficult to move ahead in the process and expect agreement on the final design.**

The first task of the planning phase is to initiate a formal notification process to request citizen involvement. Formal public notification may include some or all of the following methods:

- ❖ Newspaper notices
- ❖ Mailings to property owners adjacent to the potentially affected roadway
- ❖ Postings along the potentially affected roadway
- ❖ Notification Roster mailings (citizens who have signed up for notification of all road projects)
- ❖ Web site listing of proposed projects (when web site capability is available).

Minimum notification should include the following:

- ❖ The nature of the proposed improvement
- ❖ Identification by milepost of the potentially affected roadway
- ❖ The date of a public meeting to be held at least three weeks after the notification process is completed
- ❖ A description of an opportunity for written commentary which will be compiled and available for public review.

**A** public meeting will be held after the notification period is completed. The members of the nascent planning team will present to citizens the nature of the project idea, its scope, and then elicit commentary. Citizens may volunteer to join the planning team. Informal interest groups may begin to form at this stage and elect representatives to be on the planning team. Each member should bring a unique expertise or point of view as well as a willingness to devote time and energy to the group process.

## The Planning Team

### Citizen Stakeholders

Neighborhood Groups

Equestrian Club

Cycling Club

### County Staff

County Roads

Community Development

### Other

City Planning

School District

Emergency Services

### Hired Professionals

Landscape Architect

Environmental Engineer

Other

## The Tasks of the Planning Phase

- ◆ Initiate formal notification process
- ◆ Hold public meeting to define scope and purpose (definition of need)
- ◆ Form planning team
- ◆ Preview planning documents and refine scope and goals
- ◆ Inventory potentially impacted community resources
- ◆ Refine scope and goals of project
- ◆ Notify additional potentially affected stakeholders
- ◆ Develop project report

### Public Meetings

As citizens and county staff begin to work together, team members should define clearly the perceived need and state the goals of a proposed improvement. The project goals must be framed in the context of the community and neighborhood goals as stated in the Clallam County Comprehensive Plan.

Participants can avoid unnecessary disputes by not framing perceived needs as issues of drivers' rights vs. property rights vs. pedestrians' rights, etc. In the Comprehensive Plan, the citizens of Clallam County have stated community goals and a shared vision of the future. These stated goals and vision must be the starting point of a presentation to the public of a pro-

posed improvement project. They provide a common basis for rational discussion and evaluation of the proposal. See [Public Involvement Techniques](#) at the end of this document for further suggestions.

### Planning Team Formation

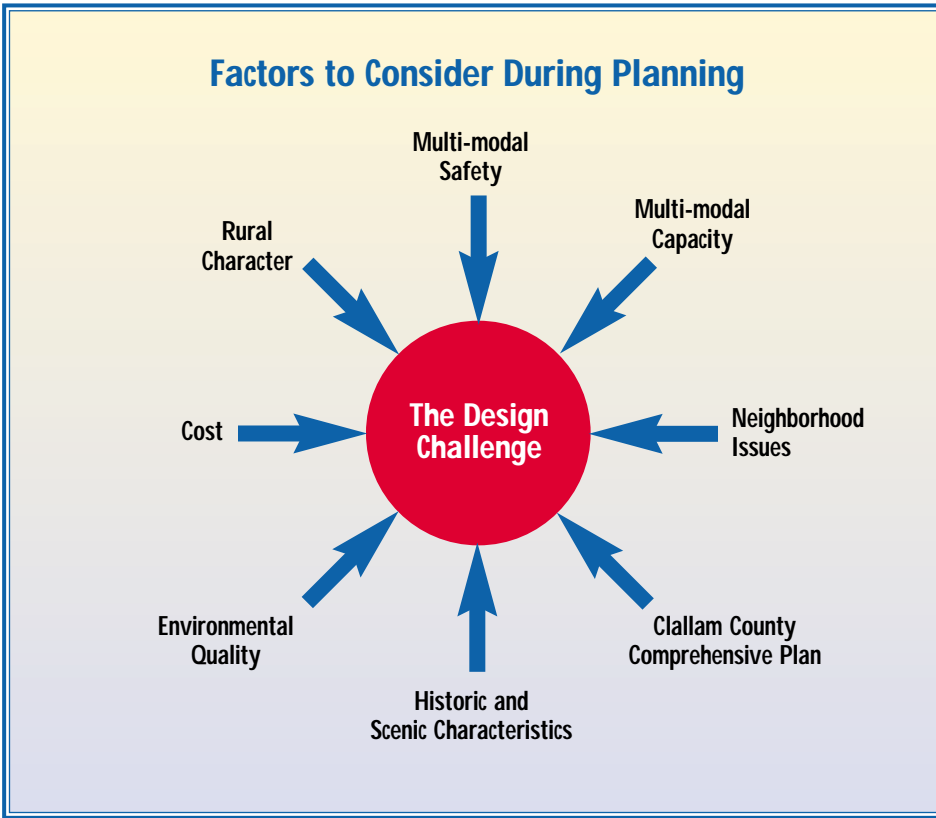
Each project idea that passes into the planning phase will have associated with it a **project specific multidisciplinary design team** whose responsibility will be to develop the idea and further refine the scope and goals of the possible project. Staff and citizen members may be on more than one project team at a time, and the make-up of a team may vary with the needs of the proposed project. Each team will have Transportation Planning and Community Development Department members as well as citizens.

