

Complete Streets



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Topics Covered

- **Definition**
- **Background - Why Now?**
- **Design Elements**
(Width, Block Length, Sidewalks, Bicycle Lanes)
- **What Does it All Mean?**

Definition

What are “Complete Streets?”

Definition

Complete streets are those that adequately provide for all roadway users, including bicyclists, pedestrians, transit riders, and motorists, to the extent appropriate to the function and context of the street.

- **Acknowledges that streets have more than one set of users and more than one function**
- **Acknowledges the importance of function and context**

Background

Why Now?

Emergence of Complete Streets Agenda

- Street designs based on the goal of minimizing auto delay proved to have negative side-effects
- Other aspects of post-war city planning (low densities, separation of land uses) were also being re-evaluated
- Old street design standards clash with the desire for compact, mixed-use, walkable neighborhoods (Smart Growth)

The Bad Old Days ...

Philosophy: A well-designed street is one that lets cars go fast

- **Typified & institutionalized by the Highway Capacity Manual (1965)**
- **Road design based on auto level-of-service (LOS)**
- **Little or no consideration of other users or goals**
- **When in doubt, widen**



The Result ...

- Higher cars speeds hurt discouraged other modes
- High speeds on local roads encouraged cut-through traffic
- Downward spiral of more traffic making peds less safe, so switch to cars, so more traffic ... most notably for school trips
- Dismal economic rate-of-return for roads (chronically over-sized)
- Many people believe that the nicest neighborhoods were those with the older designs

The Response ...

- Agencies retro-fit speed constraints on over-designed roads (doubly expensive)
- Many local jurisdictions pursue schizophrenic policies
- Growing pressure to build things right the first time

