

Safety

Local Residential Streets

A presentation to the Dallas
City Council and
Planning Commission



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State of Oregon



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Narrow Standards for Local Residential Streets

Topics:

- Benefits of Narrow Streets
- Principles of Narrow Streets
- Recent Examples
- State Involvement: Transportation Planning Rule

Benefits of Narrow Streets

- Safer
- Traffic calming - lower speeds
- Multi-modal - encourage walking & biking
- High quality neighborhood - encourages socializing
- Less costly to build and maintain
- Less land used - less land taken off tax rolls
- Less pavement - less stormwater runoff
- Less heat build up - better tree canopy



Benefits of Narrow Streets

Narrow streets are safer:

- Shorter crossing distance -> Fewer pedestrian crashes
- Slower speeds -> Crashes less fatal

One important factor in pedestrian crashes is **SPEED...**

The probability of a pedestrian being severely injured and/or killed when struck by a vehicle increases as the motorist speed increases. Figure 1 shows the correlation of vehicle impact speed and pedestrian death rates. As vehicle speeds increase the ability of the driver to stop in time for crossing pedestrians also significantly decreases.

15%

32 km/h
20 MPH

45%

50 km/h
30 MPH

85%

65 km/h
40 MPH

Figure 1: Pedestrian's chances of death if hit by a motor vehicle (Ref. UKDOT)

Reducing traffic speeds not only reduces the severity of pedestrian crashes, but may reduce their occurrence. Faster vehicle speeds result in increase breaking distance, and also an increase in the distance a vehicle will travel during the 2.5 second perception/reaction time as shown in Figure 2.

