Evaluation Tools

Pedestrian Environments
Outline

- The Problem
- What is *Pedestrian Friendly*?
- What is *Auto Dominated*?
- Setting Priorities
The Problem
What is *Pedestrian Friendly*?

Evaluation Tools
Types of Walking

- Rambling
- Utilitarian Walking
- Strolling, Lingering
- Promenading
- Special Events
Rambling
Prospect

Rambling
Utilitarian Walking
Utilitarian Walking
Utilitarian Walking

Kailua
Utilitarian Walking

Upcountry Maui

Utilitarian Walking
Utilitarian Walking

Redmond
Strolling & Lingering
Winter Park, FL

Strolling, Lingering
Strolling, Lingering
Promenade
Promenade

Boulder
Special Events
Boulder

Special Events
Types of Pedestrian Environments
Pedestrian Environments

“Pedestrian Friendly”
Pedestrian Environment Continuum

- Pedestrian Place/District
- Pedestrian Supportive Environment
- Pedestrian Tolerant Environment
- Pedestrian Intolerant Environment

Pedestrian Friendliness
Pedestrian Place/District

- Mixed use with retail
- Gathering place – identifiable as a PLACE
- Significant pedestrian presence
- Motor vehicles present, do not dominate
- Supportive transportation required (parking, transit, bike)
La Spezia, Italy

Pedestrian Place
Winter Park, FL

Pedestrian Place
Pedestrian Supportive

- Mixed use including residential
- May include gathering PLACES
- Pedestrians present at busy times
- Motor vehicles present, do not dominate
Pedestrian Supportive
Pedestrian Supportive

Mt. Vernon, IA
Pedestrian Supportive Longmont
Pedestrian Supportive

Berkeley
Pedestrian Supportive
Pedestrian Supportive Boulder
Pedestrian Supportive Boulder
Pedestrian Tolerant

- All land uses except freeway & certain special uses (airport runway, garbage dump, etc.)
- Utilitarian walking & rambling only
- Motor vehicles present, may tend to dominate
Pedestrian Tolerant
Pedestrian Tolerant

Maui
Pedestrian Intolerant

- Any land use
- Little or no walking
- Motor vehicles dominate
- Unsafe, unpleasant
Pedestrian Intolerant

Longmont
Pedestrian Intolerant

Longmont
Pedestrian Intolerant

Hawaii Island
Pedestrian Intolerant

Maui
Pedestrian Intolerant

Anywhere, USA
Flagstaff, AZ

Pedestrian Tolerant
Pedestrian Intolerant

Flagstaff, AZ
Walk Environments and Types of Walking

Number of Pedestrians

- Pedestrian Place
- Pedestrian Supportive
- Pedestrian Tolerant
- Pedestrian Intolerant

Types of Walking:
- Utilitarian Walking
- Rambling
- Strolling, Lingering, Promenade, Special Events
Key Factors

“Pedestrian Oriented”
Brooklyn
Pasadena
Factors: “Pedestrian Oriented”

- Street design & space allocation
- Proportion of street room
- Character of street wall
- Traffic buffering
- Connectivity
- Weather protection: sun, rain
- Land use mix
Urban Scale & Proportion of Street Room
St. Louis area
Height to Width Ratio

Height

Width

X:Y
Height to Width Ratio

3:1
Height to Width Ratio

1:1
Height to Width Ratio

1:2
Height to Width Ratio

1:3
Height to Width Ratio

1:4
Height to Width Ratio

1:16
Character of Street Wall
Nashville
Traffic Buffering
Connectivity (Grain)
Pedestrian Networks

The ideal pedestrian “grain” is 250’ to 350’
Portland Pearl District
Portland Pearl District
Weather Protection (sun, rain)
Boulder
Land Use Mix
What is *Auto Dominated*?

Evaluation Tools
Factors: “Auto Dominated”

- Vehicle speeds
- Roadway width
- Presence or absence of buffers
- Ratio of ped space to auto space
Pedestrian Survival Rates – Vehicle Speeds

<table>
<thead>
<tr>
<th>Speed</th>
<th>% Survive</th>
<th>% Die</th>
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<tbody>
<tr>
<td>20mph</td>
<td>95%</td>
<td>5%</td>
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<tr>
<td>30mph</td>
<td>55%</td>
<td>45%</td>
</tr>
<tr>
<td>40mph</td>
<td>15%</td>
<td>85%</td>
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</table>
Pedestrian Crossing Time

Curb Extensions: YES
Lane Width: 12 ft
Walk Speed: 250 fpm

Seconds: 5 10 15 20 25

2 lane w/ parking
3 lane w/ parking
4 lane no parking
4 lane w/ parking
6 lane no parking
8 lane no parking
Vehicle Approach Time

25 mph

Feet:

<table>
<thead>
<tr>
<th></th>
<th>200</th>
<th>400</th>
<th>600</th>
<th>800</th>
<th>1000</th>
<th>1200</th>
<th>1400</th>
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<td></td>
<td></td>
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<tr>
<td>4 lane no parking</td>
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<tr>
<td>4 lane w/ parking</td>
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<tr>
<td>8 lane no parking</td>
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Pedestrian Crossing Time

Curb Extensions: NO
Lane Width: 12 ft
Walk Speed: 250 fpm

Seconds: 5 10 15 20 25

- 2 lane w/ parking
- 3 lane w/ parking
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### Pedestrian Crossing Time

**Curb Extensions:** YES  
**Lane Width:** 12 ft  
**Walk Speed:** 250 fpm

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- The crossing time varies depending on the number of lanes and whether parking is allowed.
Pedestrian Crossing Time

- Curb Extensions: YES
- Lane Width: 12 ft
- Walk Speed: 180 fpm

<table>
<thead>
<tr>
<th>Seconds:</th>
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<th>15</th>
<th>20</th>
<th>25</th>
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</tbody>
</table>
Vehicle Approach Time

Walk Speed: 250 fpm

Feet: 200 400 600 800 1000 1200 1400

- 2 lane w/ parking
- 3 lane w/ parking
- 4 lane no parking
- 4 lane w/ parking
- 6 lane no parking
- 8 lane no parking

25 mph
Vehicle Approach Time

Walk Speed: 180 fpm

35 mph

Feet: 200 400 600 800 1000 1200 1400

- 2 lane w/ parking
- 3 lane w/ parking
- 4 lane no parking
- 4 lane w/ parking
- 6 lane no parking
- 8 lane no parking
Criteria: Auto Dominated

- Vehicle speeds: 25 mph
- Roadway width: 42 ft
- Buffers: Yes
- Ratio ped space : street: 1 to 1.5
<table>
<thead>
<tr>
<th>Criteria</th>
<th>Value</th>
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<tbody>
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<td>Vehicle speeds</td>
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<tr>
<td>Roadway width</td>
<td>72 ft</td>
</tr>
<tr>
<td>Buffers</td>
<td>No</td>
</tr>
<tr>
<td>Ratio ped space : street</td>
<td>1 to 5</td>
</tr>
</tbody>
</table>
Setting Priorities

Evaluation Tools
Real-World Pedestrian Structure
(Nodes and Corridors)
Pedestrian Walk Distance

- Types of Pedestrians
- Walk Environment
Thank You