Highways to Main Streets through a Community Health Lens

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Street scene rendering above from Niagara Region Complete Streets Plan. Courtesy Urban Strategies, Inc.
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Project Aims

1. Identify and catalog tools and metrics that capture the multiple ways through which street design and uses can affect community health and well-being.

2. Assess opportunities for improving community health and well-being through conversion of surface-level highway segments to community main streets.

3. Demonstrate ways of integrating expert-based “top-down” assessments with “bottom-up” community engagement to more fully understand opportunities and potential obstacles to changing streets and adjacent land-uses to better benefit community health and well-being.
Common Themes

1. Transportation systems and land-use have substantial effects on community health (both positive and negative)

2. Both expert-based knowledge and “local knowledge” offer important insights into what works, what doesn’t and what can be done to improve current conditions.

3. A street is more than just a street.
Project Impetus

1. An increasing recognition in public health that improving the public’s health requires joint efforts of many sectors.

2. Environmental advocates and community and transportation planners recognizing impacts of auto-centric planning, including metrics such as automobile level-of-service. (OPR Guidelines implementing SB 743, Steinberg, 2013)

3. Public wanting more holistic and efficient approach to planning.
Continuum of Corridor Improvement

**Conventional Surface Street Highway**

- **Road Design:** Auto-centric, focused on maximizing vehicle flow. “Bigger is better”
- **Walk/bike infrastructure:** None
- **Landscaping:** None
- **Land-use/Community:** Roadway divides community. Emphasis on maximizing traffic flow through the community compromises other locally beneficial land-uses.

**“Community Main Street”**

- **Roadway configuration rationalized for consistency with traffic volume. Some multi-modal improvements.** Safety features and road diets facilitate safe multi-modal travel.
- **Walk/bike infrastructure:** Wider sidewalks, bikeways. Signals, fewer lanes and medians facilitate safe street crossing.
- **Landscaping:** Landscaping of medians and parkways adds visual appeal and permeable surface.
- **Land-use/Community:** Economically vibrant retail mixed with affordable housing serves community needs, reduces vehicle trips, provides walkable/bikeable destinations, contributes to community cohesion and well-being.

Buford Highway in DeKalb County, GA. Courtesy Michael Gamble, Georgia Tech Univ.

Rosemead Blvd in Temple City, CA. Courtesy LADOTbikeblog


UCLA Center for Health Advancement/UCLA Lewis Center
Community Main Streets
Domains and indicators linked to health

**Economic Indicators**
- Retail establishments
- Employment
- Neighborhood poverty

**Land-use Indicators**
- Land-use mix
- Ratio of parking area-to-structure
- Tree cover
- Public spaces

**Public Health Indicators**
- Physical activity
- Social cohesion
- Noise exposure

**Environmental Indicators**
- Air quality
- Noise levels
- Run-off control

**Transportation Indicators**
- Traffic speeds
- Transit stops
- Separated bike lanes
- Sidewalk width

**Social Indicators**
- Social interaction
- Crime
- Perceived safety

**Economic Activity**

**Public Health**

**Environment**

**Land-Use**

**Social Realm**

**Public Transportation**

**Community Main Streets**

UCLA Center for Health Advancement/UCLA Lewis Center
Tools and Indicators

Compendium of 30 tools to assess health-related characteristics of streets + cross-indexing of indicators

Streets ➔ Street-Adjacent ➔ Neighborhood
Example of Highway-to-Main Street Conversion
Rosemead (SR 19) x Broadway (Temple City, CA)
Example of Arterial-to-Main Street Conversion