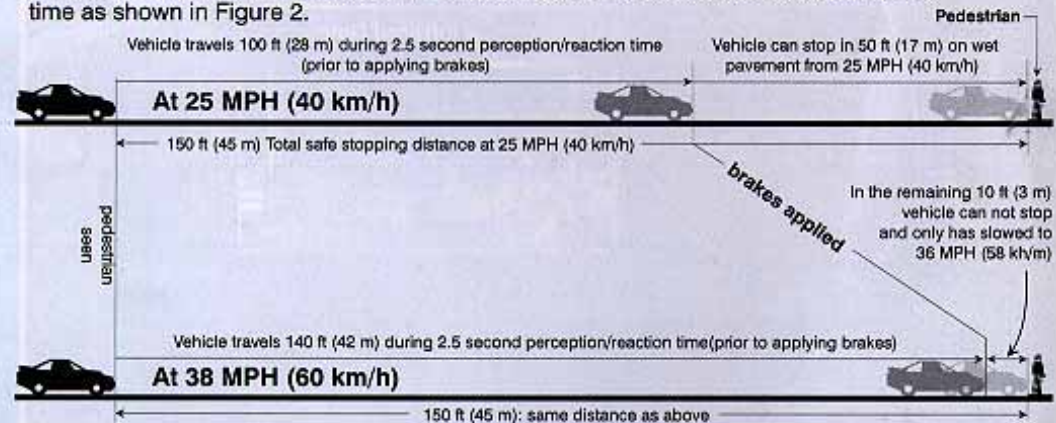


Figure 2: Relationship between safe stopping distance and travel speed

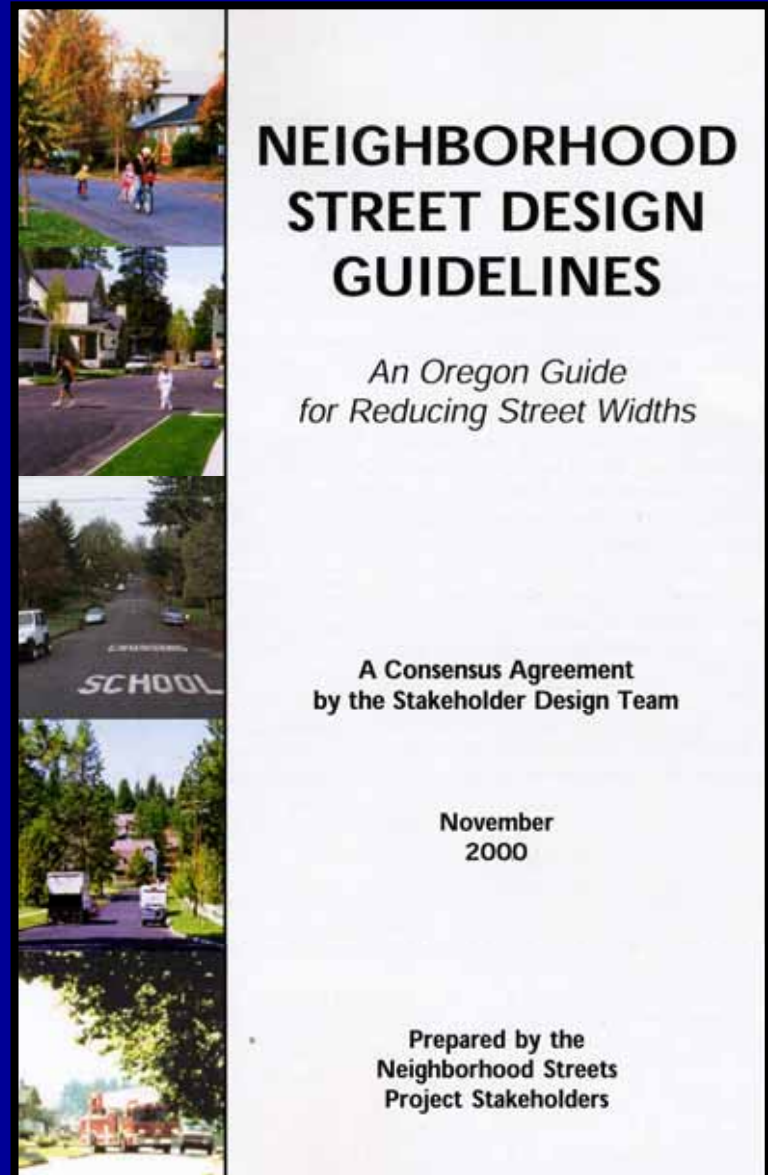
Benefits of Narrow Streets

Which street
would you prefer
to live on?



Principles of Narrow Streets

- Grid network
- Emergency access
- Queuing
- Parking
- Cross sections from *Neighborhood Street Design Guidelines*
- Where to go Wider

