GDCI Webinar Series
Measuring People-Friendly Streets
Global Network

Experts from:

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70+ cities
Endorsed by:

35+ Cities and 25+ Organizations

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As of May 2017
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Bogotá, Colombia
Addis Ababa, Ethiopia
Fortaleza, Brasil
Mumbai, India

Global Designing Cities Initiative
Policy and Design Guidance

Capacity Building and Community Engagement

Interventions and Transformations

Metric Collection and Evaluation
Why is the evaluation important?
• Make the case for the project: build community and political support

• Build evidence to advocate for innovative projects

• Show what is possible to designers and engineers and inform future design

• Communicate achievements and progress

• Document a project: Because people forget how it was before!
If you can’t measure it, you can’t manage it.

Michael Bloomberg
SHIFT HOW WE MEASURE SUCCESS
SHIFT HOW WE MEASURE SUCCESS

Access/Mobility (Multi-modal)

Public Health + Safety

Economic Sustainability

Environmental Quality

Livability/ Quality of Life

Equity
...to change the measure of success for safer streets we need to change...
WHAT we measure
WHO we measure
HOW we measure
WHEN we measure
WHAT TO MEASURE?
### Physical & Operational Changes
- Length and width of new and improved sidewalk
- Added length of bike lanes
- Added length of dedicated transit facilities
- Improved signal timing for pedestrian crossing length
- Number of additional trees planted

### Changes in Use & Activity

### Resulting Impact
What to measure?

Physical & Operational Changes

- Length and width of new and improved sidewalk
- Added length of cycle facilities
- Added length of dedicated transit facilities
- Improved signal timing for pedestrian crossing length
- Number of additional trees planted

Changes in Use & Activity

- Shift in mode share and user counts
- Changes in travel times
- New or changed non-mobility activities
- User preferences
- Change in average vehicular speeds

Resulting Impact
What to measure?

**Physical & Operational Changes**
- Length and width of new and improved sidewalk
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**Changes in Use & Activity**
- Shift in mode share and user counts
- New or changed non-mobility activities
- User preferences
- Change in average vehicular speeds

**Resulting Impact**
- Road safety (KSI/ fatalities and injuries by location)
- Air Quality
- Total CO2 from Transportation
- Respiratory and chronic disease rates
- Water volumes diverted from city system.
WHO

TO MEASURE?
Measuring the Street – From Measuring one user
Measuring the Street – Measure All Users
HOW TO MEASURE?
1. **Clarify priorities**
   What are you trying to demonstrate?

2. **Identify the metrics**
   That tell the story and make the case

3. **Using limited resources wisely**
   Measure what matters most

4. **Define a methodology**
   Ensure ease of continuity and flexibility
1. Clarify priorities
   What are you trying to demonstrate?

2. **Identify the metrics**
   That tell the story and make the case

3. Using limited resources wisely
   Measure what matters most

4. **Define a methodology**
   Ensure ease of continuity and flexibility
Story: inequitable allocation of space
Story: Lack of safe infrastructure for children
1. **Clarify priorities**
   What are you trying to demonstrate?

2. **Identify the metrics**
   That tell the story and make the case.

3. **Using limited resources wisely**
   Measure what matters most

4. **Define a methodology**
   Ensure ease of continuity and flexibility
Using Limited Resources Wisely

Pedestrian desire lines

Vehicular speed

Pedestrian counts

What matters most in which location?
1. Clarify priorities
   What are you trying to demonstrate?

2. Identify the metrics
   That tell the story and make the case

3. Using limited resources wisely
   Measure what matters most

4. Define a methodology
   Ensure consistency and flexibility
Define a methodology

- Quantitative
- Qualitative
- Inclusive
- Contextual

GDCI metrics form (available soon!)
Quantitative (counts)
Qualitative (surveys)
Contextual
WHEN
TO MEASURE?
When to measure?

Before metrics
During (pop-up)

After (weeks)
After (months)
After (years)
When to measure?

- Before metrics
- During (pop-up)
- After (weeks)
- After (months)
- After (years)
Fortaleza

Space allocation

**BEFORE**

- 21% for people
- 79% for cars

**AFTER**

- 73% for people
- 27% for cars
Fortaleza

User satisfaction and experience

94%
Approve of the intervention

97%
Believe Pedestrians should be prioritized over motorized traffic
### 3.2 Summary Chart

