NEWBERG AFFORDABLE HOUSING
LEGISLATION SUBCOMMITTEE
Wednesday, February 24
4 p.m. to 6 p.m.
Newberg City Hall
Permit Center Conference Room
414 E. First Street, Newberg, OR

I. Open meeting

II. Roll call

III. Street and Access Standards Review

a. Current street and access standards – Barton Brierley
b. Newberg Fire Department
c. Newberg Garbage Service
d. Newberg Public Works Department

IV. Other business

V. Next meetings:

Subcommittee: Wednesday, March 24, 2010 at 4:00 pm in City Hall (Permit Center Conference Room)
Full Committee: April 28, 2010 7 PM in City Hall (Permit Center Conference Room)

VI. Adjourn

Attachments:

Current Newberg Street Standards
Current Driveway Standards
Excerpt: *Neighborhood Street Design Guidelines: An Oregon Guide for Reducing Street Widths*

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151.685 STREET WIDTH AND DESIGN STANDARDS.

(A) *Design standards.* All streets shall conform with the standards contained in Table 151.685.C. Where a range of values is listed, the Director shall determine the width based on a consideration of the total street section width needed, existing street widths, and existing development patterns. Preference shall be given to the higher value. Where values may be modified by the Director, the overall width shall be determined using the standards under divisions (B) through (E).

Table 151.685.CSTREET DESIGN STANDARDS

Type of Street	Right of Way Width	Curb to Curb Pavement Width	Motor Vehicle Travel Lanes	Center Turn Lane	Striped Bike Lane (both sides)	On-Street Parking
Arterial Streets						
Expressway	**	**	**	**	**	**
Major Arterial	85-100 feet	74 feet	4 lanes	Yes	Yes	No*
Minor Arterial	60-80 feet	46 feet	2 lanes	Yes*	Yes	No*
Collectors						
Major	60-80 feet	34 feet	2 lanes	No*	Yes	No*
Minor	56-65 feet	34 feet	2 lanes	No*	No*	Yes*
Local Streets						
Local Residential	54-60 feet	32 feet	2 lanes	No	No*	Yes
Local Commercial/Industrial	56-65 feet	34 feet	2 lanes	No*	No*	No*
* May be modified with approval of the Director. Modification will change overall curb-to-curb and ROW width.						
** All standards shall be per ODOT Expressway standards.						

(B) *Motor vehicle travel lanes.* Collector and arterial streets shall have a minimum width of 12 feet. Where circumstances warrant, the Director may allow a reduction of this width to 11 feet.

(C) *Bike lanes.* Striped bike lanes shall be a minimum of five feet wide. Where circumstances warrant, the Director may allow a reduction of this width to four feet. Bike lanes shall be provided where shown in the Newberg Transportation System Plan.

(D) *Parking lanes.* Where on-street parking is allowed on collector and arterial streets, the parking lane shall be a minimum of eight feet wide. Where circumstances warrant, the Director may allow a reduction of this width to seven feet.

(E) *Center turn lanes.* Where a center turn lane is provided, it shall be a minimum of 12 feet wide.

(F) *Sidewalks.* Sidewalks shall be provided on both sides of all public streets. Minimum width is five feet.

(G) *Planter strip.* A planter strip shall be provided between the sidewalk and the curb line. This strip shall be landscaped in accordance with the standards in § 151.581.

(H) *Slope easements.* Slope easement shall be provided adjacent to the street where required to maintain the stability of the street.

(Ord. 96-2451, passed 12-2-96; Am. Ord. 98-2494, passed 4-6-98; Am. Ord. 99-2507, passed 3-1-99; Am. Ord. 2005-2619, passed 5-16-05) Penalty, see § 151.999

Existing Newberg Development Code Private Drive/Private Street Standards

PRIVATE DRIVE. A private way which affords principal means of access to two or fewer lots (see also service drive).
PRIVATE STREET. A private way which affords principal means of access to three or more lots (see also service drive).

151.538 PUBLIC ACCESS REQUIRED.
No building or structure shall be erected or altered except on a lot fronting or abutting on a public street or having access to a public street over a private street or easement of record approved in accordance with provisions contained in this code. New private streets may not be created to provide access except as allowed under § 151.449.2(B)(8) and § 151.448.1(B)(24). Existing private streets may not be used for access for new dwelling units, except as allowed under § 151.567. No building or structure shall be erected or altered without provisions for access roadways as required in the Uniform Fire Code, as adopted by the city.
(Ord. 96-2451, passed 12-2-96; Am. Ord. 99-2507, passed 3-1-99; Am. Ord. 2006-2647, passed 6-5-06)
Penalty, see § 151.999

(C) ***Gates***. A private drive or private street serving as primary access to more than one dwelling unit shall not be gated to limit access, except as approved by variance.

APPENDIX D

FIRE APPARATUS ACCESS ROADS

The provisions contained in this appendix are adopted by the State of Oregon.

SECTION D101
GENERAL

D101.1 Scope. Fire apparatus access roads shall be in accordance with this appendix and all other applicable requirements of the *International Fire Code*. The fire code official may be guided by the Oregon Department of Land Conservation and Development's Neighborhood Street Design Guidelines, June 2001.

SECTION D102
REQUIRED ACCESS

D102.1 Access and loading. Facilities, buildings or portions of buildings hereafter constructed shall be accessible to fire department apparatus by way of an approved fire apparatus access road with an asphalt, concrete or other approved driving surface capable of supporting the imposed load of fire apparatus weighing at least 60,000 pounds (27 240 kg).

Exception: The minimum weight specified in Section D102.1 may be increased by the fire code official based upon the actual weight of fire apparatus vehicles serving the jurisdiction which provides structural fire protection services to the location, including fire apparatus vehicles that respond under automatic and mutual aid agreements.