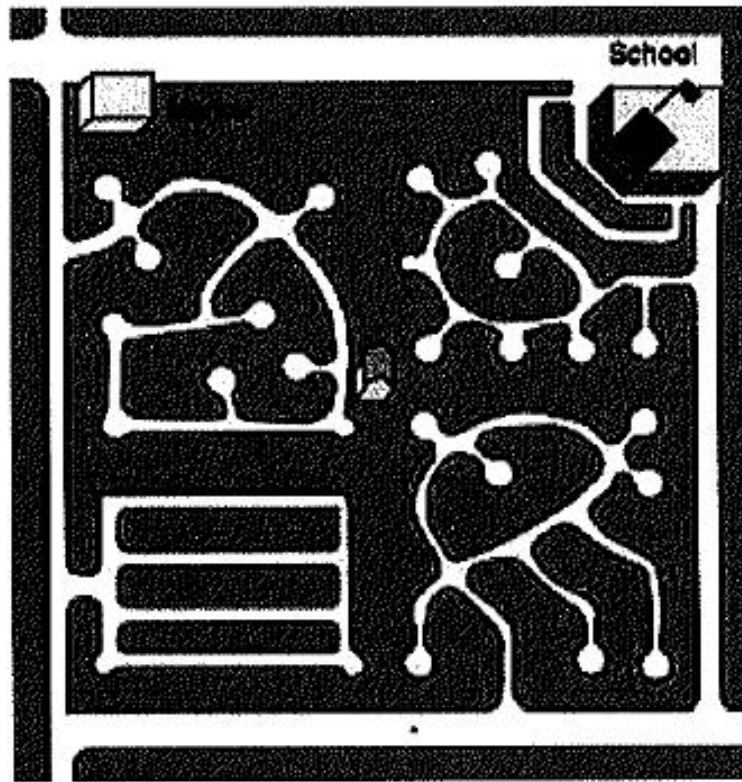


Principles of Narrow Streets

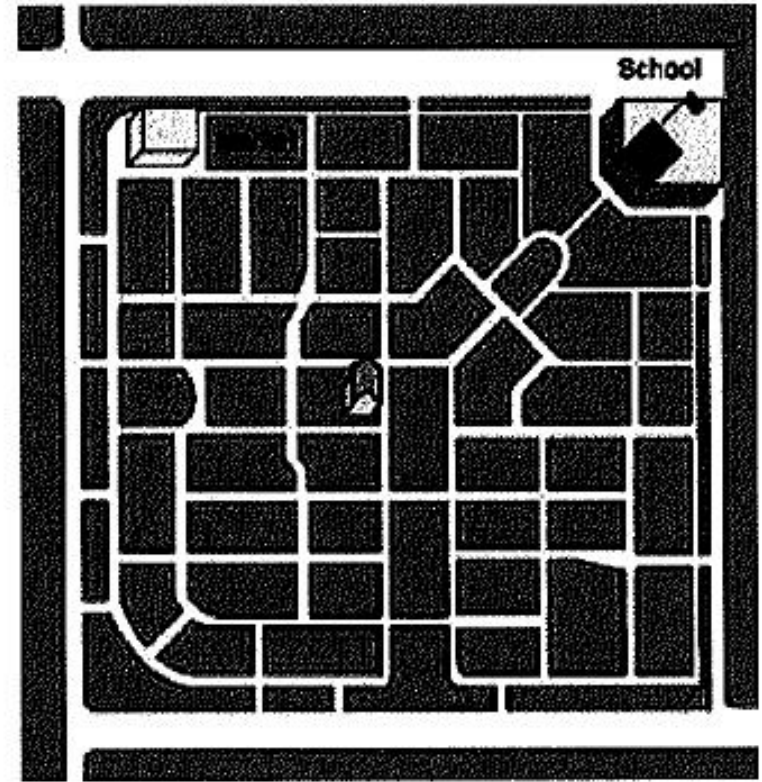


Narrow streets should be well connected with relatively short blocks.