Firestone & Downey Blvds (Downey, CA)
<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td>A.</td>
<td>(AUST) Australian Pedestrian Level of Service</td>
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<tr>
<td>B.</td>
<td>Bogota Bike Account</td>
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<tr>
<td>C.</td>
<td>Charlotte Bicycle and Pedestrian Level of Service</td>
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<tr>
<td>D.</td>
<td>Copenhagen Bike Account</td>
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<tr>
<td>E.</td>
<td>Washington State Department of Transportation Community Design Selection Criteria</td>
</tr>
<tr>
<td>F.</td>
<td>Maine Department of Transportation Exposure Index</td>
</tr>
<tr>
<td>G.</td>
<td>(EW-U) Emission-Weighted Traffic Volume</td>
</tr>
<tr>
<td>H.</td>
<td>Florida Bicycle Level of Service for Arterials Model</td>
</tr>
<tr>
<td>I.</td>
<td>(ITIM) Integrated Transport and Health Impact Modelling Tool</td>
</tr>
<tr>
<td>J.</td>
<td>(MAPS Mini) Microscale Audit of Pedestrian Streetscapes Mini Version</td>
</tr>
<tr>
<td>K.</td>
<td>(MMLOS) National Cooperative Highway Research Program Report 616 Multimodal Level of Service Analysis for Urban Streets</td>
</tr>
<tr>
<td>L.</td>
<td>Street-Specific Traffic Volume</td>
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<tr>
<td>M.</td>
<td>(MOBILE) EPA Mobile Source Emission Factor Model</td>
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<tr>
<td>N.</td>
<td>Measuring Mode Shifts</td>
</tr>
<tr>
<td>O.</td>
<td>New York City Department of Transportation Bike Lane Retrofit Analysis</td>
</tr>
<tr>
<td>P.</td>
<td>(MOEs) Maine DOT Measures of Effectiveness</td>
</tr>
<tr>
<td>Q.</td>
<td>(PEDS) Pedestrian Environmental Data Scan</td>
</tr>
<tr>
<td>R.</td>
<td>(PERS) Pedestrian Environment Review Software</td>
</tr>
<tr>
<td>S.</td>
<td>Retail Sales &amp; Economic Vitality</td>
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<tr>
<td>T.</td>
<td>(BEQI) San Francisco Department of Public Health Bicycle Environmental Quality Index</td>
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<tr>
<td>U.</td>
<td>San Francisco Department of Public Health Indicator Project</td>
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<tr>
<td>V.</td>
<td>San Francisco Department of Public Health Neighborhood Completeness Indicator</td>
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<tr>
<td>W.</td>
<td>(PEQI) San Francisco Department of Public Health Pedestrian Environmental Quality Index</td>
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<tr>
<td>X.</td>
<td>Ultrafine Particle Analysis</td>
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<tr>
<td>Y.</td>
<td>Active Living Research Urban Design Quality Assessment</td>
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<td>Z.</td>
<td>Walkability Index</td>
</tr>
<tr>
<td>AA.</td>
<td>Path Walkability to Transit Variable Model</td>
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# Using Indicators: Report Card

**Street Segment Report Card:** Lakewood Blvd (CA-19), Bellflower, CA (Current Conditions)

<table>
<thead>
<tr>
<th>DOMAIN</th>
<th>INDICATORS</th>
<th>GOAL(S)</th>
<th>STRENGTHS</th>
<th>WEAKNESSES</th>
<th>COMMUNITY PERCEPTIONS</th>
<th>RATING</th>
</tr>
</thead>
<tbody>
<tr>
<td>Motor Vehicle</td>
<td>Lanes, Volume (auto + truck), Speed, LOS</td>
<td>Traffic flow, Traffic safety</td>
<td>Generally unimpeded flow, Minimal congestion</td>
<td></td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>Transit</td>
<td>Bus stops/mile, Bus frequency, Transit intersections</td>
<td>Connectivity</td>
<td></td>
<td></td>
<td></td>
<td>✓</td>
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<tr>
<td>Walk</td>
<td>Sidewalk width, Signaled crosswalks/mile, Ped-LOS, Strip-mall parking</td>
<td>Safety</td>
<td>Narrow sidewalks, Long blocks w/o mid-block crossing</td>
<td></td>
<td></td>
<td>NI</td>
</tr>
<tr>
<td>Bike</td>
<td>Separated bike lane, Protected bike lane, Bike lane continuity</td>
<td>Safety, Connectivity</td>
<td>No bike lanes</td>
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<td>NI</td>
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<td>Environment</td>
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<td>Economic Activity</td>
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<td>Land-Use</td>
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Using Indicators: Community Engagement

1. Identify problem areas for assessment
2. Put forth the community’s vision for its future
3. Identify steps towards realizing that future
4. Prioritize indicators
5. Reflect, react to and weigh objective ratings
Candidate Sites: Unrelinquished surface street state highways (L.A. County)
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Case-Study Site: Unrelinquished CA-19 (Bellflower & Paramount, CA)
Case-Study Site: CA-19 (Bellflower & Paramount, CA)

Traffic counts, bus stops, tree cover
Case-Study Site: CA-19 (Bellflower & Paramount, CA)

Traffic Safety

Draft Map: Transportation Indicators (Safety)

Pedestrian Collisions (2009-2013) - 95
- 1 (Fatal) - 4
- 2 (Severe Injury) - 18
- 3 (Visible Injury) - 29
- 4 (Complaint of Pain) - 44

Bicycle Collisions (2009-2013) - 89
- 2 (Severe Injury) - 4
- 3 (Visible Injury) - 39
- 4 (Complaint of Pain) - 46

All other collisions (2009-2013) - 880
- 1 (Fatal) - 7
- 2 (Severe Injury) - 31
- 3 (Visible Injury) - 186
- 4 (Complaint of Pain) - 656
Case-Study Site: CA-19 (Bellflower & Paramount, CA)

Stakeholder Engagement

- City agencies
- Community groups
- Elected Officials
- Local Businesses

How this street can support your vision for a healthy community

Feedback on objective measures of existing data

Collecting data important to your group

Presenting data to city decision-makers
Toolbox Availability

Expected availability July 2016

- Tools and indicators
- Data sources
- Case-study maps and report card

http://www.ph.ucla.edu/hs/health-impact/methodology.htm
(new, simpler URL TBA)