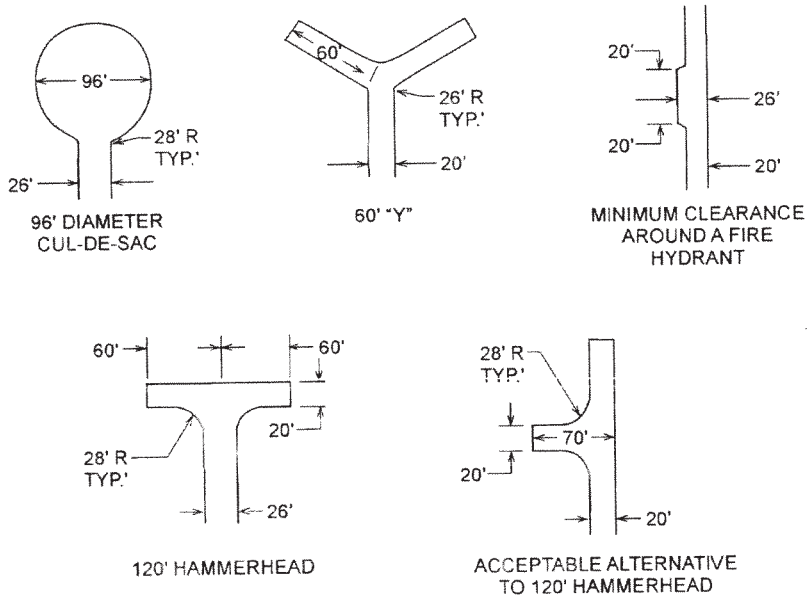
D102.1.1 Access in urban-wildland interface areas. For egress and access concerns in urban-wildland interface locations, the fire code official may be guided by the *International Wildland-Urban Interface Code*.

SECTION D103
MINIMUM SPECIFICATIONS

D103.1 Access road width with a hydrant. Where a fire hydrant is located on a fire apparatus access road, the minimum road width shall be 26 feet (7925 mm). See Figure D103.1.

Exceptions: The fire code official is authorized to modify the provisions of Section D103.1 when:

1. In accordance with OAR 918-480-0100, all buildings are completely protected with an approved automatic fire sprinkler system; or
2. Provisions are made for the emergency use of side-walks by such means as rolled or mountable curbs capable of supporting the fire department's apparatus; or
3. Streets or roadways are identified for one-way circulating flow of traffic or pullouts are provided every 150 feet (45 720 mm) on streets or roadways identified for two-way traffic; or



For SI: 1 foot = 304.8 mm.

FIGURE D103.1
DEAD-END FIRE APPARATUS ACCESS ROAD TURNAROUND

4. A grid system for traffic flow is provided and streets or roadways in the grid do not exceed 300 feet (91 400 mm) in length, but are accessible at each end from approved access roadways or streets.

D103.2 Grade. Fire apparatus access roads shall not exceed 10 percent in grade.

Exception: Grades steeper than 10 percent as approved by the fire chief.

D103.3 Turning radius. The minimum turning radius shall be determined by the fire code official.

D103.3.1 Angles of approach. The angles of approach and departure for any fire apparatus access roads shall not be less than the design limitations of the fire apparatus of the fire department, subject to the approval of the fire code official.

D103.3.2 Drainage. When subject to run-off damage, the fire code official is authorized to require approved drainage.

D103.4 Dead ends. Dead-end fire apparatus access roads in excess of 150 feet (45 720 mm) shall be provided with width and turnaround provisions in accordance with Table D103.4.

TABLE D103.4
REQUIREMENTS FOR DEAD-END FIRE APPARATUS ACCESS ROADS

LENGTH (feet)	WIDTH (feet)	TURNAROUNDS REQUIRED
0–150	20	None required
151–500	20	120-foot Hammerhead, 60-foot "Y" or 96-foot-diameter cul-de-sac in accordance with Figure D103.1
501–750	26	120-foot Hammerhead, 60-foot "Y" or 96-foot-diameter cul-de-sac in accordance with Figure D103.1
Over 750	Special approval required	

For SI: 1 foot = 304.8 mm.

D103.5 Fire apparatus access road gates. Gates securing the fire apparatus access roads shall comply with all of the following criteria:

1. The minimum gate width shall be 20 feet (6096 mm).
2. Gates shall be of the swinging or sliding type.
3. Construction of gates shall be of materials that allow manual operation by one person.
4. Gate components shall be maintained in an operative condition at all times and replaced or repaired when defective.
5. Electric gates shall be equipped with a means of opening the gate by fire department personnel for emergency access. Emergency opening devices shall be approved by the fire code official.
6. Manual opening gates shall not be locked with a padlock or chain and padlock unless they are capable of being opened by means of forcible entry tools or when a key box containing the key(s) to the lock is installed at the gate location.
7. Locking device specifications shall be submitted for approval by the fire code official.

D103.6 Signs. Where required by the fire code official, fire apparatus access roads shall be marked with permanent NO PARKING—FIRE LANE signs complying with Figure D103.6. Signs shall have a minimum dimension of 12 inches (305 mm) wide by 18 inches (457 mm) high and have red letters on a white reflective background. Signs shall be posted on one or both sides of the fire apparatus road as required by Section D103.6.1 or D103.6.2.