Street Connectivity

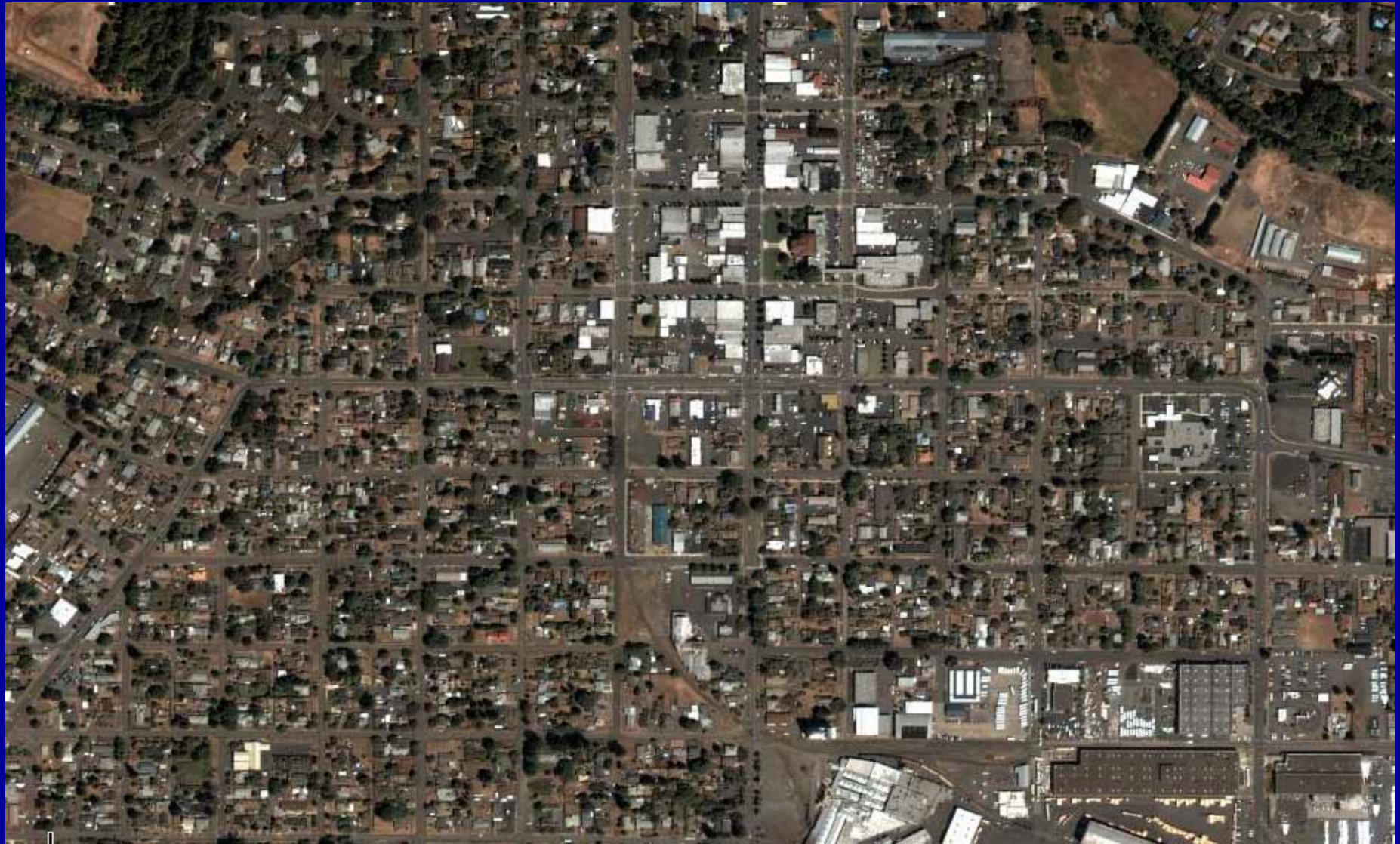


Limited Street Connections



Well-Connected Street Network

Principles of Narrow Streets



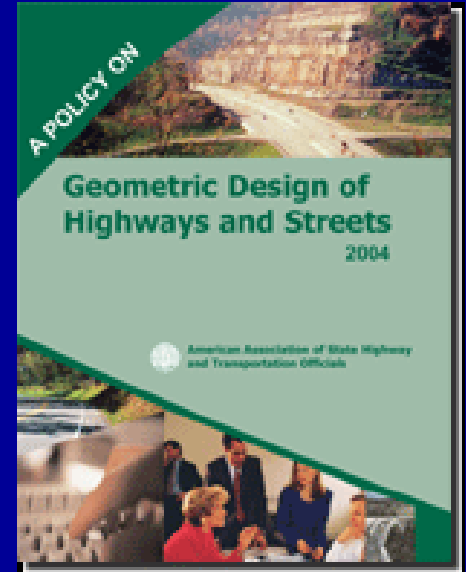
Principles of Narrow Streets



Emergency vehicles should have room to access streets and set up equipment.

Queuing

- How can one lane serve traffic both ways?
“Opposing conflicting traffic will yield and pause on the parking lane area until there is sufficient width to pass.”
- Does it work?
“The level of user inconvenience occasioned by the lack of two moving lanes is remarkably low”



Principles of Narrow Streets



Gaps in on-street parking provide room to pass an oncoming car, if any.

Principles of Narrow Streets



Parking should be prohibited at intersections.

