



NEIGHBORHOOD STREET DESIGN GUIDELINES

*An Oregon Guide
for Reducing Street Widths*

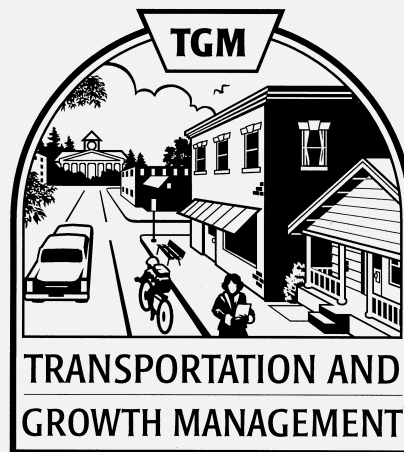
**A Consensus Agreement
by the Stakeholder Design Team**

**November
2000**

**Prepared by the
Neighborhood Streets
Project Stakeholders**

*This guidebook is dedicated to the memory of
Joy Schetter
who passed away before she could see the
remarkable success of this project.*

*Joy's leadership, hard work, calm manner, and
ability to work with all of the stakeholders
were key factors in that success.*



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two State of Oregon programs:*

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Includes minor clarifications to the sections on residential fire sprinklers (pages 9 and 16.)

JOHN A. KITZHABER, M.D.
GOVERNOR



February 16, 2001

To the Citizens of Oregon:

I am pleased to present to Oregon's communities a new publication called *Neighborhood Street Design Guidelines*. This handbook is a valuable tool for local governments. In workbook style, it recommends a process for development of street standards, provides important information to help communities consider and decide on the standards, and includes model designs as a starting point.

Street design, in particular street width, has been an important issue in Oregon for the past decade. Oregon's award-winning Transportation Planning Rule, adopted in 1991, requires local governments to minimize street width considering the operational needs of the streets. Also, citizens and planners in many Oregon communities, as well as towns across the country, have advocated for narrower streets as part of a larger movement to build more livable neighborhoods.

The desire to reduce the standards for street widths raises concerns about large vehicle access, especially emergency service providers who need to reach their destinations fast. The issue has resulted in heated debate in some communities and among state agencies and statewide organizations.

This document is the result of hard work and commitment of individuals who joined in a collaborative process to reconcile the multiple uses of our neighborhood streets. Many thanks to the Neighborhood Streets Project Stakeholders, Design Team members, and reviewers for the time and expertise they contributed to this effort.

A handwritten signature in black ink, appearing to read "John A. Kitzhaber".

John A. Kitzhaber, M.D.
Governor

PROJECT STAKEHOLDERS

These Guidelines have been endorsed by . . .

- Office of the State Fire Marshal
- Oregon Fire Chiefs Assoc.
- Oregon Fire Marshal's Assoc.
- Oregon Chiefs of Police Assoc.
- Oregon Refuse and Recycling Assoc.
- Oregon Building Industry Assoc.
- Oregon Chapter of the American Planning Assoc.
- Oregon Chapter of the American Public Works Assoc.
- Assoc. of Oregon City Planning Directors
- Livable Oregon, Inc.
- 1000 Friends of Oregon
- Oregon Department of Land Conservation & Development
- Oregon Department of Transportation

- Metro also supports the guidelines and has adopted a specific set of guidelines for the Portland metropolitan region.

*** Design Team Members**

The Design Team was responsible for the overall collaborative process with assistance from a facilitator and DLCD staff. The Design Team vested themselves with responsibility for negotiating the issues and guiding the development of this agreement.

Fire/Emergency Response

- * Bob Garrison (Office of State Fire Marshal)
- * Jeff Grunewald (Tualatin Valley Fire & Rescue)
- * Burton Weast (Oregon Fire District Directors' Association)
Gary Marshall (City of Bend Fire Marshal)
Ken Johnson (for Michael Sherman, Oregon Fire Chiefs Association)
Debbie Youmans (Oregon Chiefs of Police Association)

Service Providers

- Ron Polvi (NW Natural)
- Kristan Mitchell (Oregon Refuse and Recycling Association)
- John Fairchild (School Board Association)

Developers/Consultants

- * Ernie Platt (Oregon Building Industry Association)
- Rod Tomcho (Tennant Developments)
- Ryan O'Brien (LDC Design Group)

Transportation Engineers/Planners

- * Jim West (Institute of Transportation Engineers: Kimley-Horn Inc.)
Peter Fernandez (City of Salem)

Public Works

- * Byron Meadows (American Public Works Association, Oregon Chapter; Marion County Public Works Operations Supervisor)

Non-Profit Groups

- * Amber Cole Hall (Livable Oregon, Inc.)
Lynn Petersen (1000 Friends of Oregon)

City Representatives

- * John McLaughlin (City Planning Directors' Association; Community Development Director, City of Ashland)
Cameron Gloss (City of Klamath Falls)
Jan Fritz (City Councilor of Sublimity)
Allen Lowe (City of Eugene Planning)
John Legros (City of Central Point Planning Commissioner)
Bob Dean (City of Roseburg Planning Commission Chair)
Margaret Middleton (for Randy Wooley, City of Beaverton Engineering)

County Representative/Planner

- Tom Tushner (Washington County)
- Lori Mastrantonio-Meuser (County Planning Directors' Association)

Regional Government

Tom Kloster (and Kim White, Metro)

State Government

* Eric Jacobson (Department of Land Conservation and Development)
Amanda Punton (Department of Land Conservation & Development)
Kent Belleque (for Jeff Scheick, Oregon Department of Transportation)

Project Managers

Joy Schetter, ASLA (Department of Land Conservation & Development)
Elaine Smith, AICP (Department of Land Conservation & Development)

Project Mediator/Facilitator

Keri Green (Keri Green and Associates, Ashland, Oregon)

*Many thanks to the
Neighborhood Streets Project Stakeholders,
Design Team Members, and the
Community of Reviewers
for the time and expertise
they contributed to this effort.*

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I. Introduction

The standards for the design of local streets, in particular the width of streets, has been one of the most contentious issues in local jurisdictions in Oregon for the past decade. The disagreements have also been fought at the state level among state agencies and advisory, advocacy, and professional groups that have sought to influence decisions made at the local level. Previous efforts of these groups to provide guidance have failed because of lack of consensus.

This document is the result of the hard work of a group of diverse stakeholders that finally developed that consensus. *Neighborhood Street Design Guidelines* was developed to help local governments consider and select neighborhood street standards appropriate for their communities. As the title attests, the handbook provides guidelines and is not prescriptive. The authors hope that the consideration of the guidelines and examples will stimulate creative ideas for street designs in local communities.

This guidebook explains the issues surrounding the width of neighborhood streets with respect to livability and access for emergency and other large vehicles. It recommends a community process for developing neighborhood street width standards, a checklist of factors that should be addressed in that process, street cross-sections, and a list of resources that provide additional information. The guidelines are intended for *local* jurisdiction streets that carry limited traffic, not collectors or arterials. They are not intended, nor are they to be used on state highways.

II. The Issues

Why Narrow Streets?