### Factors to Consider During Planning

Planners should look ahead during the planning phase and consider the impact that a proposed facility or improvement may have while the project is still in a conceptual form. Planners make key decisions that will affect and limit the design options in subsequent phases.

Questions to be asked during planning include:

- ◆ How does the proposed project fit with the vision statement of the Clallam County Comprehensive Plan?
- ◆ How will the proposed transportation improvement affect the general physical character of the area surrounding the project?
- ◆ Are there neighborhood safety and character issues that need to be addressed?



### 3. The Project Development Phase

After a project has been planned, it moves into the project development phase. The environmental analysis now intensifies. The level of environmental review may vary widely, depending on the scale and impact of the project. Regardless of the review's level of detail or duration, the product of this phase includes a description of the location and major design features of the project which minimize and mitigate the environmental impact.

The basic tasks in this phase include the following:

- ◆ Further refinement of goals and need
- ◆ Development of a range of alternatives **including the no-build option**
- ◆ Evaluation of alternatives and their impact on the natural and man-made environments
- ◆ Determination of appropriate mitigation.

- ◆ Does the area to be affected have unique historic or scenic characteristics?
- ◆ What are the multi-modal safety, capacity, and cost concerns of the community?
- ◆ What are the environmental consequences of the proposed project?
- ◆ Are there cumulative effects or interactions to consider?

The final task of the planning phase is to outline the team findings and recommendations in a publicly available report.

Answers for such questions are found in planning-level analysis. Planners may need to supplement the basic information in the Comprehensive Plan with an inventory of the historical, scenic, economic, environmental, or social resources potentially impacted by the project. On large projects a Community Impact Statement may be helpful.



Decisions made at the project development level help to define the major features of the finished road project. After completion of the project development phase, if a decision is made to proceed, the project shall be placed on the Six-year Transportation Improvement Plan (TIP) and programmed for final design.

(Early in this phase it may be necessary to submit the project for funding. If so, the project can be placed on the TIP for this purpose. If it is later decided that the project does not have merit, the funding easily can be returned, and the project dropped.)

## Assessing the Character of an Area

During the project development phase, designers must consider the project's context and physical location carefully to sensitize themselves to its surrounding environment. They may

### The Tasks of the Project Development Phase

- ◆ Develop a range of design alternatives (including the no-build option)
- ◆ Evaluate each option in terms of
  - the Comprehensive Plan
  - the option's impact
- ◆ Refine goals and need
- ◆ Determine appropriate mitigation
- ◆ Place on TIP

need to collect information that involves site visits and contacts with area residents and other stakeholders. Gathering information about the project area's physical character and neighborhood values will help designers shape how the project will look and how it will function. It also will identify any physical constraints or opportunities early in the process.