Principles of Narrow Streets

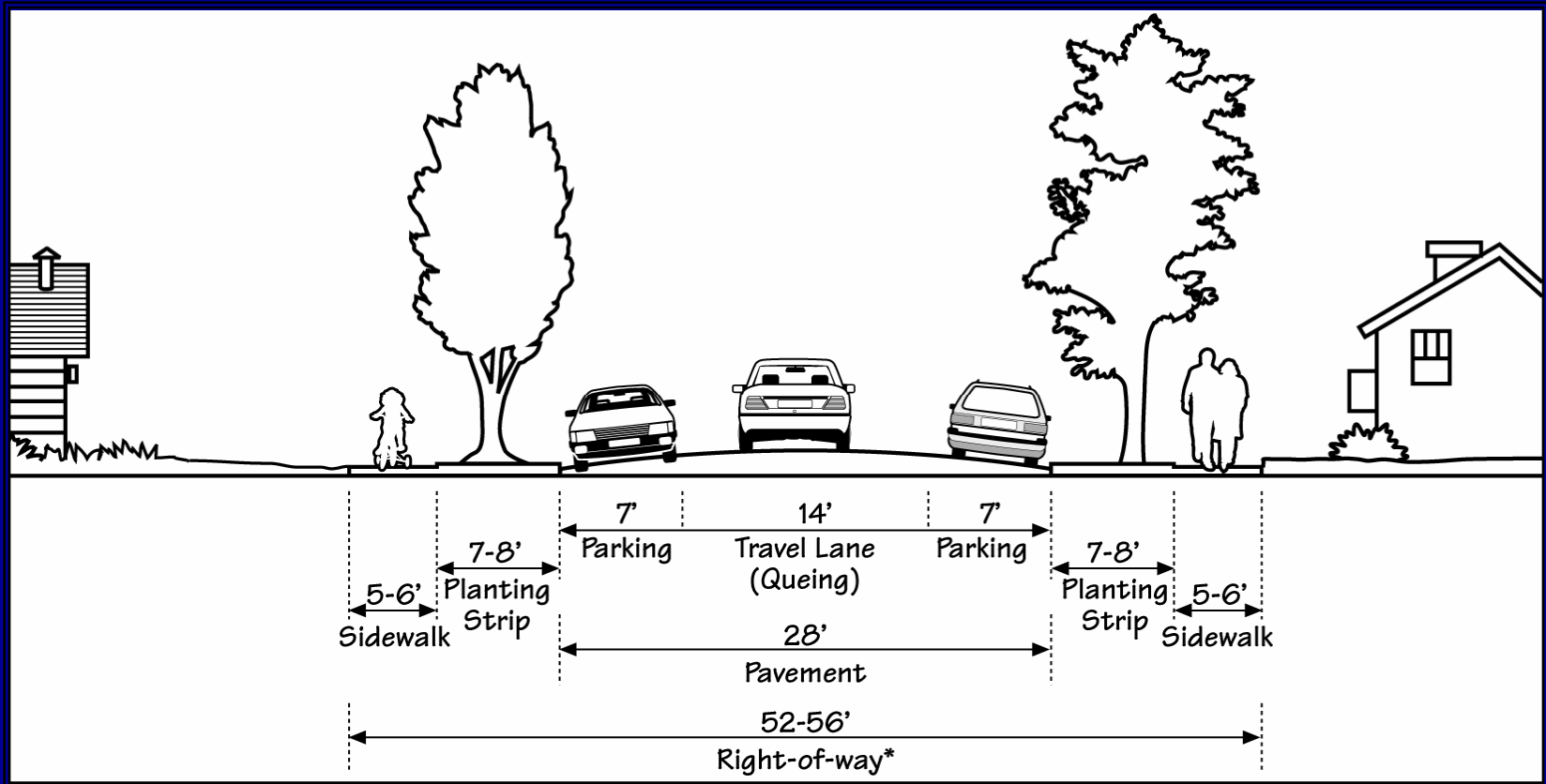
Neighborhood Street Design Guidelines



28-foot wide - Parking on both sides

Principles of Narrow Streets

Neighborhood Street Design Guidelines



28-foot wide - Parking on both sides

Principles of Narrow Streets

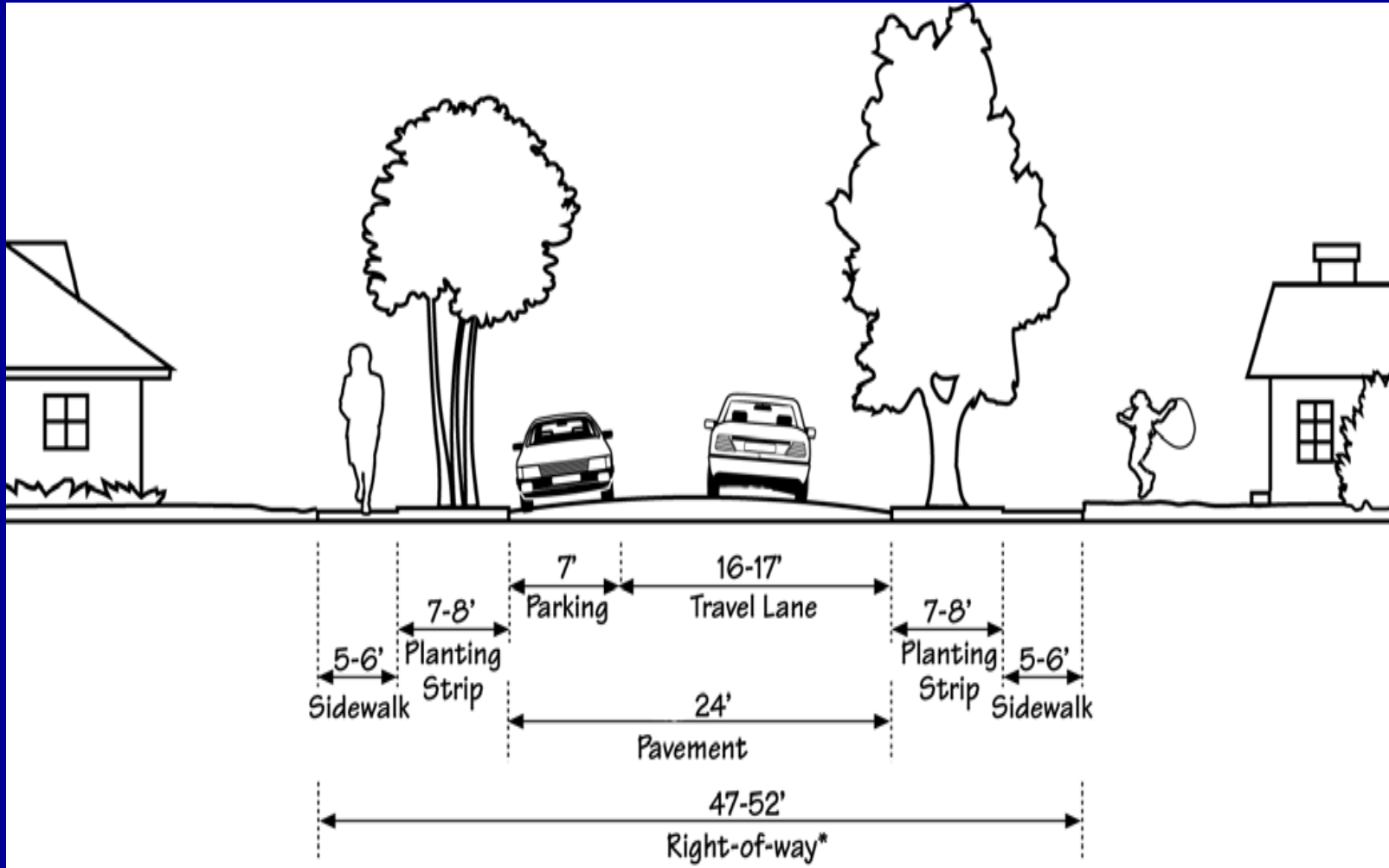
Neighborhood Street Design Guidelines



24-foot wide - Parking on one side

Principles of Narrow Streets

Neighborhood Street Design Guidelines