Streets are key determinants of neighborhood livability. They provide access to homes and neighborhood destinations for pedestrians and a variety of vehicle types, from bicycles and passenger cars to moving vans and fire apparatus. They provide a place for human interaction: a place where children play, neighbors meet, and residents go for walks and bicycle rides. The design of residential streets, together with the amount and speed of traffic they carry, contributes significantly to a sense of community, neighborhood feeling, and perceptions of safety and comfort. The fact that these may be intangible values makes them no less real, and this is often reflected in property values.

The width of streets also affects other aspects of livability. Narrow streets are less costly to develop and maintain and they present less impervious surface, reducing runoff and water quality problems.

The topic of automobile speeds on neighborhood streets probably tops the list of issues. Where streets are wide and traffic moves fast, cities often get requests from citizens to install traffic calming devices, such as speed humps. However, these can slow response times of emergency service vehicles creating the same, or worse, emergency response concerns than narrow streets.

Oregon's Land Conservation and Development Commission recognized the values associated with narrow street widths when it adopted the Transportation Planning Rule. The rule requires local governments to establish standards for local streets and accessways that minimize pavement width and right-of-way. The rule requires that the standards provide for the operational needs of streets, including pedestrian and bicycle circulation and emergency vehicle access.

Why Are Emergency Service Providers Concerned?

Street width affects the ability of emergency service vehicles to quickly reach a fire or medical emergency. Emergency service providers and residents alike have an expectation that neighborhood streets provide adequate space for emergency vehicles to promptly reach their destination and for firefighters to efficiently set up and use their equipment.

Fire equipment is large and local fire departments do not have full discretion to simply "downsize" their vehicles. Efforts by some departments to do this have generally not been successful, since these smaller vehicles did not carry adequate supplies for many typical emergency events.

The size of fire apparatus is driven, in part, by federal Occupational Health and Safety Administration (OSHA) requirements and local service needs. The regulations require that fire trucks carry considerable equipment and that firefighters ride completely enclosed in the vehicle. In addition, to save money, fire departments buy multi-purpose vehicles that can respond to an emergency like a heart attack or a traffic accident, as well as a fire. These vehicles typically provide the

first response to an emergency. An ambulance will then provide transport to a hospital, if needed. To accommodate the need to move the vehicles and access equipment on them quickly, the Uniform Fire Code calls for a 20-foot wide clear passage.

The risk of liability also raises concerns about response time and the amount of equipment carried on trucks. A successful lawsuit in West Linn, Oregon found that a response time of eight minutes was inadequate. The National Fire Protection Association, which is the national standard-setting body for the fire service, is proposing new rules that would require a maximum four-minute response time for initial crews and eight-minute response for full crews and equipment for 90% of calls. Fire departments have also been sued for not having the proper equipment at the scene of an accident. This puts pressure on departments to load all possible equipment onto a vehicle and increases the need to use large vehicles.

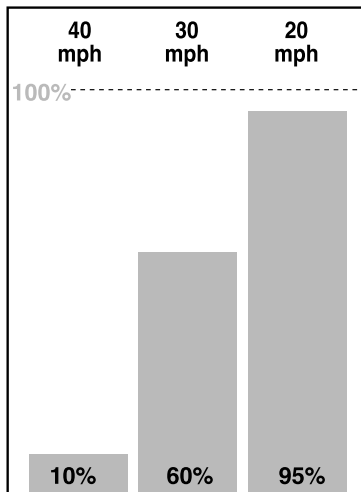
III. Background

Residential streets are complex places that serve multiple and, at times, competing needs. Residents expect a place that is relatively quiet, that connects rather than divides their neighborhood, where they can walk along and cross the street relatively easily and safely, and where vehicles move slowly. Other street users, including emergency service providers, solid waste collectors, and delivery trucks, expect a place that they can safely and efficiently access and maneuver to perform their jobs. Clearly, balancing the needs of these different users is not an easy task.

Oregon's cities reflect a variety of residential street types. In many older and historic neighborhoods built between 1900 and 1940, residential streets typically vary in width in relation to the length and function of the street. In many cases, a typical residential street may be 24 feet to 28 feet in width with parking on both sides. However, it is not uncommon to find streets ranging from 20 feet to 32 feet in width within the same neighborhood. Newer subdivisions and neighborhood streets built since 1950 tend to reflect a more uniform design, with residential streets typically 32 feet to 36 feet in width with parking on both sides and little or no variation within a neighborhood.

Designs For Livability. Over the last decade, citizens, planners, and public officials throughout the United States have expressed increased interest in development of compact, pedestrian-friendly neighborhoods. The design of neighborhood streets is a key component in this effort. Nationally, the appropriate width and design of neighborhood streets has been the subject of numerous books and articles targeted not just to the planning and development community, but also the general population. In May 1995, *Newsweek* magazine featured an article on neotraditional planning that listed reducing the width of neighborhood streets as one of the “top 15 ways to fix the suburbs.” In addition, developments such as Kentlands in Maryland and Celebration in Florida have gained fame by incorporating many of the features of traditional, walkable neighborhoods and towns, including narrow neighborhood streets.

Chances of a Pedestrian Surviving a Traffic Collision



Survival Rates

Graphic adapted from “Best Management Practices,” Reid Ewing, 1996; data from “Traffic Management and Road Safety,” Durkin & Pheby, 1992.

Safe and Livable. There is growing appreciation for the relationship between street width, vehicle speed, the number of crashes, and resulting fatalities. Deaths and injuries to pedestrians increase significantly as the speed of motor vehicles goes up. In 1999, planner Peter Swift studied approximately 20,000 police accident reports in Longmont, Colorado to determine which of 13 physical characteristics at each accident location (e.g., width, curvature, sidewalk type, etc.) accounts for the crash. The results are not entirely surprising: the highest correlation was between collisions and the width of the street. A typical 36-foot wide residential street has 1.21 collisions/mile/year as opposed to 0.32 for a 24 foot wide street. The safest streets were narrow, slow, 24-foot wide streets.

Award-Winning Neighborhoods. In Oregon, citizens, non-profit organizations, transportation advocates, and state agencies interested in the livability of our communities have advocated reducing the width of neighborhood streets. Several new developments that include narrow neighborhood streets such as Fairview Village in Fairview, West Bend Village in Bend, and Orenco Station in Hillsboro have received *Governor’s Livability Awards* (See Appendix A for contact

information). Although cited as models of livable communities, the narrow street widths included in these developments are not allowed in many of Oregon's cities, often because of concerns about emergency service access.

Emergency Response. The movement to reduce street standard widths raised concerns with emergency service providers. Thus, the most controversial issue facing Oregon's fire departments in the past decade has been street width. Fire departments must move large trucks, on average, 10 feet wide mirror-to-mirror.

Response times can be slowed depending upon the amount of on-street parking and traffic encountered. Narrow streets lined with parked cars may not provide adequate space for firefighters to access and use their equipment once they have reached the scene of an emergency. In addition, emergency vehicle access can be completely blocked on streets that provide less than 10 feet of clear travel width.