Speed Hump



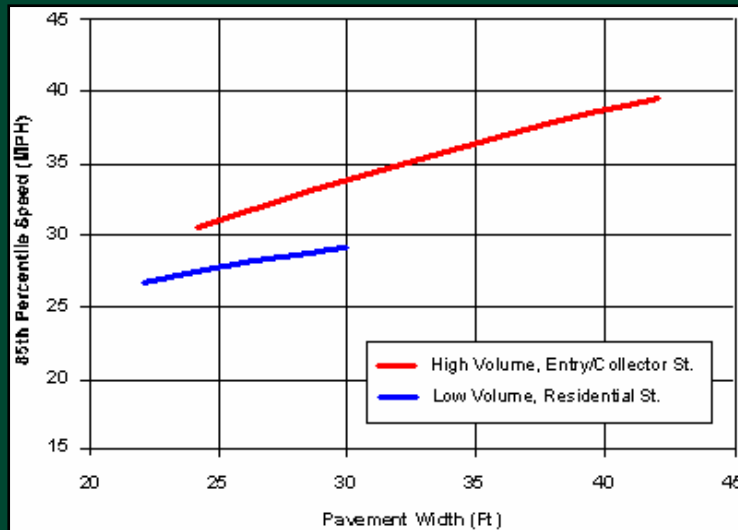
Planters



Design Elements

Street Width

Drivers react to visual cues; wide streets induce drivers to speed

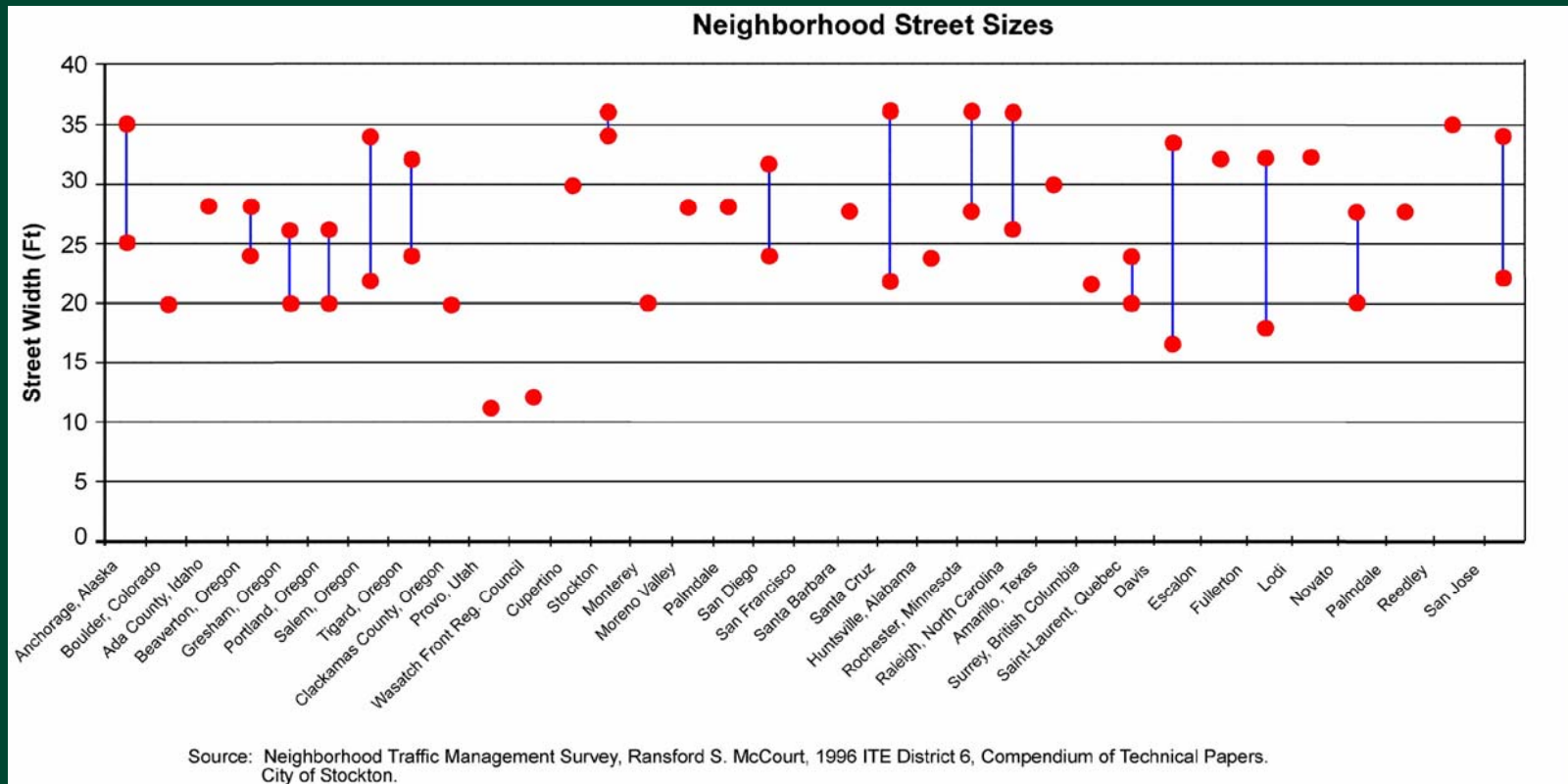


Relationship between street width and speed



Overly wide (40') street needs 3 speed humps