24-foot wide - Parking on one side

Principles of Narrow Streets

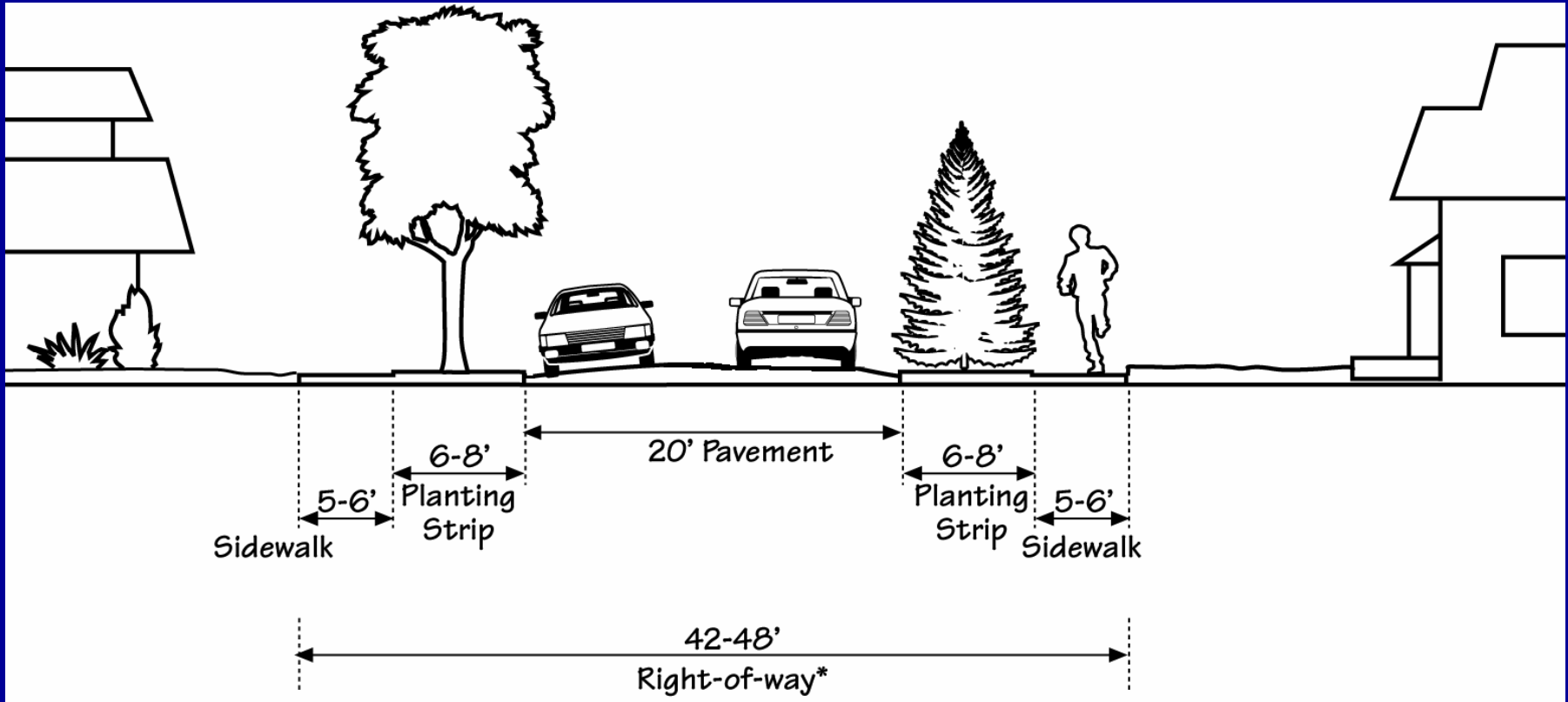
Neighborhood Street Design Guidelines



20-foot wide - No on-street parking
(less dense neighborhood)

Principles of Narrow Streets

Neighborhood Street Design Guidelines



20-foot wide - No on-street parking
(less dense neighborhood)

Wider Streets are Appropriate for:

- High-density neighborhoods
- Higher-volume, “neighborhood” collector or “subcollector”
- Evacuation routes
- Farm equipment access roads



Recent Examples



Redmond



Jacksonville

Recent Examples



Bend



Fairview

Recent Examples

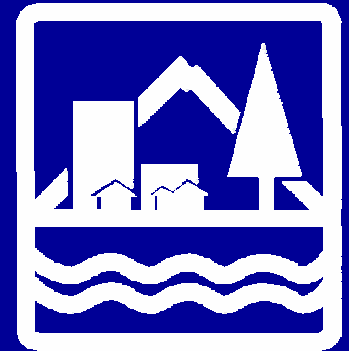


Northwest Crossing, Bend

State Involvement :

Transportation Planning Rule (TPR)

- Adopted 1991 by the Land Development and Conservation Commission (LCDC)
- Consistent planning for land use and transportation
- Planning for all modes
- Encourage pedestrian-friendly development
- No specific mention of local street standards