Authority to Establish Standards. Prior to 1997, there had been some confusion over who had the authority to establish street standards. Oregon's land use laws grant local governments the authority to establish local subdivision standards, which include street widths (ORS ~~92.044~~). However, the *Uniform Fire Code*, which was adopted by the State Fire Marshal and is used by many local governments to establish standards for the prevention of and protection from fires, includes standards which affect the width and design of streets. The *Uniform Fire Code* is published by the Western Fire Chiefs and the International Congress of Building Officials as partners.

This question of authority was clarified in 1997 when ORS ~~92.044~~ was amended to state that standards for the width of streets established by local governments shall "*supersede and prevail over any specifications and standards for roads and streets set forth in a uniform fire code adopted by the State Fire Marshal, a municipal fire department or a county firefighting agency.*" ORS ~~92.044~~ was also amended to establish a consultation requirement for the local governments to "*consider the needs of the fire department or fire-fighting agency when adopting the final specifications and standards.*"

Correction:
The incorrect ORS is cited in this section.
The correct citation is [ORS 368.039](#).

IV. Collaborative Process

This project was undertaken to:

“Develop consensus and endorsement by stakeholders on a set of flexible guidelines for neighborhood street designs for new developments that result in reduced street widths.”

The collaborative process relied on two groups of stakeholders. A larger group was comprised of a broad cross-section of interest groups and numbered about thirty people from around the state. A core team of nine members, a subset of the larger group, was convened to guide the collaborative problem-solving process, working in conjunction with the consultant and staff. This “Design Team” consisted of representatives from these groups: special districts, fire service, state fire marshal, non-profit advocacy, traffic engineering, builder/developer, city planner, public works, and a representative from the Department of Land Conservation and Development.

The Design Team’s responsibilities were to recommend participants for the larger collaborative working group, determine the priority interests, recommend a statewide endorsement and implementation process, and provide input on technical presentations required. At the Design Team’s first meeting, they decided to assign themselves the task of creating the draft street design guidelines. They would take their products to the larger group for input, recommendations, and eventual endorsement. Consensus would be sought within the Design Team before going to the large group. Likewise, consensus at the large group would be fundamental to achieving the project’s goals.

The large group was instrumental in providing actual scenarios of community experiences to the Design Team. They also helped enlarge the scope of affected parties and corresponding issues by including other service providers that use large vehicles, such as school busses and solid waste haulers. Members of the large group provided valuable reference materials to the Design Team. They provided substance that had been over-looked on more than one occasion. Large group members were pleased to know that a core team of well-respected stakeholders was representing their interests. The Design Team engaged the large group at significant junctures in its work.

V. A Community Process for Adopting Standards

Unique issues will arise in each community, whether related to hills, higher density neighborhoods, or existing street patterns. Close collaboration with fire and emergency service providers, public works agencies, refuse haulers, and other neighborhood street users must be maintained throughout the process. This will ensure that the standards developed to meet the general goals of the community will also meet the specific needs of different stakeholder groups.

Through broad-based involvement, educational efforts, and sensitive interaction with stakeholders, a community can adopt new street standards that will meet the transportation needs of the citizens, while providing and encouraging a very livable residential environment.

The following steps reflect a realistic process development and local government adoption of standards for narrow neighborhood streets.

Steps for Local Government Consideration and Adoption of Neighborhood Street Standards

1. Determine stakeholders
2. Inform/Educate: What is the value of narrow residential street standards?
3. Ensure dialogue among stakeholders
4. Identify specific issues, such as seasonal needs and natural features
5. Prepare draft standards
6. Review draft with stakeholders/officials /public
7. Revise, conduct public review, and adopt standards
8. Implement and ensure periodic evaluation

Determine stakeholders. There are many benefits to a community adopting narrow street standards. Many stakeholders share an interest in residential transportation issues. These stakeholders must be included from the outset of any new street standard adoption process.

Inform and Educate. A community or jurisdiction considering the adoption of narrow residential street standards must conduct an open and information-intensive process. Narrow streets have many advantages for a community, including slower traffic speeds and increased neighborhood livability. But there are some access trade-offs. A strong educational component involving city council members, planning commissioners, community groups, developers and emergency service providers must be conducted at the beginning of the process. Agreement about the value of narrow streets, i.e., slow speeds, safer pedestrian environments, and more livable neighborhoods must be understood and agreed to prior to beginning to develop specific standards. There are many educational resources available including printed materials, videos, and professional speakers willing to share their experience.

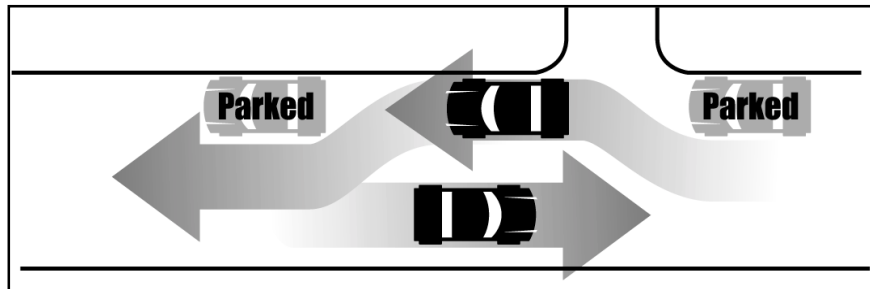
Develop standards that reflect local concerns. Once a jurisdiction has determined that more narrow street standards will be beneficial, the development of specific standards, unique to the community where they will be implemented, is the next step. Many cities and counties have adopted narrow street standards, and their efforts can provide a model for the initial drafts. Review and input from stakeholders, the public, and community officials will help identify local issues and provide the opportunity to tailor standards to local needs.

VI. Checklist for Neighborhood Streets

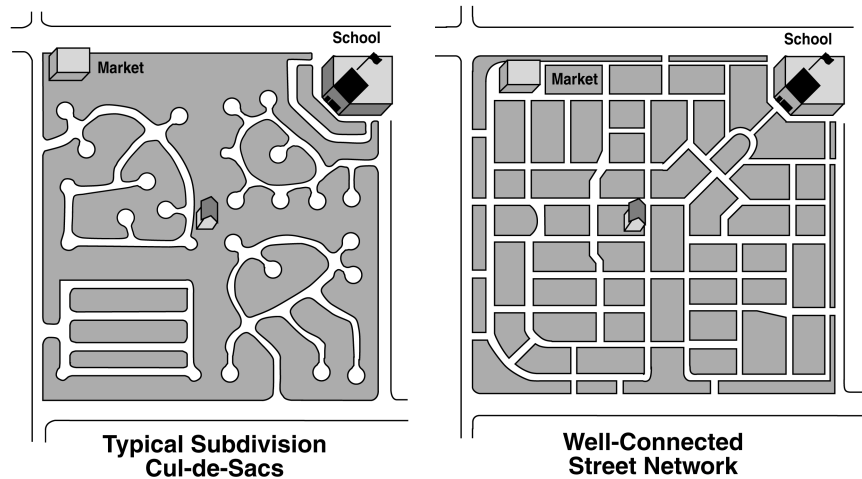
Key Factors

The checklist is based on five key factors listed below:

- ✓ ***Queuing.*** Designing streets so that moving cars must occasionally yield between parked cars before moving forward, as shown below, permits development of narrow streets, encourages vehicles to move slower, and allows for periodic areas where a 20-foot wide clear area is available for parking of fire apparatus.



