What is a Complete Street?

A Complete Street is safe, comfortable and convenient for travel via automobile, foot, bicycle, and transit.
A Complete Street:

- Offers a full range of travel choices
A Complete Street:

- Offers a full range of travel choices
- Connects to a network that offers choices
A Complete Street:

- Offers a full range of travel choices
- Connects to a network that offers choices
- Is fully accessible to all: kids, seniors and people with disabilities
A Complete Street:

• Offers a full range of travel choices
• Connects to a network that offers choices
• Is fully accessible to all: kids, seniors and people with disabilities
• Supports & contributes to life in pleasant, convenient neighborhoods
A Complete Street:

Serves transit
Why do we need to complete the streets?
Americans want to walk and bike more

• 52% want to bike more than they do now.
Americans want to walk and bike more

• 55% would rather drive less and walk more
About a third of Americans don’t drive:

- 21% of Americans over 65
About a third of Americans don’t drive:

- 21% of Americans over 65
- All children under 16
About a third of Americans don’t drive:

- 21% of Americans over 65
- All children under 16
- Many low income Americans cannot afford automobiles
Streets are inadequate:

No room for bikes or pedestrians
Streets are inadequate:

No sidewalks
Streets are inadequate:

Too narrow to share with bikes
How do we implement “complete streets” on our existing roads?
"Trying to cure traffic congestion with more capacity is like trying to cure obesity by loosening your belt."

-Glen Heimstra
AND YET TRAFFIC STILL SEEMS NOT TO BE MOVING. WITH CANADA AND MEXICO WE COULD ADD A FEW MORE LANES IN EACH DIRECTION.
CAPACITY OF STREETS
What is a road diet?

Classic road diet shrinks lanes to 3 + bike lanes.
What is a road diet?

Classic road diet shrinks lanes to 3 + bike lanes.
- Reduces speed
- Reduces accidents (left turns)
- Center lane provides a clear & safe left turn lane (which can be landscaped)
- Works on moderate volume streets (10-20,000 ADT)
- Allows for other modes (bike lanes, wider sidewalks, etc.)
- Numerous successful examples around the country
Four Lane Roads – Obsolete - High Turning Volumes - Safety - Safety
Three Lane Roads – Current Practice

- High Turning Volumes

Safety
\[
-\frac{1}{3} F \frac{1}{8} \frac{1}{3} \frac{3}{8} \frac{5}{8}
\]

“\( \bigcirc \frac{5}{8} - V T \frac{5}{8} \) \( \square 11 \frac{3}{8} \)
Cascade Avenue: Existing 4-Lane Street
Cascade Avenue: Existing 4-Lane Street

Cascade Avenue: 13,500 – 17,900 AADT
Cascade Avenue: Neighborhood Serving Corridor
Cascade Avenue: Road Diet Concept

- Reduces speed
- Reduces accidents (left turns)
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- Works on moderate volume streets (10-20,000 ADT)
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- Numerous successful examples around the country
Comparable: Virginia Highlands – North Highland Avenue

North Highland: 17,000 AADT (2003 actual count)
Cascade Avenue: 13,500 – 17,900 AADT
Cascade: 3-Lane Concept & Redevelopment
Case Study:

Edgewater Drive, Orlando FL

Existing:
- 4-Lane Road
- On-street parking

Neighborhood Commercial Street

Average Daily Traffic: +/- 20,000

Neighborhood Planning Process identified need to make street more pedestrian and bike-friendly.
Case Study: Edgewater Drive - Speed
## Crash & Injury Rate Comparison

<table>
<thead>
<tr>
<th>Statistic</th>
<th>Before¹</th>
<th>After²</th>
<th>% Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crash Rate (per MVM)³</td>
<td>12.6</td>
<td>8.4</td>
<td>-34%</td>
</tr>
<tr>
<td>Injury Rate (per MVM)</td>
<td>3.6</td>
<td>1.2</td>
<td>-68%</td>
</tr>
</tbody>
</table>

**Notes:**
2. After represents four months (annualized)
3. MVM = Million Vehicle Miles
Case Study: Edgewater Drive – On-Street Parking Utilization

On-Street Parking Utilization - Three Lane Sections of Edgewater Dr

Parking Utilization Percentage

- Before: 29%
- After: 41%

Source: City of Orlando Transportation Planning Bureau
## Pedestrian Count Summary

<table>
<thead>
<tr>
<th>Direction</th>
<th>Before</th>
<th>After</th>
<th>Change</th>
<th>% Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Northbound &amp; Southbound</td>
<td>1,398</td>
<td>1,481</td>
<td>83</td>
<td>6%</td>
</tr>
<tr>
<td>Eastbound &amp; Westbound</td>
<td>738</td>
<td>1,151</td>
<td>413</td>
<td>56%</td>
</tr>
<tr>
<td>Total</td>
<td>2,136</td>
<td>2,632</td>
<td>496</td>
<td>23%</td>
</tr>
</tbody>
</table>

## Bicycle Count Summary

<table>
<thead>
<tr>
<th>Direction</th>
<th>Before</th>
<th>After</th>
<th>Change</th>
<th>% Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Northbound &amp; Southbound</td>
<td>205</td>
<td>388</td>
<td>73</td>
<td>25%</td>
</tr>
<tr>
<td>Eastbound &amp; Westbound</td>
<td>80</td>
<td>118</td>
<td>38</td>
<td>48%</td>
</tr>
<tr>
<td>Total</td>
<td>375</td>
<td>486</td>
<td>111</td>
<td>30%</td>
</tr>
</tbody>
</table>
Case Study: Edgewater Drive – **Vehicular Travel Time**

Average Peak Period Travel Time (Minutes)
Edgewater Dr - Dartmouth St. to Maury Rd.

<table>
<thead>
<tr>
<th>Direction</th>
<th>AM (7:00 - 9:00)</th>
<th>PM (4:00 - 6:00)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Before</td>
<td>After</td>
</tr>
<tr>
<td>Northbound</td>
<td>3.3</td>
<td>4.2</td>
</tr>
<tr>
<td>Southbound</td>
<td>3.2</td>
<td>4.1</td>
</tr>
</tbody>
</table>

**Large Gain**
Complete streets & Land vpt.

$-1^1 N^{0H} T 0^0 5/8 N_L 5/8$

$-N_L R 5/8 5/8 N_L L_F T$

$R_{1/3-3/8}$
Transit Service Ineffective (buildings too far from street, results long walks and inefficient routing)

Evolution of a Commercial Strip: Existing Conditions

- Development lacks public space
- Pedestrian Hostile
- Over-Sized Parking Lots
- Separate Streets
- Separating Commercial Buildings From Streets
- Discouraging Pedestrians From Walking to Adjacent Businesses
Evolution of a Commercial Strip: Initial Street Oriented Development

Private Development Accepts the Invitation and Builds to the Street

Windows and doors are located along the street
Evolution of a Commercial Strip: New Public Square and Continued Street Oriented Development

Downtown continues to build to the street once an environment is created.

Density and location of buildings support public transit improvements.
Bringing It All Together
Bringing It All Together

Narrow travel lanes, add a bike lane.
Bringing It All Together

Add a median, trees and some texture
Bringing It All Together

Bring the buildings in closer
Bringing It All Together

Make sure the buildings face the street.
Bringing It All Together

Bring in more buildings (infill)
Bringing It All Together