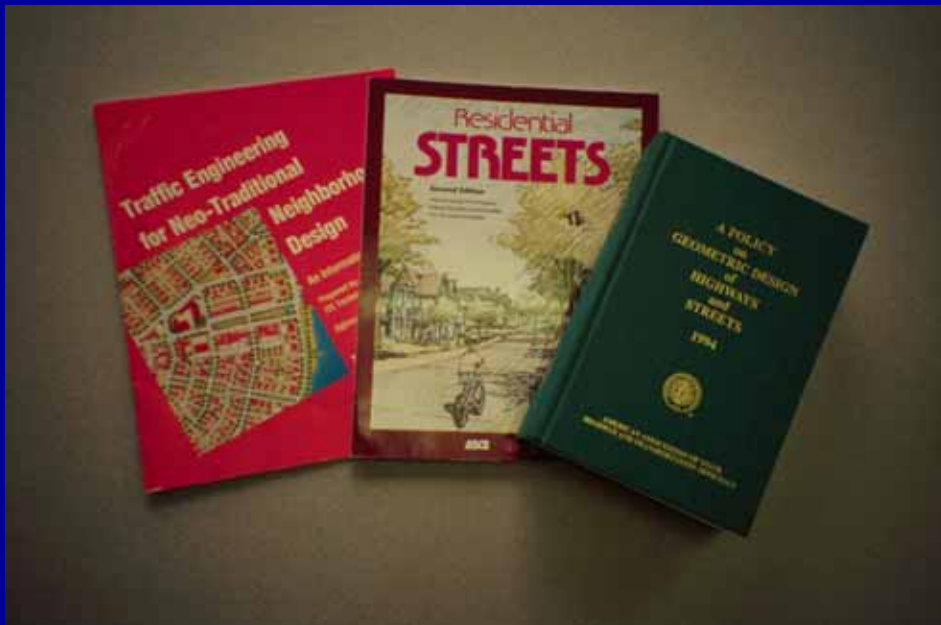
State Involvement:
1995 TPR Update

Local governments
requiring wide local
residential streets



State Involvement: 1995 TPR Update

National research recommending narrow streets



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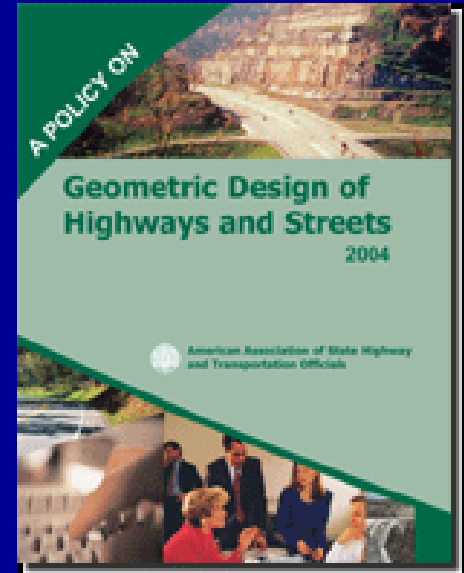
APA

AASHTO

AASHTO recommends narrow streets:

- Where?
“On residential streets where the primary function of the street is to:
 - provide access to adjacent development and
 - foster a safe and
 - pleasant environment”

- What is required?
“at least one unobstructed moving lane must be ensured even where parking occurs on both sides.”



State Involvement: 1995 TPR Update

National Examples



Kentlands



Celebration

State Involvement: 1995 TPR Update

Oregon Examples



Yamhill



Corvallis

Transportation Planning Rule (TPR) -1995 Update -

Requirement

“Local governments shall establish standards for local streets and accessways that minimize pavement width and total right-of-way consistent with the operational needs of the facility.”

Oregon Administrative Rule 660-012-0045 (7)

Transportation Planning Rule (TPR) -1995 Update -

Intent

"...consider and reduce excessive standards for local streets and accessways in order to

- reduce the cost of construction,
- provide for more efficient use of urban land,
- provide for emergency vehicle access while
- discouraging inappropriate traffic volumes and speeds, and which
- accommodate convenient pedestrian and bicycle circulation."

Oregon Administrative Rule 660-012-0045 (7)

Guidance to local governments

- Avoid “one size fits all” approach
- Allow as little as 28-foot street for most residential streets
- Justify local residential standards based on operational needs
- Eliminate code barriers to narrow streets

Further Information



- Transportation & Growth Management
www.oregon.gov/LCD/TGM/
(look for Local Street Planning)
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