- ✓ **Connected Street Networks.** Connected street networks provide multiple ways for emergency response vehicles to access a particular location and multiple evacuation routes. In addition, a connected street system encourages slow, cautious driving since drivers encounter cross traffic at frequent intervals.



- ✓ **Adequate Parking.** When parking opportunities are inadequate, people are more likely to park illegally in locations that may block access by emergency service vehicles. Communities need to review their parking standards when they consider adopting narrow street standards to make sure that adequate on-street and off-street parking opportunities will be available.

- ✓ **Parking Enforcement.** The guidelines are dependent on strict enforcement of parking restrictions. Communities must assure an on-going commitment to timely and effective parking enforcement by an appropriate agency. In the absence of such a commitment, these narrow street standards should not be adopted.

- ✓ **Sprinklers Not Required.** The checklist and model cross-sections provided in this guidebook do not depend upon having fire sprinklers installed in residences. More flexibility in street design may be possible when sprinklers are provided. However, narrow streets still need to accommodate fire apparatus that respond to non-fire, medical emergencies. Other types of vehicles (such as moving vans, public works machinery, and garbage/recycling trucks) also need to be able to serve the neighborhood.

The Checklist



Community stakeholder groups should systematically proceed through the checklist below as part of their decision making process. Also, your community may wish to add to this checklist. The format of the checklist includes room for comments: encourage stakeholders to make notes regarding their concerns and record decisions about how the items in the checklist have been addressed.

The factors are interrelated and are best considered together. The items are grouped by category in a logical order, but are not weighted.

Community Process/Decision-Making		<i>Notes</i>
<input type="checkbox"/>	<p>Good City Department Working Relations</p> <p>Develop good, close working relationships between the fire/emergency response professionals, public works, building officials, land use and transportation planners, engineers, and other large vehicle operators. The goal is to achieve trusting working relationships that lead to effective accommodation of each other's needs related to agreements about neighborhood street standards.</p>	<hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>
<input type="checkbox"/>	<p>Consistency of Ordinances</p> <p>Review all applicable codes and ordinances and make them consistent with the narrow neighborhood street standards you are adopting. Consider performance-based codes and ordinances to address the larger development issues, of which street design is just one part. Amend ordinances only when you have the concurrence of emergency and large service vehicle providers.</p>	<hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>
<input type="checkbox"/>	<p>Uniformly Allowed</p> <p>Uniformly allow narrow neighborhood streets by code and ordinance rather than requiring a special process, such as a variance or planned unit development. Or consider a modification process similar to the City of Beaverton's that uses a multi-disciplinary committee review and approval process during the development review process. <i>See Appendix A for more info.</i></p>	<hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>
<input type="checkbox"/>	<p>Community Process</p> <p>Determine what your community process will be for developing and adopting neighborhood street standards including following legal requirements, gaining political support, and encouraging public education and involvement. Teamwork and involvement of all large vehicle service providers is a critical component for success. Consider the potential benefits of narrow streets, such as slower traffic, less stormwater runoff, and lower costs. Look for ways to minimize the risk that fire apparatus will not be able to quickly access an emergency and minimize possible inconvenience for other large vehicles. <i>For more information see Chapter V, "A Community Process for Adopting Standards."</i></p>	<hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>

Users of the Street

Notes

Use of Street

Recognize the needs of all of the “everyday” users of the street, including autos, pedestrians, and bicycles. Street standards typically provide for easy maneuverability by autos. It is very important that neighborhood streets also provide a comfortable and safe environment for pedestrians. Consideration should be given to pedestrians both moving along and crossing the street.

Fire/Emergency Response and Large Service Vehicle Access

Provide access to the street for Fire/Emergency Response and large service vehicles to meet their main objectives. Consider the maneuvering needs of all large vehicles such as fire/emergency response, refuse/recycling trucks, school buses, city buses, delivery vehicles, and moving trucks. Fire trucks are generally 10-feet wide from mirror to mirror and room adjacent to a truck is necessary to access equipment from the truck. Recognize that for some service providers, the federal government has requirements that affect vehicle size such as fire trucks, school buses, and ambulances.

Utility Access

Provide utility access locations regardless of whether utilities are in the street, the right-of-way adjacent to the street, utility easements, or some combination thereof. Consider utility maintenance requirements.

Street Design

Traffic Volume and Type

Relate street design to the traffic that will actually use the street and the expected demand for on-street parking. Generally, on streets that carry less than 1,000 vehicles per day, a clear lane width of 12 to 14 feet is adequate for two-way traffic, if there are frequent pull-outs to allow vehicles to pass. Where there is on-street parking, driveways typically provide gaps in parking adequate to serve as pull-outs. If there is a high percentage of trucks or buses, wider streets or longer pull-outs may be needed. For street design, consider both the current traffic volume and the projected long-term traffic volume.

Provision for Parking

Make sure that adequate parking is provided so that on-street parking is not the typical primary source of parking. The objective is to have space between parked cars so that there are queuing opportunities. Also, parking near intersections on narrow streets should not be permitted because it can interfere with the turning movements of large vehicles (*see illustration at the end of the checklist*). This can be accomplished by a lack of demand for on-street parking or by design. The design option requires place-

ment of no-parking locations (i.e., driveways, fire hydrants, mailboxes) at appropriate intervals to provide the needed gaps.

Notes



Parking (con't)

When determining the number of parking spaces required, consider adjoining land uses and the availability of off-street parking. Parking demand is likely to be less where an adjoining land use is one that will create little or no parking demand (e.g., wetlands, parks, floodplains) or if adjoining development will provide off-street parking adequate for residents and guests. On-street parking demand may be affected by recreational vehicle/equipment if parking of such equipment is allowed. Parking availability will be affected by whether a neighborhood has alleys, if parking is allowed in the alley, or if visitor parking bays are provided in the area.



Self-Enforcing Design....perceptions count!

The design of the street should encourage the desired speed, traffic flow, parking, and use of the street. When this is the case, a design is said to be self-enforcing. This means that a driver would discern an implied prohibition against parking by the visual appearance of the street. A self-enforcing design intended to reduce speed might, for example, use trees in parkrows or strategically placed curb extensions.

- Unless traffic volumes are very low, 21 to 22-foot streets with parking on one side can be problematic for large vehicles.
- 21 to 24-foot streets with no on-street parking should not be considered because they invite parking violations.
- 26 and 27-foot streets where parking is permitted on one side can result in chronic violations because the street will look wide enough for parking on both sides.



Parking Enforcement

With adequate parking and proper street design, enforcement should not be a problem. Where parking is prohibited, provide signs that clearly indicate this, even on streets with a self-enforcing design. Enforcement is essential and can be done in a variety of ways. Consider tow zones or using volunteers to write parking tickets. (The City of Hillsboro allows both police and fire personnel to write traffic tickets.)