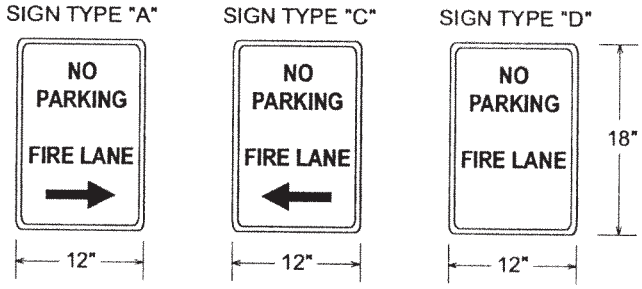


FIGURE D103.6
FIRE LANE SIGNS

D103.6.1 Roads 20 to 26 feet in width. Fire apparatus access roads 20 to 26 feet wide (6096 to 7925 mm) shall be posted on both sides as a fire lane.

D103.6.2 Roads more than 26 feet in width. Fire apparatus access roads more than 26 feet wide (7925 mm) to 32 feet wide (9754 mm) shall be posted on one side of the road as a fire lane.

SECTION D104
COMMERCIAL AND INDUSTRIAL DEVELOPMENTS

D104.1 Buildings exceeding three stories or 30 feet in height. Buildings or facilities exceeding 30 feet (9144 mm) or three stories in height shall have at least three means of fire apparatus access for each structure.

D104.2 Buildings exceeding 62,000 square feet in area. Buildings or facilities having a gross building area of more than 62,000 square feet (5760 m^2) shall be provided with two separate and approved fire apparatus access roads.

Exception: Projects having a gross building area of up to 124,000 square feet (11 520 m^2) that have a single approved fire apparatus access road when all buildings are equipped throughout with approved automatic sprinkler systems.

D104.3 Remoteness. Where two access roads are required, they shall be placed a distance apart equal to not less than one half of the length of the maximum overall diagonal dimension of the property or area to be served, measured in a straight line between accesses.

SECTION D105
AERIAL FIRE APPARATUS ACCESS ROADS

D105.1 Where required. Buildings or portions of buildings or facilities exceeding 30 feet (9144 mm) in height above the lowest level of fire department vehicle access shall be provided with approved fire apparatus access roads capable of accommodating fire department aerial apparatus. Overhead utility and power lines shall not be located within the aerial fire apparatus access roadway.

D105.2 Width. Fire apparatus access roads shall have a minimum unobstructed width of 26 feet (7925 mm) in the immediate vicinity of any building or portion of building more than 30 feet (9144 mm) in height.

D105.3 Proximity to building. At least one of the required access routes meeting this condition shall be located within a minimum of 15 feet (4572 mm) and a maximum of 30 feet (9144 mm) from the building, and shall be positioned parallel to one entire side of the building.

SECTION D106
MULTIPLE-FAMILY RESIDENTIAL DEVELOPMENTS

D106.1 Projects having more than 100 dwelling units. Multiple-family residential projects having more than 100 dwelling units shall be equipped throughout with two separate and approved fire apparatus access roads.

Exception: Projects having up to 200 dwelling units may have a single approved fire apparatus access road when all buildings, including nonresidential occupancies, are equipped throughout with approved automatic sprinkler systems installed in accordance with Section 903.3.1.1 or 903.3.1.2.

D106.2 Projects having more than 200 dwelling units. Multiple-family residential projects having more than 200 dwelling units shall be provided with two separate and approved fire apparatus access roads regardless of whether they are equipped with an approved automatic sprinkler system.

SECTION D107
ONE- OR TWO-FAMILY RESIDENTIAL DEVELOPMENTS

D107.1 One- or two-family dwelling residential developments. Developments of one- or two-family dwellings where the number of dwelling units exceeds 30 shall be provided with separate and approved fire apparatus access roads and shall meet the requirements of Section D104.3.

Exceptions:

1. Where there are more than 30 dwelling units on a single public or private fire apparatus access road and all dwelling units are equipped throughout with an approved automatic sprinkler system in accordance with Section 903.3 1.1, 903.3.1.2 or 903.3.1.3, access from two directions shall not be required.
2. The number of dwelling units on a single fire apparatus access road shall not be increased unless fire apparatus access roads will connect with future development, as determined by the fire code official.

CHAPTER 5
FIRE SERVICE FEATURES

SECTION 501
GENERAL

501.1 Scope. Fire service features for buildings, structures and premises shall comply with this chapter. See also ORS 92.044, 203, 221, 195.065, 368.039, 478.920, OAR 918-480-0100 and Oregon State Fire Marshal Interpretation #94-02.

> ORS Chapters 92.044, 203, 221, 368.039, 195.065 and 478.920 and OAR Chapter 918 are not a part of this code but are reproduced or paraphrased here for the reader's convenience.
>
> ORS 92.044 is the adoption of standards and procedures governing approval of plats and plans; delegation to planning commission; fees.
>
> ORS 203 is the county bodies; county home rule.
>
> ORS 221 is the organization and government of cities.
>
> ORS 368.039 allows road standards adopted by local government to supercede standards in fire codes and requires consultation with local fire agency.
>
> ORS 195.065 requires local governments and special districts that provide urban service to enter into urban service agreements. For the purpose of this statute, "urban service" means: sanitary sewers, water, fire protection, parks, open space, recreation and streets, roads and mass transit.
>
> ORS 478.920 describes elements that may be included in the scope of a fire prevention code adopted by a rural fire protection district, including but not limited to mobile fire apparatus means of approach to buildings and structures, and providing fire-fighting water supplies and fire detection and suppression apparatus adequate for the protection of buildings and structures.
>
> OAR 918-480-0100 describes the procedure for approving the installation of automatic fire sprinklers where fire apparatus access or fire-fighting water supply do not meet local standards.
>
> ORS 479.200 regulates water supply requirements for certain public buildings erected after July 1, 1967, as defined in ORS 479.010(1)(1).
>
> OSFM Interpretation #94-02 recommends methods for calculating water supply requirements based on local conditions or ISO grading using Appendix B or NFPA 1142.

