Blueprint for Active Living Communities:
Innovative Solutions

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Outline of Talk

• Do built environments matter?
• Progress in research and policy
  – Designing walkable communities
  – Designing streetscapes for people: details matter
  – Re-engineering active commuting to school
  – Designing active parks
• Disparities in activity-friendly environments
• Co-benefits of activity-friendly communities
• Resources
Land Use and Transport Decisions Are Significant and Affect Health
“Walkable”: Mixed use, connected, dense
Not “walkable”

- street connectivity
- mixed land use
Evidence of the link between community design and health

The Neighborhood Quality of Life Study of Adults (NQLS) Seattle, WA and Baltimore, MD regions

Sallis et al. Social Science & Medicine, 2009
Adults’ Objective Physical Activity Min/day in Walkability-by-Income Quadrants

Walkability: $p = .0002$
Income: $p = .36$
Walkability X Income: $p = .57$

* Adjusted for neighborhood clustering, gender, age, education, ethnicity, # motor vehicles/adult in household, site, marital status, number of people in household, and length of time at current address.
Estimated Public Health Impact of Walkability

• 50 minutes per week = 2+ miles per week
• 2 miles per week = 100 miles per year
• 100 miles per year X 100 calories per mile = 10,000 kcal per year
• 10,000 kcal per year = 2.9 pounds/1.3 kg
• More than the average adult weight gain per year in the U.S.
Adults’ Percent Overweight or Obese (BMI > 25) in Walkability-by-Income Quadrants

Walkability: $p = 0.007$
Income: $p = 0.081$
Walkability X Income: $p = 0.26$

* Adjusted for neighborhood clustering, gender, age, education, ethnicity, # motor vehicles/adult in household, site, marital status, number of people in household, and length of time at current address.
While FBCs are 34 years old, 86% have been adopted since 2003.

344 form-based codes were adopted from 1981 to now.

Source: Codes Study, Hazel Borys and Emily Talen, as of January 2015, Creative Commons NonCommercial ShareAlike License

http://www.placemakers.com/how-we-teach/codes-study/
Activity-Friendly Streetscapes
Not designed for active travel
Getting the Details Right:
Micro-Scale Features
MAPS Mini: Assessing the Details

• **15-item** MAPS-Mini was designed for practitioners and advocates
  – Reduced from 120 items

• Items were selected based on
  – Correlations with physical activity
  – Guidelines and recommendations
  – Modifiability

• Evaluated for validity in 3677 children, teens, adults, older adults
  – 3 regions
<table>
<thead>
<tr>
<th>MAPS Mini Score</th>
<th>Children</th>
<th>Adolescents</th>
<th>Adults</th>
<th>Seniors</th>
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<tbody>
<tr>
<td>Commercial Segments</td>
<td></td>
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<td>N/A</td>
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<td>Public Parks</td>
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<td>Transit Stops</td>
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<td>Street Lights</td>
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<td>Benches</td>
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<tr>
<td>Building Maintenance</td>
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<tr>
<td>Absence of Graffiti</td>
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<tr>
<td>Sidewalk</td>
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<td>Buffer</td>
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<tr>
<td>Tree, Awning Coverage</td>
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<td>Absence of Trip Hazards</td>
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<td>Marked Crosswalk</td>
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<td>Curb Cuts</td>
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<td>Crossing Signal</td>
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<tr>
<td>GRAND SCORE</td>
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<td>GRAND SCORE (for Active Transport)</td>
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</table>
MAPS-Mini Grand Score & Active Transport: Adults

Grand Score (% of total possible)

222% difference
Policy Bright Spot:
Complete Street Adoptions
(Smart Growth America)

Figure A: Number of Complete Streets Policies by Year (as of 2013)
Active Transportation by Youth has Decreased
Mode for Trips to School – National Personal Transportation Survey

Walking and Biking to School Reduces Odds of Being Overweight

A Danish study found that adolescents (N=3847) who walked or cycled to school were less likely to be overweight than those who rode to school in motor vehicles (passive transport).

![Graph showing odds ratios for passive, walking, and cycling transport modes to school.]