<table>
<thead>
<tr>
<th>What to Measure</th>
<th>When to Measure</th>
<th>Why It’s Important</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Measuring Physical and Operational Changes</strong></td>
<td>The physical and operational changes resulting from a specific project.</td>
<td>- For benchmarking against prior conditions or control areas. - To build an inventory and database of the city’s infrastructure. - To demonstrate and communicate short-term advancements and progress to stakeholders. - To measure past tenured quality of conditions.</td>
</tr>
<tr>
<td><strong>Before</strong></td>
<td>Measure and document existing site conditions.</td>
<td>Implementation</td>
</tr>
<tr>
<td><strong>After</strong></td>
<td>Measure immediately after construction in completion.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>How to Measure</th>
<th>Where to Measure</th>
<th>Example Metrics</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Before-and-after photos and videos</strong></td>
<td>Project site and immediate surrounding areas.</td>
<td>Length and width of new and improved sidewalks.</td>
</tr>
<tr>
<td><strong>Before-and-after plans and sections</strong></td>
<td>Maintain consistency with locations measured.</td>
<td>Adding length of cycle tracks.</td>
</tr>
<tr>
<td><strong>Qualitative surveys of infrastructure quality</strong></td>
<td></td>
<td>Adding length of dedicated travel lanes.</td>
</tr>
<tr>
<td><strong>Before-and-after photos and videos</strong></td>
<td>Project area, connecting networks, and surrounding neighborhoods.</td>
<td>Improved signal timing for pedestrian crossing length.</td>
</tr>
<tr>
<td><strong>On-site counts and observations</strong></td>
<td>Maintain consistency with locations measured.</td>
<td>Number of additional trees planted.</td>
</tr>
<tr>
<td><strong>Quantitative analysis</strong></td>
<td></td>
<td>Percentage of residents happy with specific facilities or conditions.</td>
</tr>
<tr>
<td><strong>Quantitative analysis</strong></td>
<td>Project, neighborhood, network, and citywide scale.</td>
<td>Improved safety/livability and trip times by location.</td>
</tr>
<tr>
<td><strong>Comparative analysis of census results</strong></td>
<td>Choose scales relevant to specific metrics.</td>
<td>Respiratory and chronic disease rates.</td>
</tr>
<tr>
<td><strong>Environmental analysis</strong></td>
<td></td>
<td>Air quality.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Total CO2 from transportation.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Water volume charts from city systems.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Property values.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Percentage of appropriation with access to public transportation.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Perceived quality of life.</td>
</tr>
</tbody>
</table>
### Physical and Operational Changes

These are key help documents and evaluate the physical changes at street conditions, and note the operational shifts, in order to understand the impact of a particular project.

<table>
<thead>
<tr>
<th>Category</th>
<th>Metric</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Pedestrian Facilities</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Width</td>
<td>Width of sidewalk on street surface</td>
<td>Measure bridle, clear paths, and sidewalks for bike lanes. Measure all mid-block sidewalks when dimensions vary.</td>
</tr>
<tr>
<td>Other Pedestrian Facilities</td>
<td>Number of crossings, length, and frequency of pedestrian crossings within the project area.</td>
<td></td>
</tr>
<tr>
<td>Urban Safety*</td>
<td>Number of pedestrian crashes, crashes, and injuries</td>
<td></td>
</tr>
<tr>
<td>Universal Accessibility*</td>
<td>Percentage of length of sidewalk surface that is accessible in good condition.</td>
<td></td>
</tr>
<tr>
<td><strong>Motorized Vehicles Facilities</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Facilities*</td>
<td>Number and length of travel lanes.</td>
<td></td>
</tr>
<tr>
<td>Parking*</td>
<td>Number of parking spaces.</td>
<td></td>
</tr>
<tr>
<td>Curves*</td>
<td>Number of facilities and enclosure for non-motorized vehicles for bikes.</td>
<td></td>
</tr>
<tr>
<td>Curb Cut*</td>
<td>Number of vehicle cuts and number of times per 1000 feet of sidewalk.</td>
<td></td>
</tr>
<tr>
<td>Enforcement</td>
<td>Number of traffic enforcement and traffic control equipment, photos, radar, irritate pipes, average speed cameras.</td>
<td></td>
</tr>
<tr>
<td>Quality Lane, Headlight</td>
<td>Percentage of length of road that has lighted conditions.</td>
<td></td>
</tr>
</tbody>
</table>

*Variables, when relevant, are the location and spacing of these facilities for each of these categories.

### Transit Facilities

<table>
<thead>
<tr>
<th>Category</th>
<th>Metric</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Length of route</td>
<td>Length of route by bus</td>
<td></td>
</tr>
<tr>
<td>Number of transfers In transit facilities</td>
<td>Number of transfers with transit facilities and percentage.</td>
<td></td>
</tr>
<tr>
<td>Quality of service</td>
<td>Percentage or length of trip to surface in good condition.</td>
<td></td>
</tr>
<tr>
<td>Accessible</td>
<td>Number of accessible stops.</td>
<td></td>
</tr>
</tbody>
</table>

*Variables, when relevant, are the location and spacing of these facilities for each of these categories.

Appendix B | Metrics Charts

Use the following tables to identify relevant metrics to evaluate your project and goals. These tables are a supplement to chapter 3. Measuring and Evaluating Streets and should be incorporated in conjunction with 3. Measure the changes before and after the project, or over time, to generate data indicating a change in physical facilities, operations, or usage. Make use of the notes to document additional information around a metric for collecting larger interrelated data sets for complete evaluation of a project. Note location and the efficacy of facilities. Count users across demographic categories of age, gender, income, ethnicity, etc.
THANK YOU!

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