501.2 Permits. A permit shall be required as set forth in Sections 105.6 and 105.7.

501.3 Construction documents. Construction documents for proposed fire apparatus access, location of fire lanes and construction documents and hydraulic calculations for fire hydrant systems shall be submitted to the fire department for review and approval prior to construction.

501.4 Timing of installation. When fire apparatus access roads or a water supply for fire protection is required to be installed, such protection shall be installed and made serviceable prior to and during the time of construction except when approved alternative methods of protection are provided. Temporary street signs shall be installed at each street intersection when construction of new roadways allows passage by vehicles in accordance with Section 505.2.

SECTION 502
DEFINITIONS

502.1 Definitions. The following words and terms shall, for the purposes of this chapter and as used elsewhere in this code, have the meanings shown herein.

FIRE APPARATUS ACCESS ROAD. A road that provides fire apparatus access from a fire station to a facility, building or portion thereof. This is a general term inclusive of all other terms such as fire lane, public street, private street, parking lot lane and access roadway.

> **NOTE:** Specifications and standards for public streets are regulated by county or city governing bodies in accordance with ORS 368.039, wherein input from the fire service is required during planning for community development projects.

FIRE COMMAND CENTER. The principal attended or unattended location where the status of the detection, alarm communications and control systems is displayed, and from which the system(s) can be manually controlled.

FIRE DEPARTMENT MASTER KEY. A limited issue key of special or controlled design to be carried by fire department officials in command which will open key boxes on specified properties.

FIRE LANE. A road or other passageway developed to allow the passage of fire apparatus. A fire lane is not necessarily intended for vehicular traffic other than fire apparatus.

KEY BOX. A secure device with a lock operable only by a fire department master key, and containing building entry keys and other keys that may be required for access in an emergency.

SECTION 503
FIRE APPARATUS ACCESS ROADS

503.1 Where required. Fire apparatus access roads shall be provided and maintained in accordance with Sections 503.1.1 through 503.1.3 (see Appendix D).

503.1.1 Buildings and facilities. Approved fire apparatus access roads shall be provided for every facility, building or portion of a building hereafter constructed or moved into or

within the jurisdiction. The fire apparatus access road shall comply with the requirements of this section and shall extend to within 150 feet (45 720 mm) of all portions of the facility and all portions of the exterior walls of the first story of the building as measured by an approved route around the exterior of the building or facility.

Exception: The fire code official is authorized to modify Sections 503.1 and 503.2 where any of the following applies:

1. The building is equipped throughout with an approved automatic sprinkler system installed in accordance with Section 903.3.1.1, 903.3.1.2 or 903.3.1.3.
2. Fire apparatus access roads cannot be installed because of location on property, topography, waterways, nonnegotiable grades or other similar conditions, and an approved alternative means of fire protection is provided.
3. There are not more than two Group R-3 or Group U occupancies.

503.1.2 Additional access. The fire code official is authorized to require more than one fire apparatus access road based on the potential for impairment of a single road by vehicle congestion, condition of terrain, climatic conditions or other factors that could limit access.

503.1.3 High-piled storage. Fire department vehicle access to buildings used for high-piled combustible storage shall comply with the applicable provisions of Chapter 23.

503.2 Specifications. Fire apparatus access roads shall be installed and arranged in accordance with Sections 503.2.1 through 503.2.7.

503.2.1 Dimensions. Fire apparatus access roads shall have an unobstructed width of not less than 20 feet (6096 mm), except for approved security gates in accordance with Section 503.6, and an unobstructed vertical clearance of not less than 13 feet 6 inches (4115 mm).

503.2.2 Authority. The fire code official shall have the authority to modify the dimension specified in Section 503.2.1.

503.2.3 Surface. Fire apparatus access roads shall be designed and maintained to support the imposed loads of fire apparatus and shall be surfaced so as to provide all-weather driving capabilities.

503.2.4 Turning radius. The required turning radius of a fire apparatus access road shall be determined by the fire code official.

503.2.5 Dead ends. Dead-end fire apparatus access roads in excess of 150 feet (45 720 mm) in length shall be provided with an approved area for turning around fire apparatus.

503.2.6 Bridges and elevated surfaces. Where a bridge or an elevated surface is part of a fire apparatus access road, the bridge shall be constructed and maintained in accordance with AASHTO HB-17. Bridges and elevated surfaces shall be designed for a live load sufficient to carry the imposed loads of fire apparatus. Vehicle load limits shall be posted at both entrances to bridges when required by the fire code official. Where elevated surfaces designed for emergency vehicle use are adjacent to surfaces which are not designed for such use, approved barriers, approved signs or both shall be installed and maintained when required by the fire code official.

503.2.7 Grade. The grade of the fire apparatus access road shall be within the limits established by the fire code official based on the fire department's apparatus.

503.3 Marking. Where required by the fire code official, approved signs or other approved notices shall be provided for fire apparatus access roads to identify such roads or prohibit the obstruction thereof. Signs or notices shall be maintained in a clean and legible condition at all times and be replaced or repaired when necessary to provide adequate visibility.

503.4 Obstruction of fire apparatus access roads. Fire apparatus access roads shall not be obstructed in any manner, including the parking of vehicles. The minimum widths and clearances established in Section 503.2.1 shall be maintained at all times.

503.5 Required gates or barricades. The fire code official is authorized to require the installation and maintenance of gates or other approved barricades across fire apparatus access roads, trails or other accessways, not including public streets, alleys or highways.