Concerns during assessment include:

- ◆ Preservation of archaeological sites
- ◆ Recognition of special viewsheds and scenic character
- ◆ Preservation of historic landscapes
- ◆ Respect for rivers, streams, and natural drainage ways
- ◆ Recognition of fence and tree lines
- ◆ Respect for historic road traces
- ◆ Preservation of natural land forms

- ◆ Coordination with utilities
- ◆ Considerations of adjacent land use
- ◆ Preservation of farm lands
- ◆ Preservation of community context
- ◆ Preservation of wetlands

### Some of the questions to ask in this phase include the following:

- ◆ What are the physical characteristics of the corridor?
- ◆ How is the corridor being used other than for vehicular traffic? Are there destination spots along the road that require safe access for pedestrians to cross? Do bicycles and other nonmotorized vehicles, pedestrians, or equestrians travel along the road? Could they if access were improved?
- ◆ What is the vegetation along the corridor? Is it sparse or dense; are there many trees or special plants?
- ◆ Are there important viewsheds from the road?
- ◆ What is the size of the existing roadway and how does it fit into its surroundings?
- ◆ Are there historic or especially sensitive environmental features such as wetlands or endangered species habitats along the roadway?
- ◆ Will existing business or economic activity be affected?
- ◆ How does the road compare to other roads in the area?
- ◆ Are there particular features or characteristics of the area that the community wants to preserve (e.g., a rural character, a neighborhood atmosphere) or change (e.g., too many electrical wires)?
- ◆ Are different groups interested in different features/characteristics?
- ◆ Are different groups affected differently by possible solutions?
- ◆ Are there concentrations of children, elderly, or disabled individuals with special design and access needs (e.g., pedestrian crosswalks, curb cuts, median refuge areas)?

## 4. The Final Design Phase

After a preferred alternative has been selected and the project description agreed upon, the project can move into the final design phase. The product of this phase is a complete set of plans, specifications,

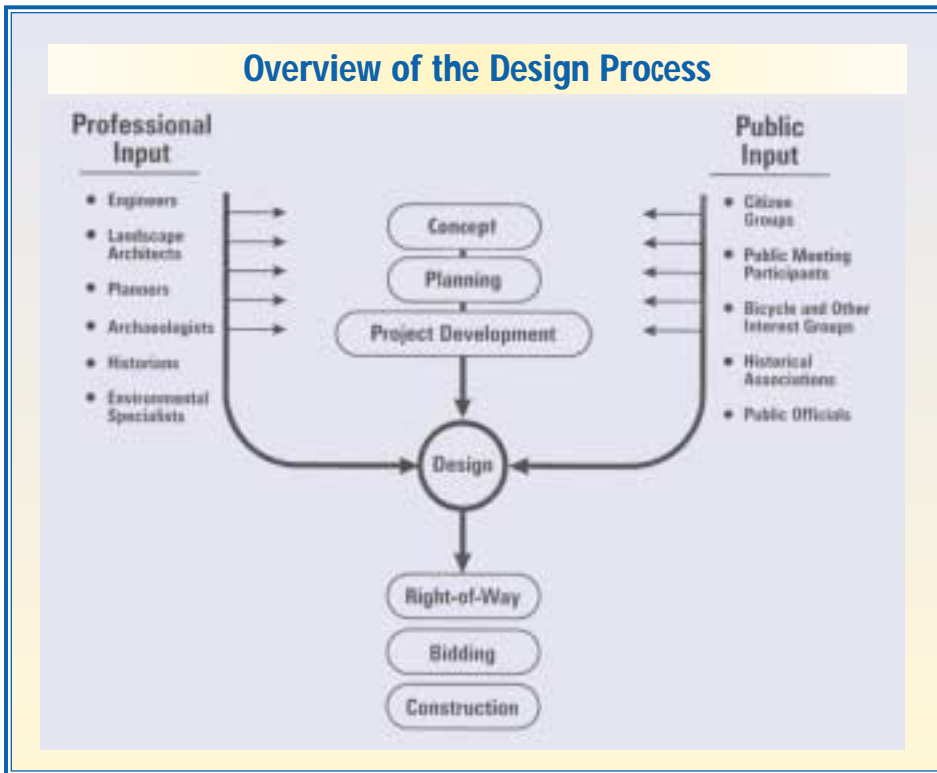
### The Tasks of Final Design Phase

- ◆ Select an option
- ◆ Detail the design

and estimates of required quantities of materials so that solicitation of construction bids and subsequent construction can be done. Depending on the scale and complexity of the project, the final design process may take a few months to several years.