Public and Private Streets

Build public and private streets to the same standard. The need for access by emergency and other large vehicles is the same on private streets as for public. (In addition, private streets not built to the same construction standards may end up being a maintenance problem later if the local jurisdiction is forced to assume maintenance because homeowners do not fulfill their responsibilities.)

**Block Length**

Design block length to enhance street connectivity. Block lengths should generally not exceed 600 feet. As block lengths increase from 300 feet, attention to street width and other design features becomes more important. This is because fire apparatus preconnected hoses are 150 feet in length. With a connected street system and 300-foot block lengths, the fire apparatus can be parked at the end of the block where a fire is located and the hose can reach the fire.

Coordinate block length requirements with spacing requirements for connection to arterial streets. Preserve integrity, capacity, and function of the neighborhood's surrounding arterials and collectors by adhering to access management standards.

Notes

Local Issues**Evacuation Routes for Wildfire Hazard and Tsunami Zones**

Designated wildfire hazard or tsunami zones may need wider streets to provide for designated evacuation routes, including 20 feet of clear and unobstructed width. Different communities may have different street standards depending on whether a neighborhood is located in one of these zones or is in a designated evacuation route.

**Agricultural Equipment**

If your community is a regional agricultural center, consider adequate passage for agricultural equipment. Discourage passage on residential streets.

**Preserving Natural Features**

If your community has sensitive natural features, such as steep slopes, waterways, or wetlands, locate streets in a manner that preserves them to the greatest extent feasible. Care should be taken to preserve the natural drainage features on the landscape. Street alignments should follow natural contours and features, whenever possible, so that visual and physical access to the natural feature is provided as appropriate.

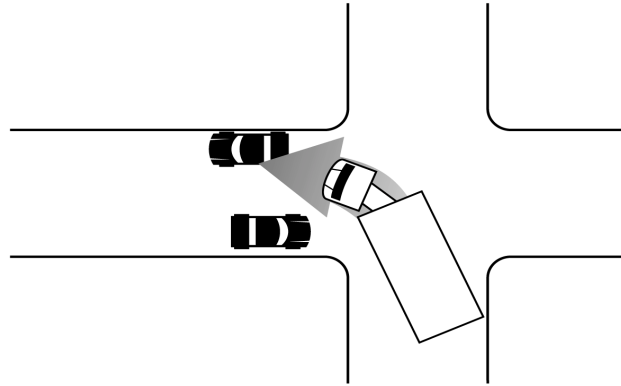
**Snow**

If snow removal and storage is an issue in your community, consider snow storage locations, and whether temporary parking restrictions for snow plowing or storage will be required. Some communities may consider providing auxiliary winter parking inside neighborhoods (though not on residential collectors). Work with your public works and engineering departments to see if any adjustments may be made in terms of operations or street design that would make narrow neighborhood streets work better for your community (wider parkrows to store snow, for instance).

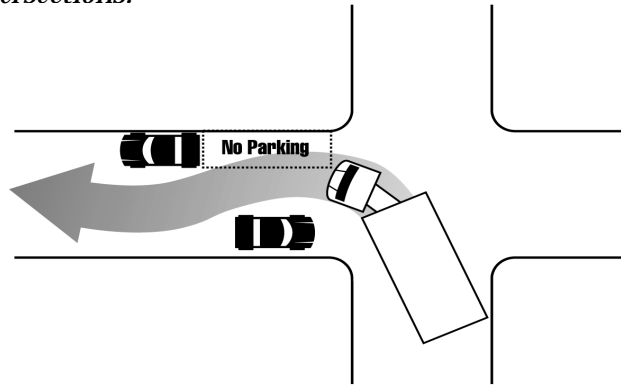
		<i>Notes</i>
<input type="checkbox"/>	<p>Ice If maneuvering on icy roads is an issue in your community, consider parking restrictions near street corners, auxiliary winter parking at the base of hills, wider street cross-sections on hills, or seasonal parking restrictions on hills.</p>	<hr/> <hr/> <hr/>
<input type="checkbox"/>	<p>Sloping or Hilly Terrain If your community has steep slopes, make special design provisions. This can be done through utility placement, connected streets, sidewalk placement, provision of one-way streets, property access, and minimizing cut and fill slopes.</p>	<hr/> <hr/> <hr/> <hr/>
<input type="checkbox"/>	<p><i>Other Community Concerns?</i></p>	<hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>

No Parking At Intersections

On narrow streets, parked cars near the intersection can interfere with the turning movements of large vehicles.



The solution is to prohibit on-street parking within 20 - 50 feet of intersections.



VII. Model Cross-Sections

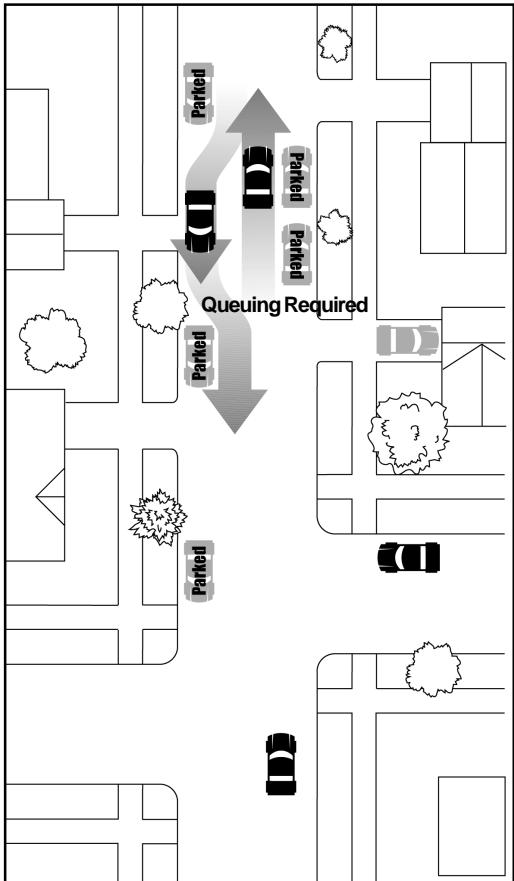
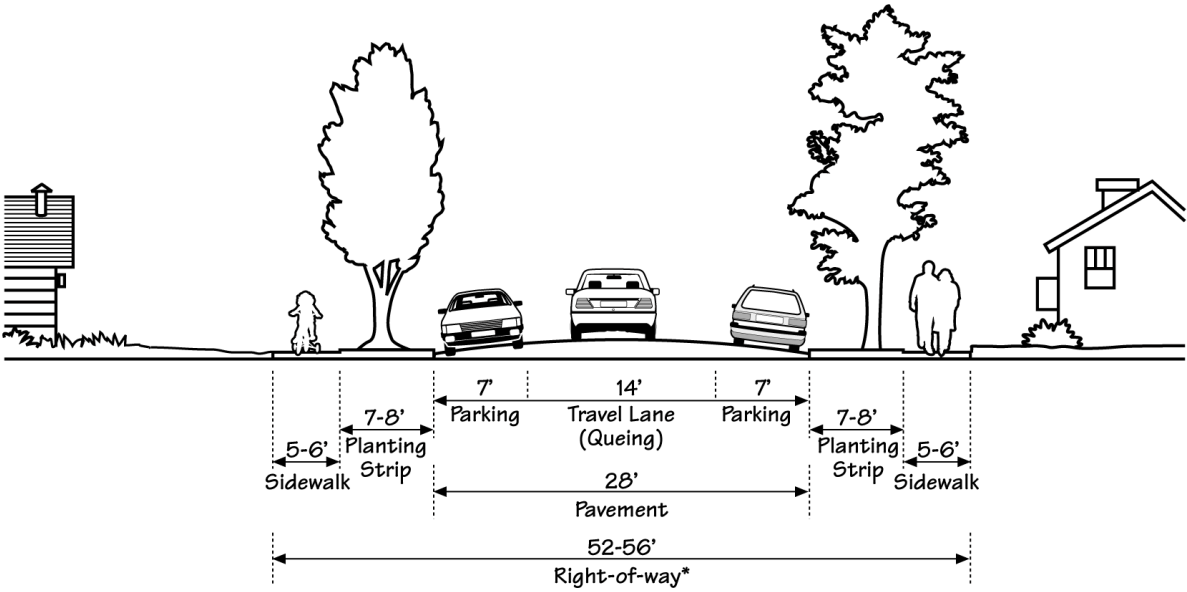
The following three scenarios are presented as “model standards.” However, ***they do not represent the full range of possible solutions.*** Communities are encouraged to use these as a starting point; innovative solutions can be designed for local situations. Here are a few key points to keep in mind:

- ✓ Streets **wider than 28 feet** are NOT, by definition, a “narrow street.”
- ✓ **Two-way streets under 20 feet** are NOT recommended. If, in a special circumstance, a community allows a street **less than 20 feet**, safety measures such as residential sprinklers*, one-way street designations, and block lengths less than 300 feet may be needed.

* Fire sprinklers in one and two family structures must be approved by the local building department in accordance with standards adopted by the Building Codes Division under ORS 455.610.

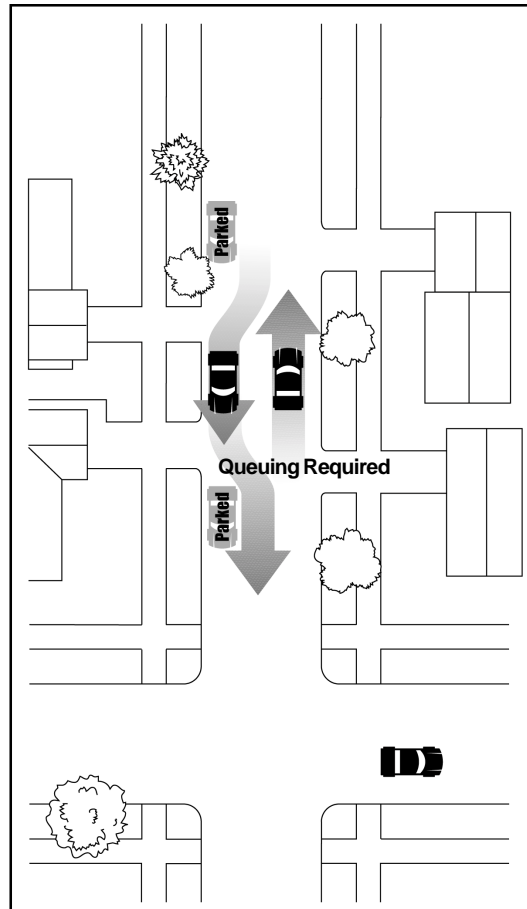
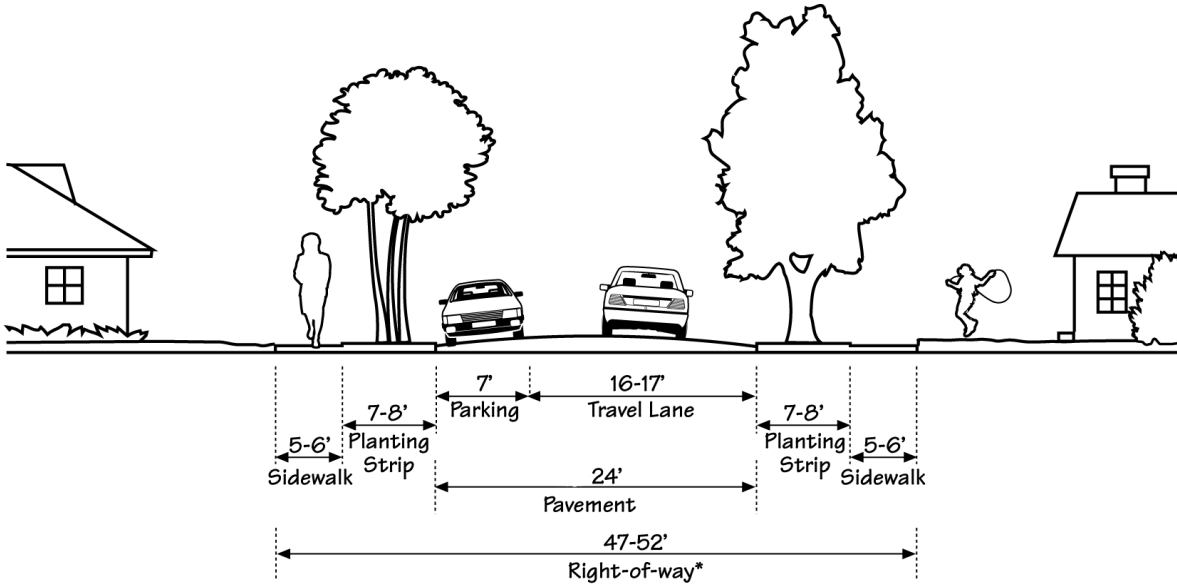
Scenario 1