503.5.1 Secured gates and barricades. When required, gates and barricades shall be secured in an approved manner. Roads, trails and other accessways that have been closed and obstructed in the manner prescribed by Section 503.5 shall not be trespassed on or used unless authorized by the owner and the fire code official.

Exception: The restriction on use shall not apply to public officers acting within the scope of duty.

503.6 Security gates. The installation of security gates across a fire apparatus access road shall be approved by the fire chief. Where security gates are installed, they shall have an approved means of emergency operation. The security gates and the emergency operation shall be maintained operational at all times.

SECTION 504
ACCESS TO BUILDING OPENINGS AND ROOFS

504.1 Required access. Exterior doors and openings required by this code or the *International Building Code* shall be maintained readily accessible for emergency access by the fire department. An approved access walkway leading from fire apparatus access roads to exterior openings shall be provided when required by the fire code official.

504.2 Maintenance of exterior doors and openings. Exterior doors and their function shall not be eliminated without prior approval. Exterior doors that have been rendered nonfunctional and that retain a functional door exterior appearance shall have a sign affixed to the exterior side of the door with the words THIS DOOR BLOCKED. The sign shall consist of letters having a principal stroke of not less than 0.75 inch (19.1 mm) wide and at least 6 inches (152 mm) high on a contrasting

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

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.

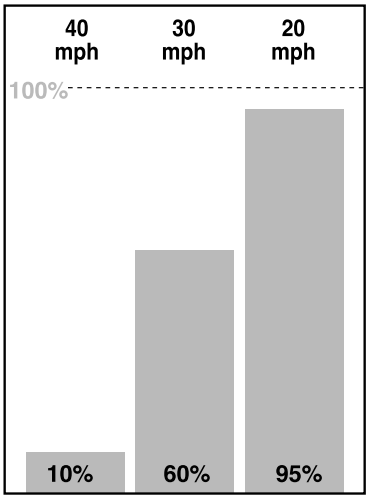
III. Background

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, nonprofit 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."*

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.

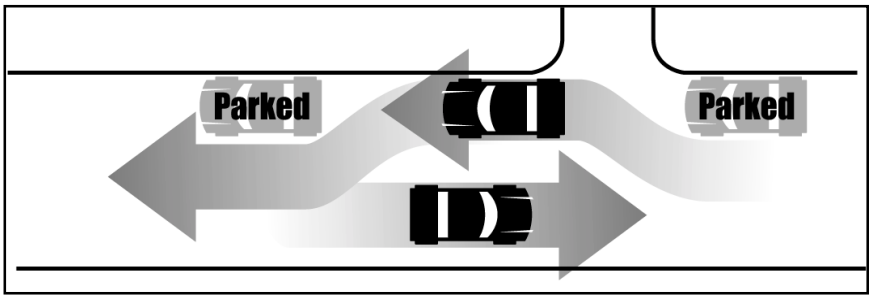
Develop standards that reflect local concerns. Once a jurisdiction has determined that more narrow street standards will be beneficial, the development of specific standards, unique to the community where they will be implemented, is the next step. Many cities and counties have adopted narrow street 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

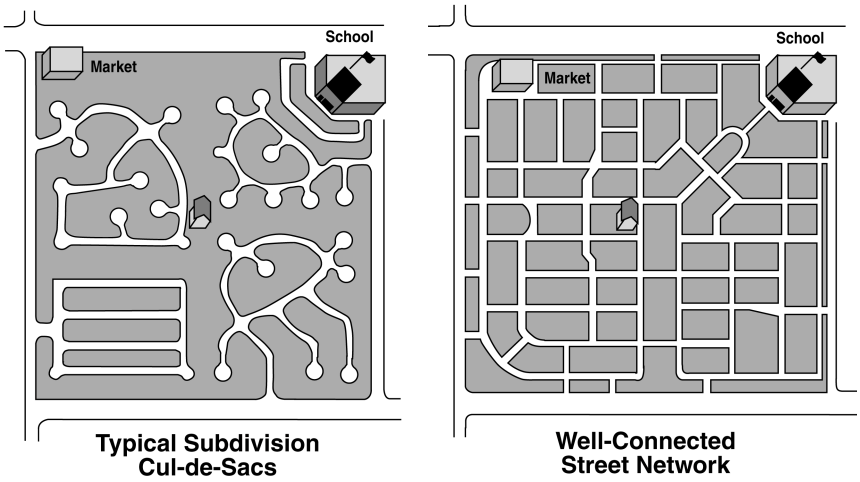
Key Factors

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.



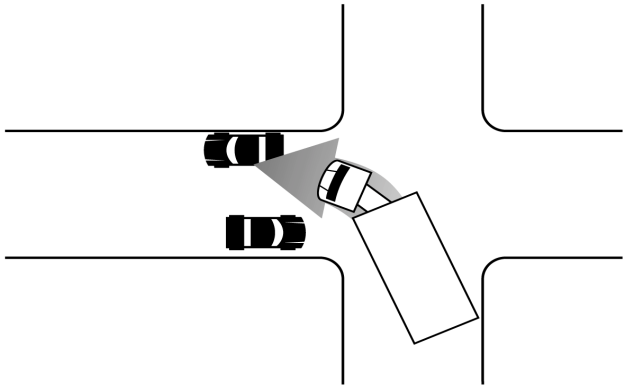
√ ***Adequate Parking.*** When parking opportunities are inadequate, people are more likely to park illegally in locations that may block access by emergency service vehicles. Communities need to review their parking standards when they consider adopting narrow street standards to make sure that adequate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

