Pedestrian/Bicycle Connection to Livable Communities

Moderator: Ellen Vanderslice (Portland, OR)
Noah Budnick (New York, NY)
Phil Goff (Boston, MA)
Wendy Landman (Boston, MA)

October 31, 2009
Moderator: Ellen Vanderslice
Project Manager, Bureau of Transportation
City of Portland, OR
Portland’s payoff from investing in smart transportation

Ellen Vanderslice
Portland Bureau of Transportation
2. A Walkable City
Creative corner entrances, wide sidewalks, awnings and planters make downtown an interesting, comfortable place to walk. Rain or shine, downtown sidewalks are filled with people — strolling, window-shopping or enjoying the view from an outdoor cafe table.

Nordstrom is recognized as a sponsor of the 1998 Downtown Plan Celebration.

Walk south on Broadway until you reach the Performing Arts Center to find the next marker.
Livable, walkable Portland
Superb public places
Revitalized Portland Mall
Seamlessly integrated transport
Seamlessly integrated transport
Seamlessly integrated transport
Seamlessly integrated transport
New streetcar neighborhoods
Transit-oriented development in the Portland region

Orenco Station, Hillsboro, Oregon
The Green Transportation Dividend

$29 Billion

Reduction in vehicle miles traveled

Thriving Cities

years
1  2  3
2003 Household Expenditures on Transportation by Metropolitan Area

% of household expenditures on transportation

Source: Center for Neighborhood Technology and Surface Transportation Policy Project, “Driven to Spend: Pumping Dollars out of Our Households and Communities,” as reported in Peak Oil Task Force Report, City of Portland, March 2007
The safety dividend

Accident fatalities in 2008 lowest in Portland history
City officials believe low numbers due to traffic-taming actions

BY PETER KORN
The Portland Tribune, Apr 2, 2009, Updated Apr 7, 2009 (1 Reader comment)

Mark Lear was surprised.

Not at the sheer numbers — Portland’s Bureau of Transportation safety program manager knew that automobile crash rates had been steadily declining in Portland for at least a decade. But when transportation officials were able to use police records to compare current crash rates with rates going all the way back to 1925, they found that Portland crash rates had never been this low.

“We’re actually safer than we’ve ever been,” Lear said.
CDC quote on Portland’s 2008 safety record:

“Portland’s decline in traffic fatalities is a public health triumph. Portland demonstrates that a transportation system emphasizing walking, bicycling and transit can achieve many public health goals - physical activity, clean air, and safety. Congratulations to the leaders and people of Portland.”

Dr. Howard Frumkin, Centers for Disease Control (CDC)
Building Livable Communities with Transit

New bikeway designs
Thank you!
Noah Budnick
Senior Policy Advisor
Transportation Alternatives, New York
Building Livable Communities with Transit

Local Bicycle and Pedestrian Movement in North America

- total FTE
- # of organizations
- individual member / thousands
- combined budget of organizations / millions
automobile trip length, all five boroughs

- 1 mile or less: 28%
- 1 to 5 miles: 22%
- 5 miles or more: 50%
Last year, this was all road!

Madison Square Pedestrian Plaza, Manhattan
Traffic’s Human Toll

Relationships between Residents
Astoria, Queens & Brooklyn Heights, Brooklyn

Light-traffic Streets:
18 friends & acquaintances per person

Medium-traffic Streets:
11 friends & acquaintances per person

Heavy-traffic Streets:
8 friends & acquaintances per person
Building Livable Communities with Transit

42nd Street, Midtown Manhattan, 50 people
42nd Street, Midtown Manhattan, 50 people
Building Livable Communities with Transit

Bicycling is Beautiful

Walkers Are the Oxygen of the City
Building Livable Communities with Transit

42nd Street, Midtown Manhattan, 50 people
34th Street, Manhattan
An old kind of party, 
a new kind of street!

