IMPLEMENTING COMPLETE STREETS
PERFORMANCE MEASURES
(Module 5)

• What Problem are we trying to solve
• Performance measures and project goals
• Quantitative benefits of complete streets
• CDOT Before and After Examples
Problem: We want to reduce congestion.
Solution: More pavement
Problem: We want complete streets.

Solution: Balanced space that encourages safe behavior.
Possible Project Goals
(Performance Measures)

- Increased Safety
- Reduced Speeding
- Increased walking and biking
- Increased on-street parking use
- Decreased noise
- Increased neighborhood and business satisfaction
- Increased Economic activity
- Increase green space
Open Roads – Based on Data

- Strong Data Driven Purpose and Need
- Defined scope based on project goals
- Performance Measures can act as project problems / needs
- Get before data to make the case for Complete Streets
  - Crashes, Modal Counts, Travel Times, Capacity Analysis
Case study: Edgewater Drive (Orlando FL) Resurfacing Project

• Repaving project scheduled in FDOT 5-year work plan
• FDOT open to 3-lane option if City takes over jurisdiction
• Changes must be accepted by neighborhood and business associations; city must conduct before/after studies
Reality: Before
Reality: After
Before/after studies: Safety (Crash rate)

<table>
<thead>
<tr>
<th>Crash Rate (per MVM)</th>
<th>Before</th>
<th>After</th>
</tr>
</thead>
<tbody>
<tr>
<td>12.6</td>
<td></td>
<td>8.4</td>
</tr>
</tbody>
</table>

1 crash every 2.5 days (146 per yr) before

34% Reduction

1 crash every 4.2 days (87 per yr) after
Before/after studies: Safety (Injury rate)

3.6
1.2
0.0
0.5
1.0
1.5
2.0
2.5
3.0
3.5
4.0

Injury Rate (per MVM)

Before

68% Reduction

1 injury every 9 days
(41 per yr)

After

1 injury every 30 days
(12 per yr)
Before/after studies: Speeding analysis

- **North End**
  - Before: 15.7%
  - After: 7.5%

- **Middle**
  - Before: 9.8%
  - After: 8.9%

- **South End**
  - Before: 29.5%
  - After: 19.6%
Before/after studies: Pedestrian volumes

Number of Pedestrians

<table>
<thead>
<tr>
<th>Before</th>
<th>After</th>
</tr>
</thead>
<tbody>
<tr>
<td>2,136</td>
<td>2,632</td>
</tr>
</tbody>
</table>

23% Increase
Before/after studies: Bicyclist volumes

30% Increase
Before/after studies: On-street parking utilization

Parking Utilization Percentage

<table>
<thead>
<tr>
<th>Before</th>
<th>After</th>
</tr>
</thead>
<tbody>
<tr>
<td>29%</td>
<td>41%</td>
</tr>
</tbody>
</table>
Before/after studies: Traffic volumes

Vehicles per Day

<table>
<thead>
<tr>
<th>Before</th>
<th>After</th>
</tr>
</thead>
<tbody>
<tr>
<td>20,500</td>
<td>18,100</td>
</tr>
<tr>
<td>15,000</td>
<td></td>
</tr>
<tr>
<td>10,000</td>
<td></td>
</tr>
<tr>
<td>5,000</td>
<td></td>
</tr>
<tr>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>

Now 21,000+
CDOT Example: South Chicago Ave

- Four Travel lanes and bike lanes
- 6 fatalities in 5 years
- 4 fatalities involved bikes or peds
- 80% of cars speeding
CDOT Example: South Chicago Ave

- Road Diet
- Buffered Bike Lanes
- Space for future ped refuge
- 44% of cars speeding
CDOT Example: Vincennes Ave

- 981 Crashes (5-year period)
  - 21% resulted in injuries
  - 100% of bike/ped crashes resulted in injuries
  - 4 fatal crashes
- ‘Before’ Speed Data
  - 86% of NB & 63% of SB Motorists speeding
  - 41% of NB & 16% of SB motorists exceeding 40MPH

<table>
<thead>
<tr>
<th>Speed</th>
<th>Before</th>
<th>After</th>
</tr>
</thead>
<tbody>
<tr>
<td>% Over 30 MPH</td>
<td>87%</td>
<td>64%</td>
</tr>
<tr>
<td>% Over 35 MPH</td>
<td>64%</td>
<td>27%</td>
</tr>
<tr>
<td>% Over 40 MPH</td>
<td>27%</td>
<td>8%</td>
</tr>
</tbody>
</table>
- Four Travel lanes, no bike lanes
- 339 total crashes on 55th Street between 2006 – 2010
- 27 pedestrian and 23 bicycle crashes
- 45 injury crashes
- 26% rate of speeding
CDOT Example: 55th Street

- Three travel lanes
- Protected Bicycle Lanes
- New and Upgraded Crosswalks

<table>
<thead>
<tr>
<th></th>
<th>Before</th>
<th>After</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADT</td>
<td>13,712</td>
<td>13,783</td>
</tr>
<tr>
<td>Bikes (Peaks)</td>
<td>89</td>
<td>171</td>
</tr>
<tr>
<td>% Over 30 MPH</td>
<td>24%</td>
<td>5.4%</td>
</tr>
</tbody>
</table>
CDOT Example: 55th Street

- Project embraced by University of Chicago
- Future looking to improve, make changes permanent
Does the street benefit the community?

Are we aiming for through-put or creating places?
Does the street design reduce crashes?
Does the street treat all travelers fairly?
End of Module