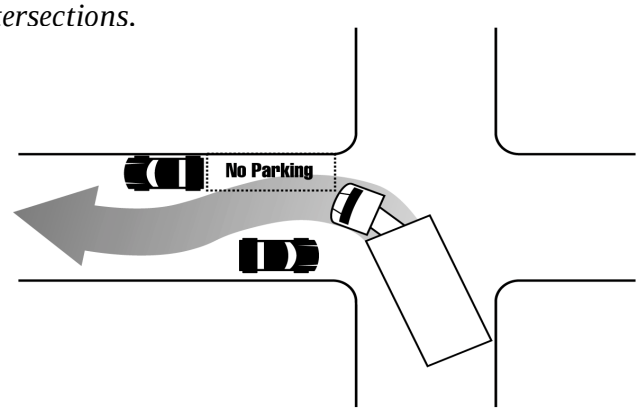
√ ***Sprinklers Not Required.*** The checklist and model cross-sections provided in this guidebook do not depend upon having fire sprinklers installed in residences. More flexibility in street design may be possible when sprinklers are provided. However, narrow streets still need to accommodate fire 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.

No Parking At Interections

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:

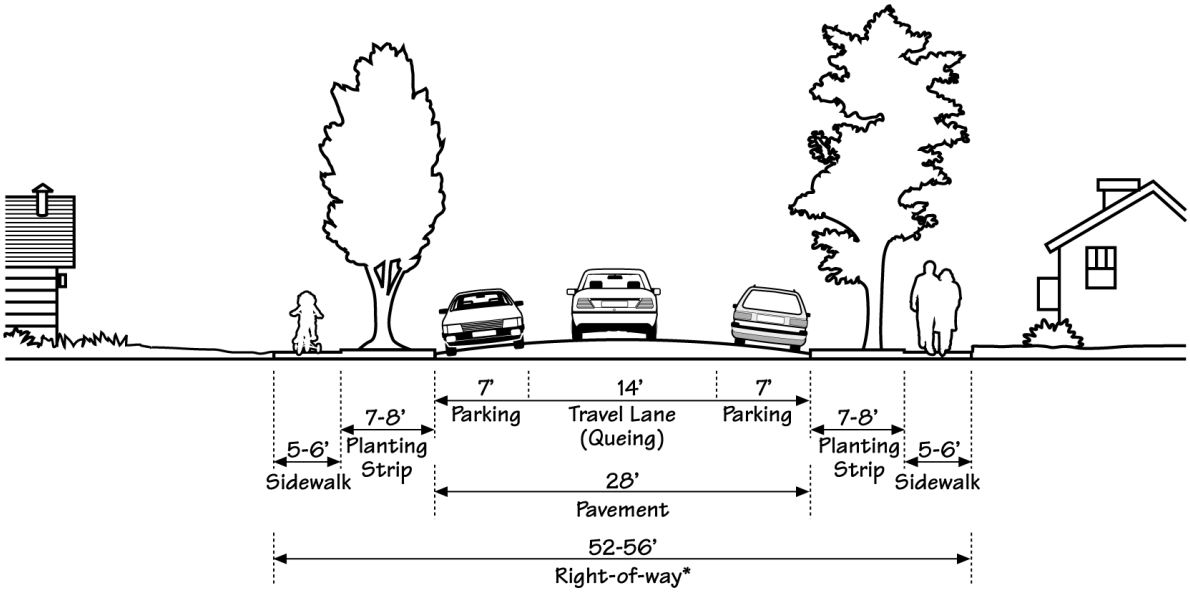
√ Streets **wider than 28 feet** are NOT, by definition, a "narrow street."

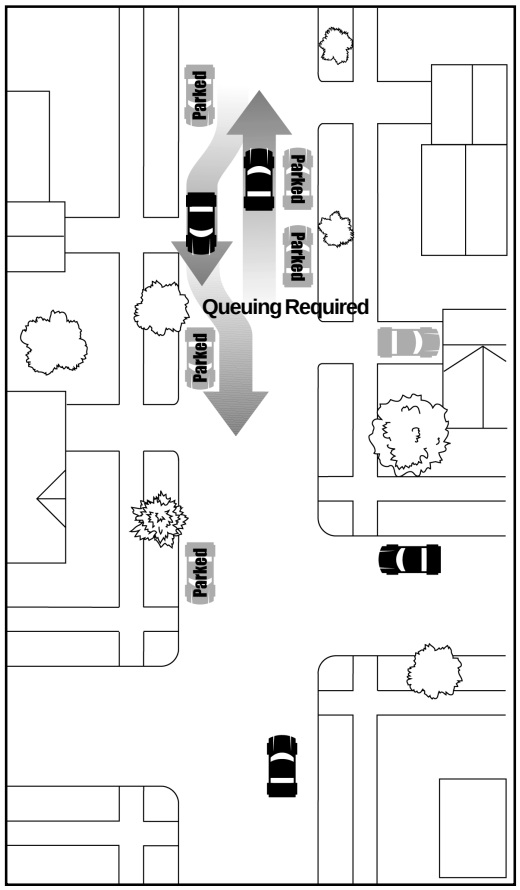
√ **Two-way streets under 20 feet** are NOT recommended. If, in a special circumstance, a community allows a street **less than 20 feet**, safety measures such as residential sprinklers*, one-way street designations, and block lengths less than 300 feet may be needed.