BLOCK PARTY

NYC 2008
“Block party,” New York City
Community-based traffic calming
PARK(ING) DAY NYC
Park(ing) Day NYC

Before
Park(ing) Day NYC

After
Park(ing) Day L.A.
Healthy Saturdays, San Francisco
Sunday Parkways, Chicago
Building Livable Communities with Transit

Summer Streets, Park Avenue, Manhattan
Building Livable Communities with Transit
Youth for Car-Free Parks, Brooklyn
Bike Share, Montreal
Bike Share, Minneapolis
Building Livable Communities with Transit

Bike Share, Washington DC
8th Avenue, Manhattan, 2003
8th Avenue buffered bike lane, Manhattan, 2006
Building Livable Communities with Transit

8th Avenue cycle-track, Manhattan, 2009
Park(ing) Day
Building Livable Communities with Transit

Times Square Pedestrian Plaza
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Building Transit Ridership With Bike Network Planning

Phil Goff LEED Senior Planner

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Portland OR, Berkeley, Los Angeles, Las Vegas, Madison, Arlington VA, Charlotte NC, Saratoga Springs NY, BOSTON
Bikes Need Transit

- Extends the reach of a 20-minute bike ride
- When the weather turns sour
- “AAA for bikes”: flat tires/mechanical problems
- Helps to overcome barriers
- Jump-starts for recreational riding
Transit Need Bikes

- Reduces need to provide expensive park and ride lots and garages
- Increased ridership:
  - Provides opportunities for multi-modal reverse commuting into suburban job centers with long walks
  - Weekend recreational ridership
  - Expansion of $\frac{1}{4}$ - $\frac{1}{2}$ mile pedestrian travelshed
Building Livable Communities with Transit

Pedestrian Travel Shed

Arlington

Somerville

Belmont

Cambridge

Alewife

Davis Sq.
Ridership impact from Bicycling

Alewive Station:
- 250-300 bikes per day (during nice weather)
- 10,000 boardings
Ridership impact from Bicycling

East Falls Church (VA) Station:
- 150-200 bikes per day (during nice weather)
Ridership impact from Bicycling

N. Berkeley BART Station:
- 200-250 bikes per day (the weather is always nice!)
Ridership impact from Bicycling
Ridership impact from Bicycling

Fundamentals of Bicycle Boulevard Planning & Design

Lindsay Walker
Mike Tresidder
Mia Birk
Contexts without a Network

• LA’s Orange Line BRT and Expo Line LRT built as “Transit Parkways”
• Combination of bike lanes, sidewalks and multi-use trail
• Large quantity of bike racks and lockers at each station
Criteria for Success

- Multi-use path, bike lane or boulevard connectivity
- Covered bike parking (lots!)

State-of-the-art bike parking in Basel, Switzerland

Small bike cage

Bike Stations in Long Beach & Palo Alto, CA
Criteria for Success

- Multi-use path, bike lane or boulevard connectivity
- Covered bike parking (lots!)
- Presence of a significant barrier
- Transit station near the terminus

E. Falls Church Station, Arlington VA
Alewife Station, Cambridge
N. Berkeley BART Station
Criteria for Success

- Multi-use path, bike lane or boulevard connectivity
- Covered bike parking (lots!)
- Presence of a significant barrier
- Transit station near the terminus
- Bike-Share station
  (coming soon to Boston!)
Assessing Bike Parking Demand

BART model:  

- Current Home-Based Ridership  
  Max. score  
  10 points
- Current Ridership Rate  
  15 points
- Bicycle Mode Share in AM Peak  
  30 points
- 2000 Pop. within 1 Mile of Station  
  15 points
- Households with No Car within 1 Mile of Station  
  10 points
- Topography/Traffic/Barrier Factor  
  20 points
Improving Bicycle Access to Transit

ANALYSIS OF:

Barriers to Bicycling + Lack of Existing Facilities = Network Deficiency
Network Deficiency