28 Ft. Streets Parking on both sides



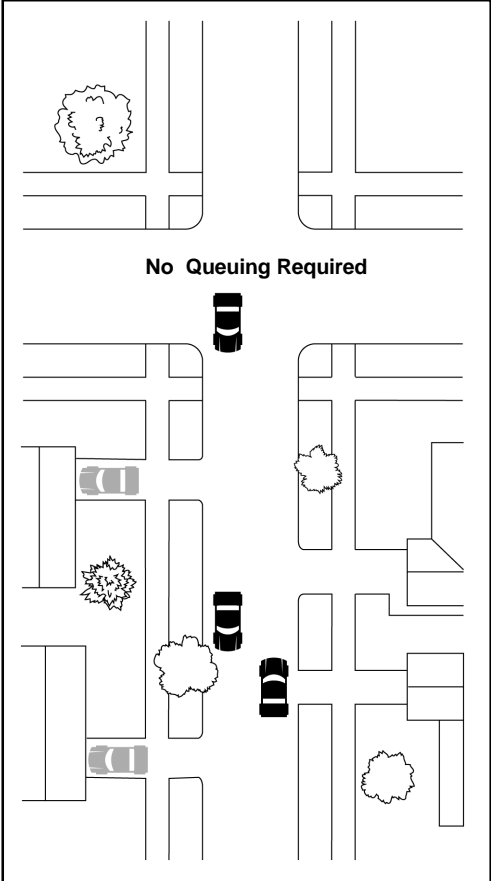
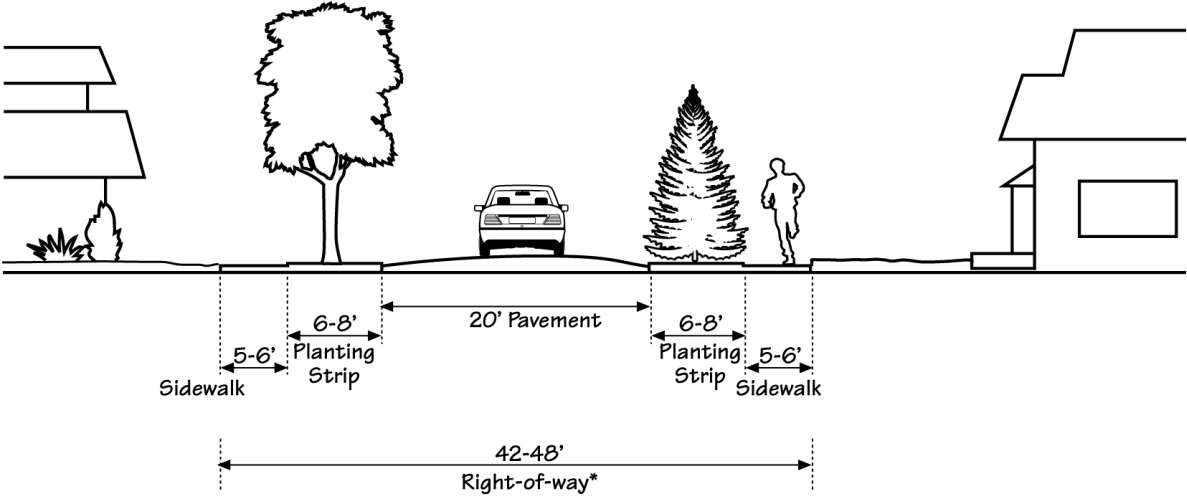
Scenario 2

24 Ft. Streets Parking on one side only



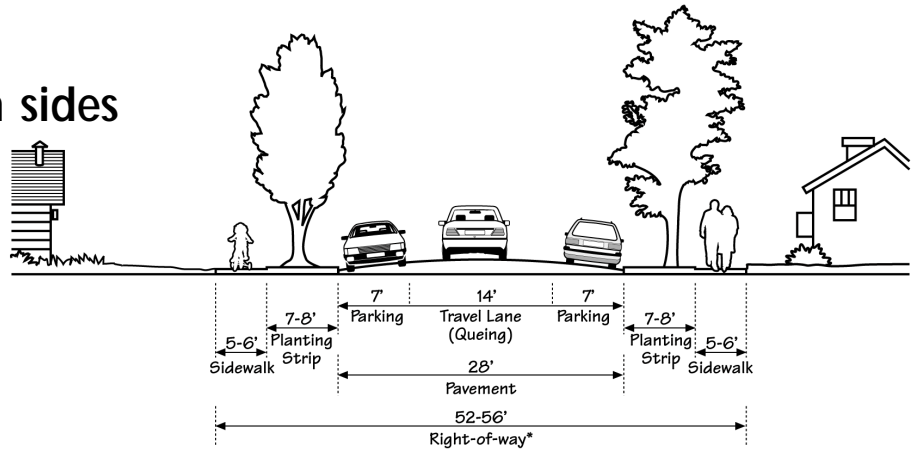
Scenario 3

20 Ft. Streets No parking allowed

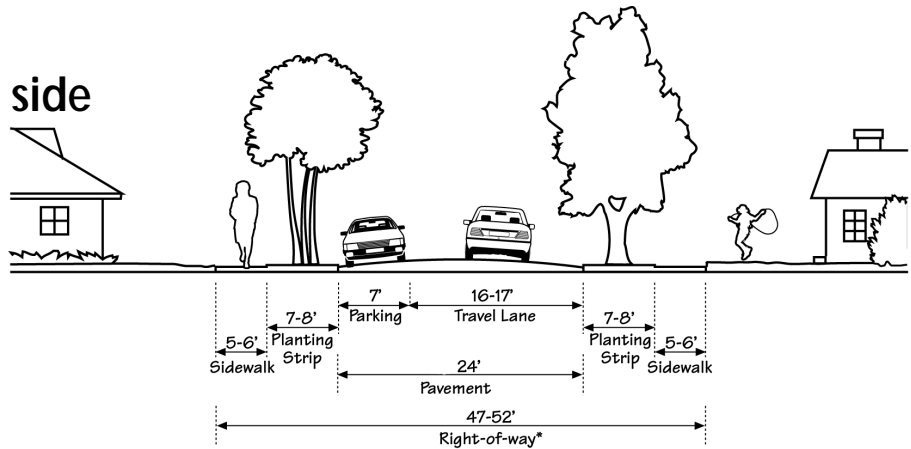


Summary of Three Potential Scenarios

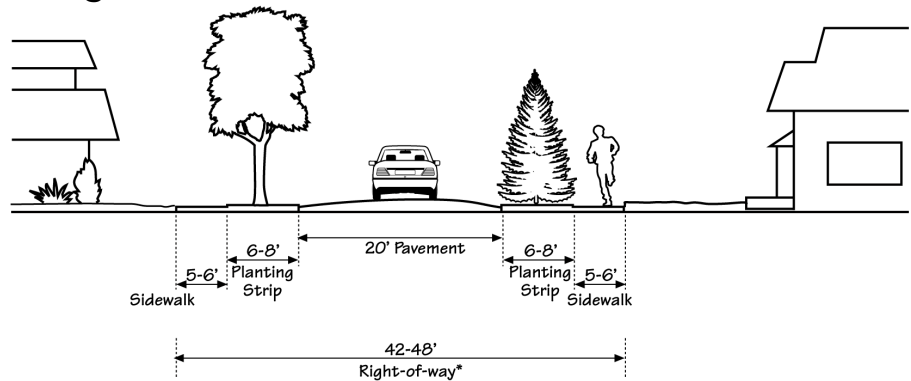
28 Ft Street Parking on both sides



24 Ft Street Parking on one side



20 Ft Street No on-street parking allowed



Appendix A - References and Resources

Annotated References

AASHTO - The *Policy on Geometric Design of Highways and Streets*, also known as the “*Green Book*,” is published by the American Association of State Highway and Transportation Officials (AASHTO) and is considered to be the principle authority on street geometrics. Narrow streets are sometimes cited as being contrary to traffic engineering practices because they may hinder the free-flowing movement of vehicular traffic. However, the *Green Book* supports the notion of using narrow residential streets. For example, the *Green Book* states: “On residential streets in areas where the primary function is to provide land service and foster a safe and pleasant environment, at least one unobstructed moving lane must be ensured even where parking occurs on both sides. The level of user inconvenience occasioned by the lack of two moving lanes is remarkably low in areas where single-family units prevail...In many residential areas a 26-ft.-wide roadway is typical. This curb-face-to-curb-face width provides for a 12-ft. center travel lane and two 7-ft. parking lanes. Opposing conflicting traffic will yield and pause on the parking lane area until there is sufficient width to pass.”