** 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

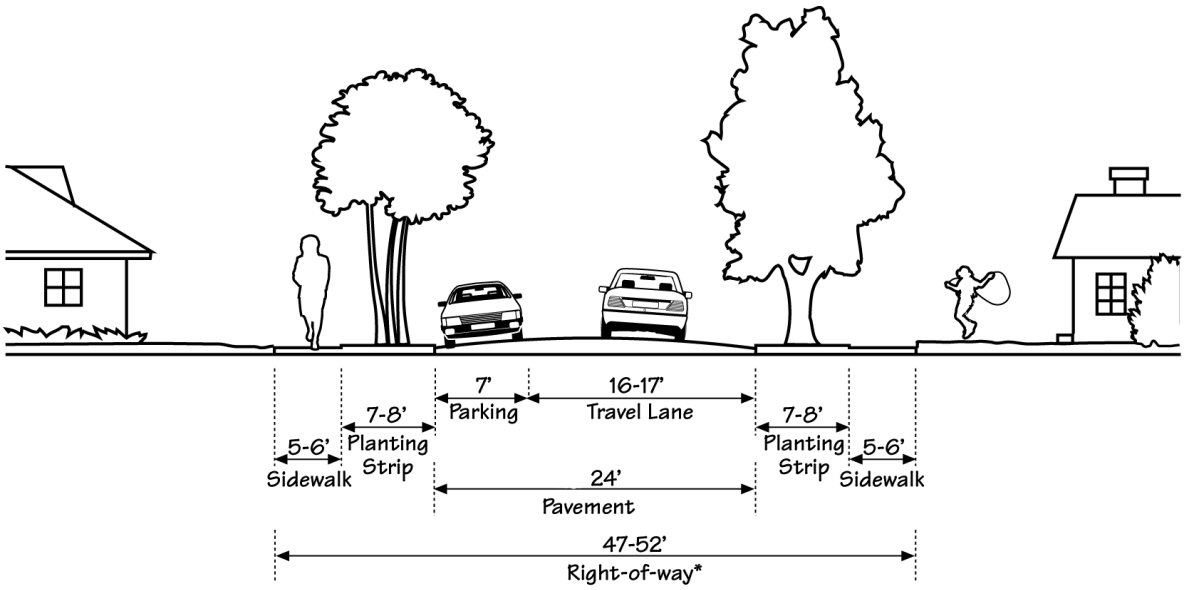
28 Ft. Streets
Parking on both sides

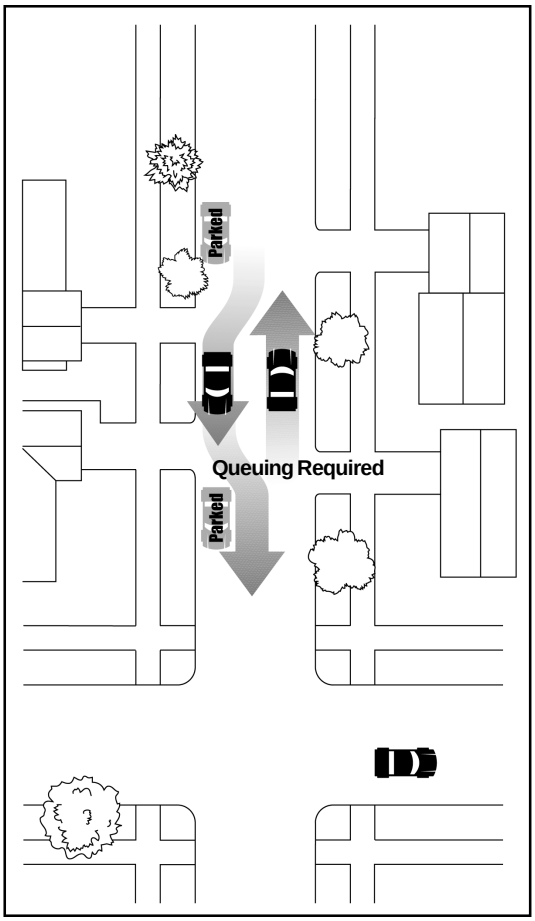




Scenario 2

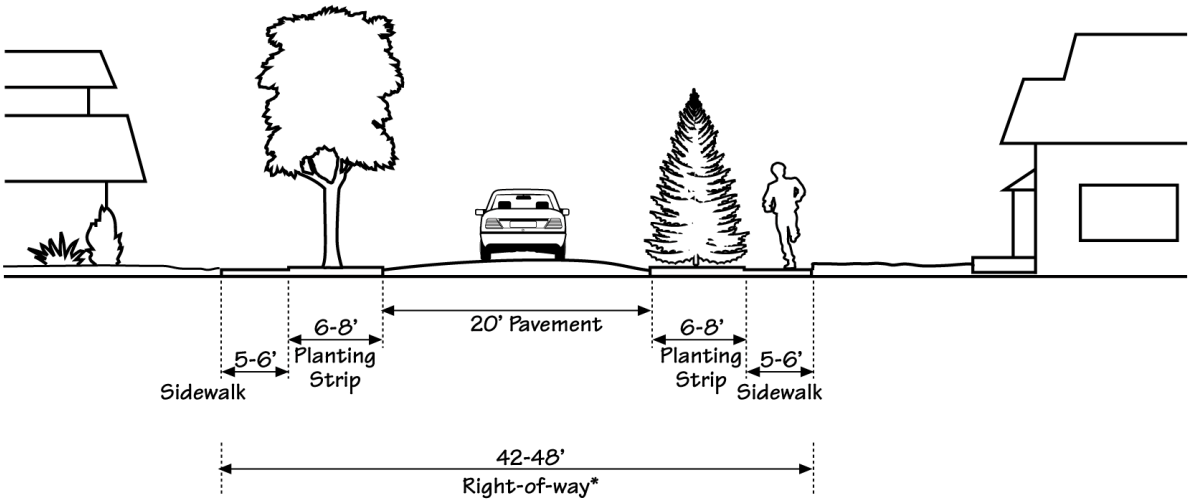
24 Ft. Streets
Parking on one side only

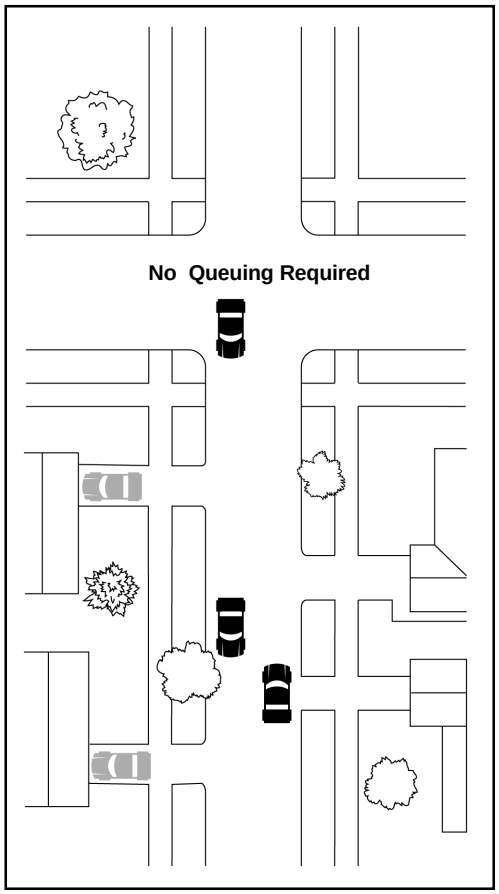