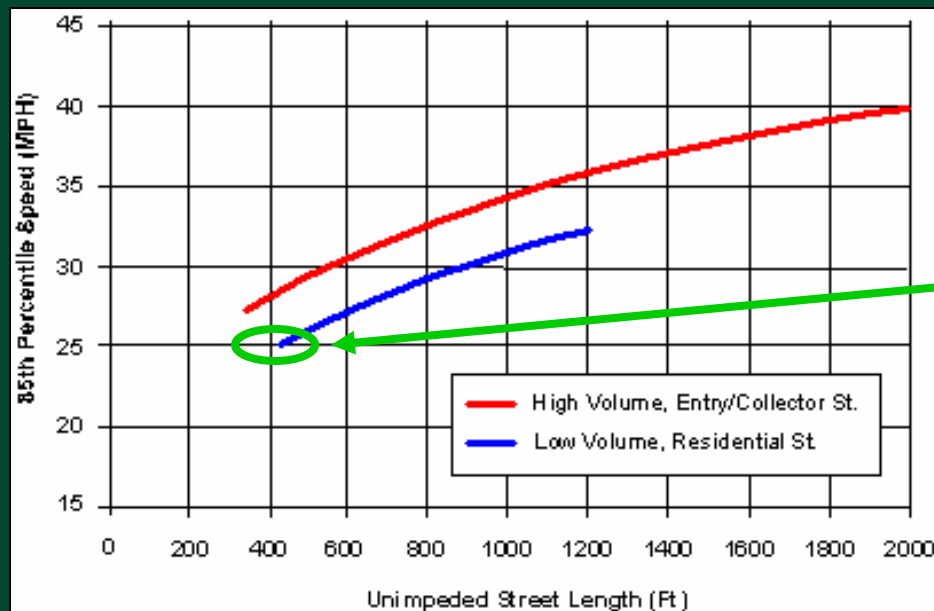
Street Width



Allowable street widths vary widely in the western states

Block Length

Long, straight blocks give a visual cue to drivers to speed up



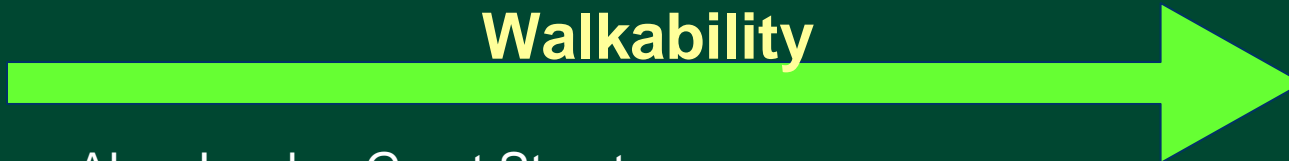
California speed limit on residential streets is 25 MPH, which implies a block length not more than 400'