In this phase, designers should employ imagination, ingenuity, and flexibility within the general parameters established during planning and project development. They should be aware of design-related commitments made during project planning and project development, as well as proposed mitigation. Designers also should be willing to add improvements that are true to the intent of the original content.

The interests and involvement of stakeholders are critical to making design decisions during this phase. Many of the same techniques employed during earlier phases of the project development process to aid public participation also can be used during the design phase.



assess the character of the area, and to design with sensitivity to that character.

An exception might occur where the environment of the road changes along a short section. A rural road may change characteristics as it enters a town and becomes an urban street for a few blocks, then changes back to a rural road. Designers working on the urban section of the street do not have to be consistent with the appearance of the road outside the urban environment, because its character is so different. However, both the urban and rural sections should maintain the same general scale in terms of roadway width.

### Considering Scale

People driving in a car see the world at a much different scale than people walking on the road. This large discrepancy in design scale for cars versus design scale for pedestrians has changed the overall planning of many communities.

In many road designs, pedestrian needs were considered only after the needs of motorized vehicles. This resulted in unsafe conditions for pedestrians, and changed drastically how the roadway corridor was used. For example, widening a roadway will increase traffic speeds, possibly turning the roadway into a barrier for pedestrians and cyclists. Along side high-speed auto traffic, shoulders are unsafe and uncomfortable pedestrian corridors, especially for children.

Trying to accommodate users of the road who have different design scales is a difficult task for designers. However, they always must consider the safety of pedestrian and nonvehicular traffic, as well as the safety of motorists.

During the final design phase, different professional skills may be needed to develop the design. Various professionals should be involved early in the decision-making process, when they can have the most effective impact on the final design. In this way, it is possible to avoid having to force-fit aesthetic design treatments as add-ons to the project, to add gloss to a design that isn't quite right or is unacceptable to the community. Using professional skills early in the process will increase the chances of a successful project.

### A multidisciplinary design team may consist of some of these professionals:

- ◆ Ecologists
- ◆ Transportation and urban planners
- ◆ Road engineers
- ◆ Traffic engineers
- ◆ Social scientists
- ◆ Landscape architects
- ◆ Architects
- ◆ Urban designers
- ◆ Historians
- ◆ Biologists
- ◆ Archaeologists
- ◆ Geologists
- ◆ Artists

Where improvements involve a small section of the road, there is no need to develop an entirely new concept for that section. Doing so would result in that small section looking much different from the rest. Normally improvements should be consistent with the existing design of the overall route, using the information gathered to



**With all else being equal, the wider the road, the faster motorists will travel.**

The design element with the greatest effect on the scale (and therefore speed) of a roadway is its width, or cross section. The cross section can include a clear zone, shoulder, turn outs, travel lanes, and/or median.

