Strategies for Sustainable Communities
Public Health and TOD

Erin Christensen, AIA, LEED-AP
Senior Associate, Mithun
“Holistic Sustainability” for a Livable Neighborhood
Factors Responsible for Population Health

Social, Economic & Political Factors

Living & Working Conditions

Public Services & Infrastructure

Individual Behaviors

Individual Factors
Age, Gender, Genetics

Health

Community Health
Access to Transit

- Transit Use
- Reduced Car Ownership & Vehicle Miles
- Increased Walking & Biking

Access to Recreation

- Increased Density & Access to Recreation
- Increase in People Who Exercise 3x/week by 25%

Density

- Doubling Neighborhood Density
- 30% Reduction in Vehicle Miles Traveled
- Reduced Motor Vehicle Accidents

Improved Cardio & Respiratory Health

Decrease in Obesity, Diabetes, Hypertension & Cancer

Holtzclaw, 1994

Ewing, Frank, Kreutzer, 2006

Built Environment and Health Relationship Examples
La Alma/ Lincoln Park station area mixed-income redevelopment

10th & Osage/ South Lincoln Redevelopment
La Alma/ Lincoln Park station area mixed-income redevelopment
Design Solutions
Integrating health into the Masterplan
Development Targets as proxies for health
Denver HDMT Framework
10th & Osage/ South Lincoln TOD
Denver Housing Authority, Residents, La Alma/ Lincoln Park Neighbors, Stakeholders, City of Denver
Pedestrian and Bike Conditions

Health rationale
Integrated Street Design: Pedestrian and Bike Safety
Traffic Calming at Mariposa Street
Sustainable and Safe Transportation
Safe, quality walking and biking environments

ST.3 Create safe, quality environments for walking and biking
1. New bike lanes
2. Improved intersections including curb extensions, paving, etc.
3. Narrowed lanes at Mariposa Street and traffic calming measures
Sustainable and Safe Transportation
Affordable, accessible public transportation
Denver B-Cycle: Bike Sharing Program
Transportation and Health partnerships
<table>
<thead>
<tr>
<th>Performance Metric</th>
<th>Scale</th>
<th>Key Measures</th>
<th>Target Score Checklist</th>
<th>Level of Opportunity</th>
<th>Level of Effort</th>
</tr>
</thead>
<tbody>
<tr>
<td>Energy Star</td>
<td></td>
<td>• Building energy use</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><a href="http://www.energystar.gov">www.energystar.gov</a></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Architecture 2030</td>
<td></td>
<td>• Net zero building energy use</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><a href="http://www.architecture2030.org">www.architecture2030.org</a></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LEED ND</td>
<td></td>
<td>• Neighborhood form</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><a href="http://www.usgbc.com">www.usgbc.com</a></td>
<td></td>
<td>• Location + linkages</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Green Technology</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Green Communities</td>
<td></td>
<td>• Building energy use</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><a href="http://www.greencommunitiesonline.org">www.greencommunitiesonline.org</a></td>
<td></td>
<td>• Public health</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Healthy Development Measurement Tool</td>
<td></td>
<td>• Neighborhood form</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><a href="http://www.thehdmt.org">www.thehdmt.org</a></td>
<td></td>
<td>• Walkability + public realm</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Healthy economy</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Social sustainability + public health</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sustainable Sites Initiative</td>
<td></td>
<td>• Sustainable land design + construction</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><a href="http://www.sustainablesites.org">www.sustainablesites.org</a></td>
<td></td>
<td>• Walkability + biophilia</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>One Planet Living</td>
<td></td>
<td>• Net zero carbon + waste</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><a href="http://www.oneplanetliving.org">www.oneplanetliving.org</a></td>
<td></td>
<td>• Sustainable transport, natural systems,</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>materials + food</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Social sustainability + health</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Carbon Footprint</td>
<td></td>
<td>• Embodied GHG footprint</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Vehicle miles traveled</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Building Operations</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Food production + distribution</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Leveraging Partnerships
Outreach and Public Process through Health Impact Assessment

25 new partners through HIA process
Community Impact
Acknowledgements

- 10th & Osage SAP Resident Advisory Cmte
- South Lincoln Steering Committee
- Health Impact Advisory Team:
  - City of Denver, Councilwoman Judy Montero
  - City of Denver, Community Planning and Development
  - City of Denver, Department of Environmental Health
  - Colorado Health Department
  - Colorado Health Foundation
  - Denver Public Health at Denver Health
  - Enterprise Community Partners
  - EnviroHealth, Public Health Consulting
  - Kaiser Permanente
  - Livewell Communities
  - Nelson Nygaard, Transportation Consultants
  - Metropolitan State College of Denver, Family Literacy and Chicana and Chicano Studies
  - Partnerships for Healthy Communities
  - Perry Rose, Real Estate Development
  - Reconnecting America
  - San Francisco Department of Public Health
  - Tri-county Health Department, CO, Environmental Health
  - University of Colorado, Active Communities/Transportation
  - University of Colorado, Health and Behavioral Sciences
  - Urban Ventures, Real Estate Development