<table>
<thead>
<tr>
<th>Mode</th>
<th>Odds Ratio</th>
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<tbody>
<tr>
<td>Passive</td>
<td>1</td>
</tr>
<tr>
<td>Walking</td>
<td>0.47</td>
</tr>
<tr>
<td>Cycling</td>
<td>0.63</td>
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</tbody>
</table>

Step 1: Site schools where the students are
Step 2: Create Safe Routes to School
Multistate Evaluation of Safe Routes to School Programs

Orion Stewart, MUP; Anne Vernez Moudon, Dr Es Sc; Charlotte Claybrooke, MS

American Journal of Health Promotion

January/February 2014, Vol. 28, No. 3 Supplement  S89
% of SRTS Projects, By Type

- Sidewalk: 35%
- Crosswalk: 25%
- Signage: 20%
- ADA improvement: 15%
- Bicycle rack: 10%
- Traffic calming: 5%
- Shared use path: 2%
- Bicycle lane: 2%
- Ped bridge: 1%

Moving Forward: WASH DOT.
http://www.wsdot.wa.gov/research/reports/fullreports/743.3.pdf
Walking & Cycling to School Pre & Post SRTS Projects in 5 States

Moving Forward: WASH DOT.
http://www.wsdot.wa.gov/research/reports/fullreports/743.3.pdf
Policy Bright Spot? Safe Routes to School

• 2005 SAFETEA-LU Federal transport funding had funding line item for SRTS for the first time
  – From 2005-2012, over $1.2B had been allocated
  – 14,000 schools received funding
  – Many states did not use their allocated funds

• 2012 MAP-21 Federal transport funding deleted the SRTS line item and cut non-highway funds by 30%

• What will happen in 2015????
People with access to parks & recreation Facilities are more likely to be active
A national study of US adolescents (N=20,745)* found a greater number of physical activity facilities is directly related to physical activity and inversely related to risk of overweight.

*using Add Health data

Gordon-Larsen et al, Pediatrics, 2006
http://www.pediatrics.org/cgi/content/full/117/2/417
People are Most Active on Tracks and Walking Paths

D. Cohen. RAND
Policy Bright Spot:
Rails to Trails Conservancy

- This group lobbied to use US transportation funds to convert unused rails to trails
- 1991 ISTEA Federal transport law allowed these conversions
- Rail-trails have increased from 250 miles to 21,000+ miles
Before and after renovation of Denver schoolyards in low-income neighborhoods. Youth were more active AFTER.
Income Disparities in Environments
Income Disparities in Street Features that Encourage Walking

Based on observations of 10,777 street segments in 154 communities across the US
Based on observations of 10,777 street segments in 154 communities across the US.
Disparities in Recreational Facilities
(% of census tracts without facilities, by race/ethnicity)

If the best solutions solve multiple problems, then building activity-friendly communities is an exceptional solution.
## Co-Benefits of Designing Activity-Friendly Environments

<table>
<thead>
<tr>
<th></th>
<th>Physical Health</th>
<th>Mental Health</th>
<th>Social Benefits</th>
<th>Environmental Sustainability</th>
<th>Safety / Injury Prevention</th>
<th>Economic Benefits</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Open spaces / Parks / Trails</strong></td>
<td>57.5+ 3.5(0)</td>
<td>93+</td>
<td>42.5+ 4(0)</td>
<td>20+ 4(0)</td>
<td>23+</td>
<td>19+ 4(0)</td>
</tr>
<tr>
<td><strong>Urban Design</strong></td>
<td>105+ 54(0)</td>
<td>31+ 4-</td>
<td>80.5+ 29(0)</td>
<td>265.5+ 45.5(0)</td>
<td>13.5(0)</td>
<td>69+ 10.5(0)</td>
</tr>
<tr>
<td><strong>Transport Systems</strong></td>
<td>7+ 3.5-</td>
<td>3+ 3.5(0)</td>
<td>23+</td>
<td>70+ 21(0)</td>
<td>67+ 14(0)</td>
<td>56+ 3.5(0)</td>
</tr>
<tr>
<td><strong>Schools</strong></td>
<td>19.5+ 3.5(0)</td>
<td>21+</td>
<td>11+</td>
<td>21.5+</td>
<td>4+ 3-</td>
<td>15+</td>
</tr>
<tr>
<td><strong>Workplaces / Buildings</strong></td>
<td>55+ 3.5(0)</td>
<td>18.5+ 4-</td>
<td>20.5+</td>
<td></td>
<td></td>
<td>48+ 3.5(0)</td>
</tr>
</tbody>
</table>

Resources at
www.activelivingresearch.org