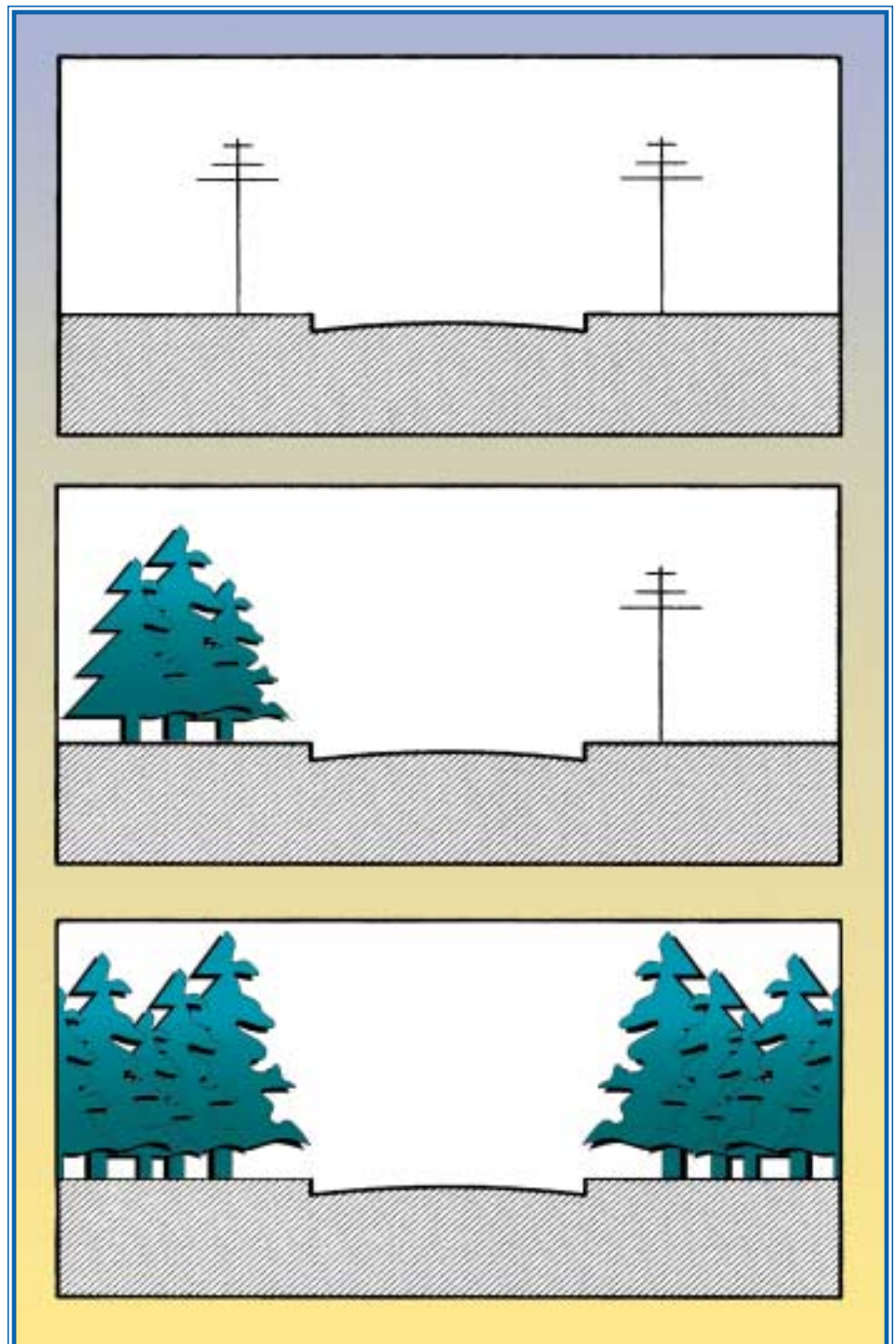
The wider the overall roadway, the larger its scale. There are some design techniques that will help to reduce the perceived width and, thus, the perceived scale of the roadway. Limiting the width of travel lanes or separating lanes with green space are two options. Grass or gravel shoulders limit the perceived width of the roadway and still provide a breakdown area for motorists. Green space between trails or non-motorized vehicle paths and the travel lanes also helps to break up the perceived width of the pavement.

Elements, or a lack of elements, along the roadside also contribute to the perceived width of the road and affect the speed at which motorists travel. Curves, elevation changes, vegetation along the roadway, buildings, and fences close to the road will contribute to reducing the perceived width and speed of the road. Recognition of these elements is important in designing a facility that is compatible with its surroundings, and safe for non-motorized users.

## Detailing the Design

During the final design phase, it is the details associated with the project that are important. Employing a multidisciplinary design team ensures that important design details are consid-

ered and that they are compatible with community values. Often it is the details of the project that are most recognizable to the public. Because of their visibility, their treatment is critical for good design.