Relationship between block length and speed

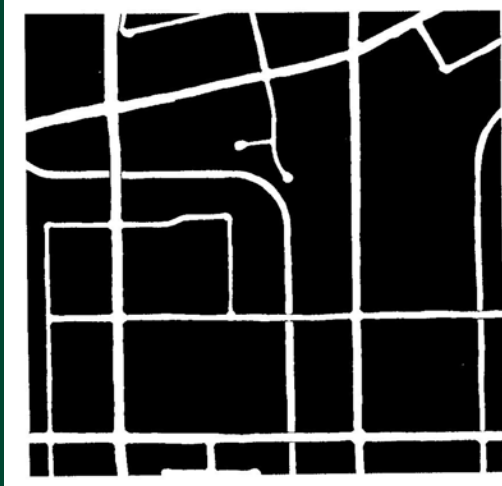
Block Length

Street Networks at Same Scale

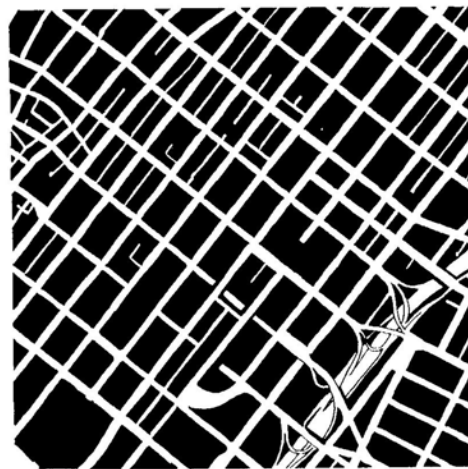
Walkability



Source: Alan Jacobs, Great Streets



Irvine, CA



Downtown
Los Angeles



Venice, Italy

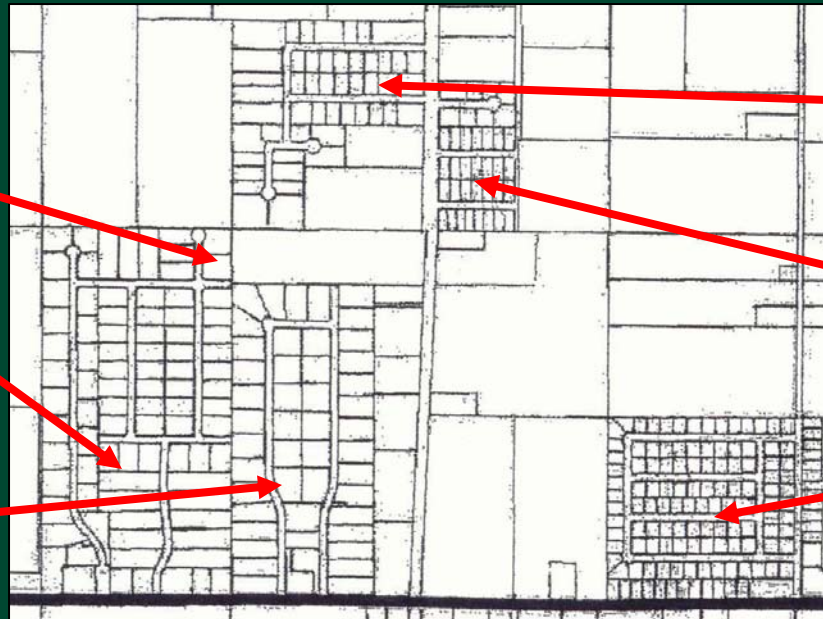
Connectivity

Poor connectivity forces traffic onto arterials and lengthens trips

Stubs provided to connect to adjacent area but ignored by later development

No access to east, west, or south

No access to north, east, or west



No access to north, south, or west

No access to north, south, or east

No access to north, south, or west

Sidewalks and Other Pedestrian Amenities

- Once considered optional or only needed for walk trips
- Now seen as essential to the success of other modes (transit, public parking)
- Also, increasingly viewed as a health and quality-of-life issue



Sidewalks – Qualitative Differences Matter!



**Wide, shaded,
away from traffic**



**Narrow, sloped, unshaded,
blocked by pole, cars intruding**

Pedestrian Amenities

Amenities extend the distance people are willing to walk and encourage recreational walking



Transit

Studies show out-of-vehicle time (walking & waiting) is a key determinant of transit use



This bus stop lacks convenient access to neighborhood it serves and has no safe place for passengers to wait for the bus.

Transit

Shelter design affects attitudes towards transit



Seven people are waiting for buses. All prefer the shade tree to this hot shelter



This shelter is comfortable and attractive

Bicycle Facilities

- Key issue is speed differential (bikes/peds, bikes/cars)
- When speeds are similar, facilities can be shared (local roads, some recreational paths)
- When speeds are significantly different, bikes need a separate right-of-way (bicycle lanes)
- Also, parking and transfer facilities are needed



**Examples:
Complete & Incomplete
Streets**

Common Design Flaws in New Developments

No buffer between peds and traffic

Sidewalk too narrow

Rolled curbs

No planter strip

No canopy; street heats up the neighborhood



Highway-style streetlights; not to human scale

Street too wide; an invitation to speed

Result: Little outdoor activity; neighborhood seems “dead”

Residential Street



Poor Design: Street serves access function only



Better: Planter strips & detached sidewalks greatly improve walkability



Best: Shade, narrow lanes, short blocks, & vertical curbs encourage people to walk around the community

Common Design Flaws in Arterials

Few safe crossings; no ped refuges

Street too wide; encourages high speeds

Street too wide to cross safely; is a barrier to bike & ped travel

No canopy; street baking hot



Many curb cuts create dangers from both sides

No bike lane

Result: Uninviting environment for anyone not in a car

Arterial Streets



Poor Design: Serves cars only, and not very well



Better: Wide sidewalks and at least some landscaping greatly improve walkability

Best: Signalized crossings, planter strips, bicycle lanes, help this street serve all user groups well



Conclusions

What Does It All Mean?

Conclusions about Complete Streets

- **Experience has shown that street designs focused solely on helping cars go fast have serious drawbacks in many circumstances**
- **The Smart Growth movement (Blueprint Project) relies on facilitating use of non-auto modes for at least some trips**
- **For the Blueprint Project to be successful, we need to change street standards to allow for more complete streets**

A Success Story - Sacramento

- **Neighborhood groups voiced concerns that old street standards negatively affected the quality of life for residents**
- **City responded with an aggressive traffic calming program to address existing problems**
- **And in 1998, revised standards for new roads:**
 - **Minimum width for local roads reduced from 36' to 30'**
 - **Planter strips required on all streets**
 - **Bicycle lanes required on arterials**
 - **Landscaped medians required if high traffic volume**

Thank You!

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