Residential Streets – *Residential Streets* is published jointly by the American Society of Civil Engineers, the National Association of Homebuilders, and the Urban Land Institute. This book was published to encourage a flexible approach to designing residential streets to respond to the street’s function in the transportation system as well as part of the community’s living environment. *Residential Streets* is a hierarchy of residential streets, including 22’-24’ access streets with parking on both sides, 26’ subcollector street with parking on both sides, and a 28’ subcollector with parking on both sides where “on-street parking lines both sides of the street continuously.”

ITE – The Institute of Transportation Engineers (ITE) has published several documents that refer to the recommended width of neighborhood streets. The 1993 publication *Guidelines for Residential Subdivision Street Design* states that a 28-foot curbed street with parking on both sides is an acceptable standard “based upon the assumption that the community has required adequate off-street parking at each dwelling unit.” In addition, the 1994 publication *Traffic Engineering for Neo-Traditional Neighborhood Design, (NTND)*, states that the recommended width of a basic NTND residential street “may be as narrow as 28 to 30 feet.”

Street Design Guidelines for Healthy Neighborhoods – Published by the Local Government Commission’s Center for Livable Communities, *Street Design Guidelines for Healthy Neighborhoods* was developed by a multi-disciplinary team based upon field visits to over 80 traditional and 16 neo-traditional neighborhoods. When combined with other features of traditional neighborhoods, the guidelines recommend neighborhood streets ranging from 16-26 feet in width. The team found 26-foot-wide roadways to be the most desirable, but also “measured numerous 24-foot and even 22-foot wide roadways, which had parking on both sides of the street and allowed delivery, sanitation and fire trucks to pass through unobstructed.”

Oregon Resources

Fairview Village. Holt & Haugh, Inc., phone: 503-222-5522, fax: 503-222-6649, www.fairviewvillage.com

West Bend Village. Tennant Developments, 516 SW 13th St., Suite A, Bend, Oregon 97702, phone: 541-388-0086

Orenco Station. Mike Mehaffy, Pac Trust, 15350 SW Sequoia Pkwy, Suite 300, Portland, Oregon 97224, 503-624-6300, www.orencostation.com

Street Standard Modification Process. The City of Beaverton has a modification process similar to an administrative variance procedure. If you would like information on this process contact: Margaret Middleton, City of Beaverton, Engineering Department, P.O. Box 4755, Beaverton, Oregon 97076-4755, 503-526-2424, mmiddleton@ci.beaverton.or.us

Additional References

Street Design Guidelines for Healthy Neighborhoods. Dan Burden with Michael Wallwork, P.E., Ken Sides, P.E., and Harrison Bright Rue for Local Government Commission Center for Livable Communities, 1999.

A Policy on Geometric Design of Highways and Streets. American Association of State Highway and Transportation Officials (ASSHTO), 1994.

Guidelines for Residential Subdivision Street Design. Institute of Transportation Engineers (ITE), 1993.

Traffic Engineering for Neo-Traditional Neighborhood Design. Institute of Transportation Engineers (ITE), 1994.

Residential Streets. American Society of Civil Engineers (ASCE), National Association of Home Builders (NAHB), Urban Land Institute (ULI), 1990.

A Handbook for Planning and Designing Streets. City of Ashland, 1999.

Eugene Local Street Plan. City of Eugene, 1996.

Skinny Streets, Better Streets for Livable Communities. Livable Oregon, Inc. and the Transportation and Growth Management Program, 1996.

The Technique of Town Planning, Operating System of the New Urbanism. Duany Plater-Zyberk & Company, 1997.

Narrow Streets Database. A Congress for the New Urbanism. Alan B. Cohen AIA, CNU, Updated 1998.

Washington County Local Street Standards. Revision Project No. 2455. McKeever/Morris, Inc., Kittleson & Associates, Inc. and Kurahashi & Associates, Inc., 1995.

Washington County Uniform Road Improvement Design Standards. Washington County Department of Land Use and Transportation, 1998.

Livable Neighborhoods Community Design Code. A Western Australian Government Sustainable Cities Initiative. Ministry for Planning.

Woonerf. Royal Dutch Touring Club, 1980.

Creating Livable Streets: Street Design Guidelines for 2040. Prepared by Fehr & Peers Associates, Inc. Calthorpe Associates, Kurahashi & Associates, Julia Lundy & Associates for Metro, 1997.

Model Development Code & User's Guide for Small Cities. Transportation and Growth Management Program by Otak, 1999.

APA Recommendations for Pedestrians, Bicycle and Transit Friendly Development Ordinances. TPR Working Group Oregon Chapter APA, 1993.

Residential Street Typology and Injury Accident Frequency. Swift & Associates, Longmont, CO, Peter Swift, Swift and Associates, Longmont, CO., 1998.

Appendix B
Oregon Community Street Widths

City/County	No Parking	Parking One Side	Parking Both Sides	Contact Information
Ashland		22'	25'-28'	Maria Harris, Associate Planner, 541-552-2045
Albany		28'		Rich Catlin, Senior Planner, Albany Community Development, 541-917-7564
Beaverton	20'	25.5' "infill option," with rolled curb on other	28'	Margaret Middleton, Engineering Department, 503-526-2424
Brookings			30'	John Bischoff, Planning Director, 541-469-2163,x237
Clackamas County			28'	Joe Marek, County Engineer, 503-650-3452
Coburg			28'	Harriet Wagner, City Planner, 541-682-7858
Corvallis			28'	Kelly Schlesener, Planning Manager - Community Development, 541-766-6908
Eugene		24'	28'	Allen Lowe, Eugene Planning, 541-682-5113
Forest Grove			26'	Jon Holan, Community Dev. Director, 503-992-3224
Gresham			26'	Brian Shetterly, Long Range Planner, 503-618-2529; Ronald Papsdorf, Lead Transportation Planner, 503-618-2806
Happy Valley			26'	Jim Crumley, Planning Director, 503-760-3325
Lincoln City			28'	Richard Townsend, Planning Director 541-996-2153
McMinnville			26'	Doug Montgomery, Planning Director, 503-434-7311
Milton-Freewater		28'		Gina Hartzheim, City Planner, 503-938-5531
Portland		20'	26'	Steve Dotterer, Portland Department of Transportation, 503-823-7731
Redmond			28'	Bob Quitmeier, Community Development Director, 541-923-7716
Seaside		20'	26'	Kevin Cupples, Planning Director, 503-738-7100
Sherwood			28'	John Morgan, City Manager, 503-625-5522
Washington County		24'	28'	Tom Tushner, Principal Engineer, 503-846-7920
Wilsonville		28'		Stephan Lashbrook, Planning Director, 503-682-1011.

Source: February 2000, Livable Oregon, Inc.