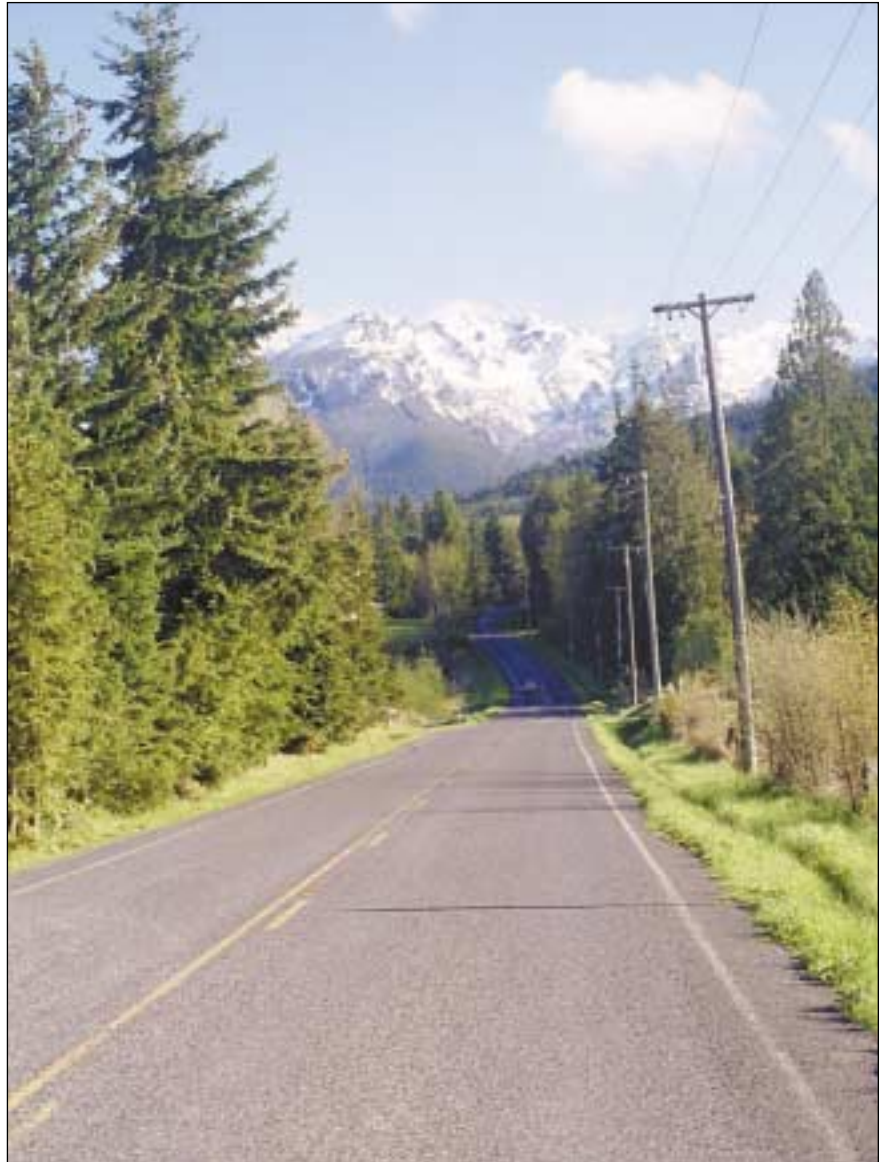
Cross Sectional Elements reduce perceived road width and lower drivers' incentive to speed.

## 5. The Right-of-Way Phase

Once the final designs have been prepared and the needed right-of-way is purchased, construction bid packages are made available. Then a contractor is selected and construction is initiated.

## 6. The Construction Phase

Construction may be simple or complex and may require a few months to several years. During the right-of-way acquisition and construction phases, minor adjustments in the design may be necessary. There should be continuous involvement of the project team throughout these phases. Once construction has been completed, the facility is ready to begin its normal sequence of operations and maintenance.



## Summary of the Elements of a Successful Process

### A successful road design process includes the following:

- ◆ Early and continuous public involvement throughout the project
- ◆ Early and continuous use of a multidisciplinary project team
- ◆ The application of flexible and creative design criteria
- ◆ A variety of public involvement techniques

## Rural Roads Design Standards Advisory Committee

**STUART J. BONNEY**, AIA is the owner and principal architect of Olympic Design Works Inc. P.S. He and his wife Catherine, a life long resident, take great interest in local preservation issues and maintaining the rural character of our unique environment.