Scenario 3

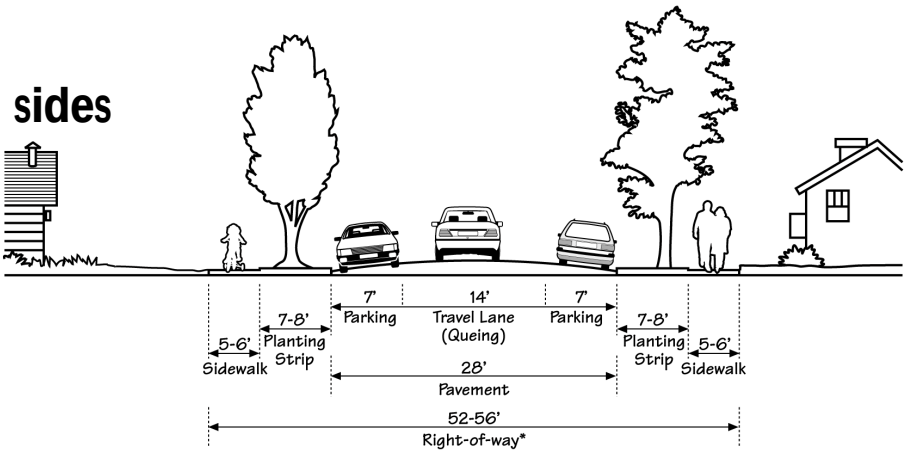
20 Ft. Streets
No parking allowed



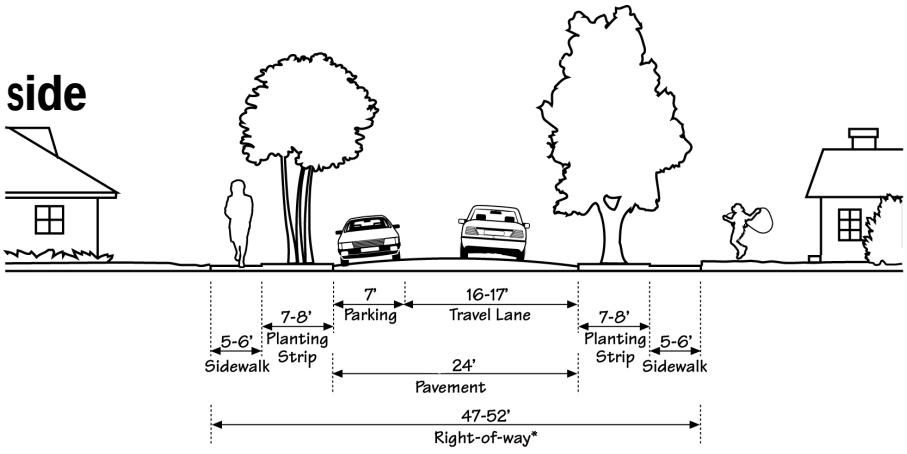
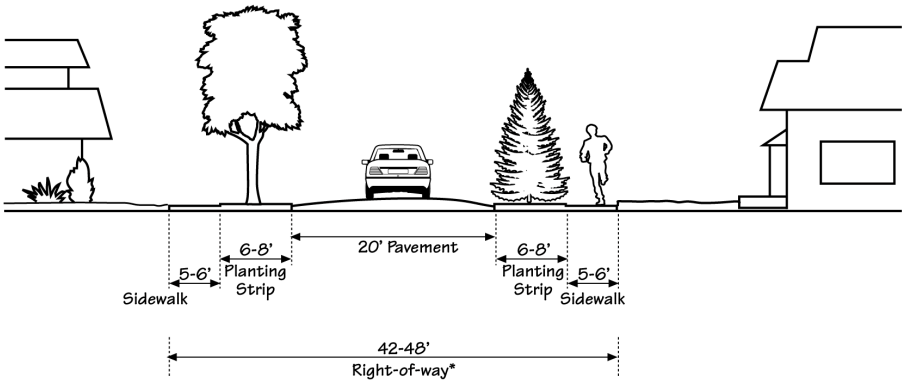


Summary of Three Potential Scenarios

28 Ft Street
Parking on both sides



24 Ft Street
Parking on one side



20 Ft Street
No on-street parking allowed