Table 4.1
Bicycle Network Deficiency Model Inputs and Rankings

<table>
<thead>
<tr>
<th>Bicycling Detractors</th>
<th>Rank</th>
<th>Weight</th>
<th>Score</th>
</tr>
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<tbody>
<tr>
<td>Bicycle Crashes 2002-2007</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High (&gt; 8 over 5 years)</td>
<td>3</td>
<td>3</td>
<td>9</td>
</tr>
<tr>
<td>Medium (4-7 over 5 years)</td>
<td>2</td>
<td>3</td>
<td>6</td>
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<tr>
<td>Low (1-3 over 5 years)</td>
<td>1</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>No crashes</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Slopes</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&gt;15%</td>
<td>3</td>
<td>2</td>
<td>6</td>
</tr>
<tr>
<td>10.1-15%</td>
<td>2</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>5.1-10%</td>
<td>1</td>
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<tr>
<td>&lt; 5%</td>
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<tr>
<td>Posted Speed Limit (or Observed Speed)</td>
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<tr>
<td>&gt;45 mph</td>
<td>3</td>
<td>2</td>
<td>6</td>
</tr>
<tr>
<td>35-44 mph</td>
<td>2</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>30-34 mph</td>
<td>1</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Motor Vehicle Average Daily Trips (ADT)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&gt;45,000</td>
<td>3</td>
<td>2</td>
<td>6</td>
</tr>
<tr>
<td>35,000-45,000</td>
<td>2.5</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>25,000-34,999</td>
<td>2</td>
<td>2</td>
<td>4</td>
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<tr>
<td>15,000-24,999</td>
<td>1.5</td>
<td>2</td>
<td>3</td>
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<tr>
<td>10,000-14,999</td>
<td>1</td>
<td>2</td>
<td>2</td>
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<tr>
<td>5,000-9,999</td>
<td>0.5</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>&lt;5,000</td>
<td>0</td>
<td>0</td>
<td>0</td>
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<td>Freeway Ramps</td>
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<td>Presence of Bicycle Facilities</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Class I</td>
<td>8</td>
<td></td>
<td>-8</td>
</tr>
<tr>
<td>Class II</td>
<td>4</td>
<td></td>
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<tr>
<td>Class III</td>
<td>2</td>
<td></td>
<td>-2</td>
</tr>
</tbody>
</table>

Alta’s San Diego Bike Master Plan Model
Network Deficiency

- Lack of existing facilities mapped with transit stations and other attractors
- Helps prioritize facilities to boost bike ridership quickly
Building Livable Communities with Transit

If We Build It, They Will Come

Central Train Station, Amsterdam
Building Transit Ridership
With Bike Network Planning

Phil Goff LEED
Senior Planner

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Portland OR, Berkeley, Los Angeles, Las Vegas, Madison, Arlington VA, Charlotte NC, Saratoga Springs NY, BOSTON
Wendy Landman
Executive Director
WalkBoston
Why walking?

- Transportation generates ~ 30% of US greenhouse gas emissions
- 1 mile not driven = 1 lb of carbon forgone
- 25% of trips are shorter than 1 mile
- Every trip includes walking
- A good walking environment is crucial to promoting transit use

- Walkable places = livable communities
Making Walking Work

- Great access to transit
- Mix and relationship of uses
- Connectivity to existing or future pedestrian network - on and off-site
- Safe, attractive and lively pedestrian realm
The Good News in Massachusetts

- Many proposals touting transit
- Mixed use becoming more prevalent
- “Smart Growth” showing up fairly widely
- More attention to pedestrians and bikes than in the past
The Less Good News in MA

- Transit-adjacent not quite transit-oriented
- Pedestrian connections to transit not as strong as they need to be
- Accommodation of cars still “driving” the designs
- Monotonous designs missing the diversity and sparks that create truly walkable environments
Case Studies of TOD Plans

• The big idea is TOD - but some major plans are falling short
• How can we help improve the outcomes for pedestrians (and bikes)?
Assembly Square, Somerville

Site and Program
• 50-acre brownfield site
• 2 miles from Downtown
• Direct access to I-93
• 2,000 ft Mystic River frontage
• 5.12 m gsf total
• 2,100 residences
• 200 room hotel
• 9,174 parking spaces - surface, structures, on street
Assembly Square, Somerville