**KRIS HANSON** is a third generation Hanson who has lived in the "West End" and traveled it's rural roads for 38 years. He is currently raising two boys, ages 4 and 3, with his wife Lori. For the past 14 years, he has been teaching at Clallam Bay Schools in a variety of settings from Kindergarten to Senior High School. His Interests are working with children and being involved with community organizations.

**BILL HENNESSEY** and his wife Kathie are raising three children, ages 5, 9, and 11 in rural Clallam County, Washington. Bill has worked variously as a road crew laborer, a commercial fisherman, a forest soils and hydrology technician and has been a small business owner and Family Doctor in Port Angeles for twelve years. He is interested in public health and safety as they relate to road design.

**BOB LAKE** has traveled the world for the Air Force and CIA, but chose rural Clallam County for his home. He lives on Freshwater Bay with his kayak and family. Bob is a freelance software engineer.

**DAVE LE ROUX** has been a resident of Sequim for 15 years. As a current and founding member Peninsula Trails Coalition he has an active interest in transportation corridors that are safe for vehicles, pedestrians, and bicyclists.

**DON MYERS** has 40 years experience in aerospace, electronics, and defense industries. He retired from Northrop Gruman Corporation, B-2 Division where he was the Project Manager for three simultaneous technology studies. Don and Dixie Myers reside in rural Clallam County west of Port Angeles.

**RON SCHROMEN-WAWRIN** has traveled Clallam County roadways for more than two decades. He presently lives along a gravel road in the countryside south of Port Angeles with his family. Ron is self-employed in the construction industry.

**KATHE SMITH** has lived on the Olympic Peninsula for 18 years. As a bicycle commuter and a member of the Clallam Transit Advisory Board she has a keen interest in transportation issues.

**RUSS WESTMARK** has 25 years experience in timber sale administration including timber sale purchasing and appraisal, road construction appraisal and administration, logging administration, and log sales. Russ is currently working at Portac Inc. as a log buyer and administering timber sales.

**PAT WILLITS** is a member of the Clallam County Planning Commission. She has been teaching biology for 35 years, at all levels from elementary school through elderhostel. Currently she is teaching classes for Peninsula College in subjects ranging from Forest Ecology to marine birds and raptors to intertidal vertebrates.

**JIM WINDERS** has 43 years experience in construction at various positions. He retired from Sully-Miller Construction Company where he was a Division Manager. Mr. and Mrs. Winders reside in rural Clallam County near Sequim.

### The Committee thanks the following people for their help:

#### County Commissioners:

- Carol Boardman, Mike Doherty, Martha Ireland, and Steve Tharinger for authorizing and supporting our work.

#### Ex-officio Committee members:

- Steve Hauff, Andy Meyers, and Pat Willits for their professional input and advice.

#### Clallam County staff:

- Don McInnes for his presentations to Committee, consulting, and content suggestions.
- Jim Rumpeltes and Deb Kelly for their presentations to Committee.
- Alanna Hollander and Lynn Fox for their support work, late nights, and technical assistance.

#### Clallam County citizen:

- Kathy Reuter for editing, design, and layout of this document.
- Linda Nutter for her editing assistance.
- Larry Stetson for his help and contributions to Committee process.

## Glossary

*These terms are explained because they are used in this document or are relevant to road projects.*

### Clallam County Six-year

#### Transportation Improvement

**Program (TIP)** – The document, developed annually, that sets forth all proposed road projects, their estimated costs, and funding sources for the next six years.

**Clear zone** – The area within the right-of-way cleared of visual and mechanical obstructions to decrease the likelihood of injury should a vehicle leave the roadway.

**Computer generated visualization tools** – Computer software tools that demonstrate visually what a project will look like before it is built.

**Concept** – The initial idea for a possible road project.

**Constructing** – Building a road where no road existed. (See reconstructing)

**Fog line** – The white fluorescent painted line that marks the outside edge of the travel lane. (Not always present)

**Formal public notice** – A process by which the county advises citizens of a possible road project. Newspapers, mailings, postings, and email can be used.

**Maintenance** – The operations necessary to preserve a road in good and safe condition. This can include adding a top surfacing material, painting lines, signage, sweeping, and sanding (winter).

**Milepost** – A method of marking a road's distance from a baseline to any point along the road.

**Multidisciplinary design team** – A group of county staff and citizens, with various expertise and interests, that work together to evaluate and design road improvement projects.

**Multi-modal** – The various methods of travel along a road such as walking, cycling, horseback riding, and motoring.

**Notification Roster** – A list of interested citizens who sign up with the county to be notified of possible road projects.

**Planning** – Defining the need, goals, and impacts of a potential road improvement project in the context of the County Comprehensive Plan.

**Reconstructing** – Rebuilding an existing road.

**Right-of-way** – The corridor land owned by the county for the purpose of providing and maintaining a road.

**Shoulder** – The portion of the roadway used primarily for vehicle breakdowns, pedestrian and bicycle traffic. It may be paved or unpaved.

**Stakeholders** – Those people who will be affected by a possible road project. They can be property owners along the route, residents in the neighborhood, travelers using the road, and special citizens groups.

**TIP** – See “Clallam County Six-year Transportation Improvement Program”.

**Traveled way** – The portion of the roadway used for vehicular travel (from fog line to fog line).

**View sheds** – The area within span of view from a road. It can be mountains, meadows, wetlands, rivers, structures, or pastoral outlooks.

## References

*Clallam County County-wide Comprehensive Plan*,  
Clallam County Community Development Department

*Clallam County Six-Year Transportation Improvement Program 2000 to 2005*,  
Clallam County Community Development Department

*San Juan County Scenic Roads Manual*, San Juan, WA County Government  
<http://www.co.san-juan.wa.us/publicworks/sr-manual/scenic-roads.html>

*Take Back Your Streets – How to Protect Communities from Asphalt and Traffic*,  
Third Edition 1998, Conservation Law Foundation, (617) 350-0990

*The Asphalt Rebellion*, Alan Ezenhalt, *Governing Magazine*, October 1997  
<http://www.state.fl.us/fdi/edesign/news/9712/asphalt.htm>

## Public Involvement Techniques

The project presentations and statements from the public during traditional public meetings and public hearings are often more conducive to taking stands than to solving difficult design issues. Special public involvement techniques may help avoid this.

The FHWA and FTA have recently published *Public Involvement Techniques for Transportation Decisionmaking*. This book describes many specific public involvement techniques, such as charettes or interactive video displays. The foreword to the report and the "Taking Initial Steps" sections at the end of each chapter of the document introduce the reader to approaches to developing and carrying out a public involvement strategy.

The book helps road designers who are seeking ways to enable citizens to contribute constructively to planning and design issues. This publication offers both highway designers and citizens a wealth of specific ideas and contacts for more information in the following topic areas:

- ◆ "Informing People Through Outreach and Organization" provides a variety of ways to orchestrate public contacts to enable a flow of information between the public and county staff, where it can be used effectively in the design process.
- ◆ "Involving People Face-to-Face Through Meetings" shows how to make meetings interactive occasions where people can discuss design issues and work together on solutions.
- ◆ "Getting Feedback From Participants" provides new ideas and perspectives and helps agencies determine how well citizens understand complex issues. Feedback may indicate that more information is needed for better understanding.
- ◆ "Using Special Techniques To Enhance Participation" provides ways to capture and maintain attention in today's busy environment. Gradually declining attendance and a lack of questions from citizens may indicate that involvement is faltering and in need of rejuvenation.

Copies are available by phoning the Environmental Operations Division of FHWA at 202-366-2065.  
The FHWA Internet home page has an electronic version that can be downloaded and searched.  
The FHWA home page address is <http://www.fhwa.dot.gov>.

### The most effective communication between two parties takes place when both speak the same language.

We can achieve this in design by using illustrations that show the public what a project will look like before it is built. Increasingly, designers are using computer generated visualization tools for this purpose. Lower-end computer systems display a photograph of the existing project area and

superimpose a computer generated drawing showing how the new construction will look. With these tools designers can communicate conceptually what they are planning for an area, and citizens can react with a certain degree of confidence that they understand what is being communicated to them.