Proposal
- Dense urban site
- 18 buildings, 90’—250’ tall
- New Orange Line T station
- 3.4 acres new open space
- Rte 28 ped/bike underpass
- Ped connection under I-93
Assembly Square, Somerville

Network recommendations

- Focus on river/riverfront path
- Remove streets from riverfront
- Improve internal pedestrian connection to riverfront & transit station
- Integrate site with large park east of T station
- Provide great space for public events along river
- Establish pedestrian foci & paths connecting them
Assembly Square, Somerville

Use recommendations

• Focus site plan on T station
• Add second T headhouse
• Create clear visual and ped paths to T station
• Link T to proposed town squares/meeting places
• Maximize density of uses near station
• Construct station in first phase of development to encourage transit use
Sidewalk Recommendations

• Vary street widths with land use & traffic functions
• Relate sidewalks and landscaping to street scale
• Add pedestrian-friendly elements along each street
• Add more open space for pedestrian meeting places & recreation
Assembly Square, Somerville

Recommendations (25% of trips via transit/walking)

- **Network**
  - Ped & street network should be varied by level of use and function
  - Sidewalk landscaping should reflect anticipated uses

- **Building Mix**
  - Density should guide design of ped facilities
  - Open space should be added to enliven streets throughout site

- **Transit**
  - New transit station should be focus of development
  - Clarify pedestrian paths to transit

- **Pedestrian safety** requires traffic taming and signals
Bayside, Columbia Point, Boston

Site and Program
- 28 acres, existing exhibit space
- 2 miles from downtown Boston
- Regional access via I-93
- All site access via Mt. Vernon Street
- 800 feet of ocean frontage
- 950 residences; 257 hotel rooms
- 1.4 million SF of development
Bayside, Columbia Point, Boston

Proposal

- 17 buildings, up to 20 stories
- Retail & offices mixed with residential buildings
- Main Street as pedestrian axis between transit and ocean
- 2,805 parking spaces, on-street & structured
- 4 small parks
- Transit via existing off-site station
Bayside, Columbia Point, Boston

Network recommendations

- Simplify street network at site entrance
- Improve sidewalk connections
- Upgrade pedestrian safety protections
- Create strong visual link between site & transit station
Bayside, Columbia Point, Boston

Use and Access

- Consolidate site entrances for vehicles from 3 to 2
- Separate pedestrian & vehicular entrance points
- Avoid having Water St. as fast bypass of local streets
- Add crosswalks & retail to
- Water St. to slow traffic
Bayside, Columbia Point, Boston

Open Space

- Move buildings & parking back from oceanfront
- Introduce small parks along major pedestrian ways
- Provide good pedestrian links to oceanfront
Bayside, Columbia Point, Boston

Recommendations (29% of trips via transit/walking)

• Network
  • Focus the pedestrian network on axis between transit & oceanfront

• Building Mix
  • Create highest densities at site entrance

• Transit
  • Fix the chaotic pedestrian link to the transit station - too many streets & intersections to cross

• Safety
  • Improve pedestrian safety on the single path between site & transit station
  • Improve the ped network at the site entrance & on secondary streets
The Concern

As planned, the projects may not yield the projected pedestrian and transit mode shares or provide truly walkable environments.

Key Questions

- Should the specificity of pedestrian-related design requirements be increased?
- Should state and local agencies provide increased guidance about good design?
- What are the appropriate mechanisms to improve projects?
Why are these issues arising?

- Scale of the projects?
- Lack of existing pedestrian context?
- Cost and difficulty of fixing infrastructure?
- Lack of expertise?
- Other?
Possible Solutions

• Regulations (zoning, site plan, etc.)
• Performance standards
• Guidelines (that get beyond generalities)
• Training - state & local officials, designers, developers
• “Circuit-riders” to provide technical assistance early in the process
• Special (expedited) review procedures for TOD
• Other?
Role of the TOD “Industry”

- Provide examples of successful guidance and regulations
- Provide good data on transit, walking, biking mode share - as they relate to site design
- Provide a forum for discussion of best means to achieve good design
Getting the Walking Right in TOD

Wendy Landman
Executive Director, WalkBoston

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Questions?