The making of a bicycle friendly city: Portland, Oregon

Mia Birk, CEO
Alta Planning + Design

www.miabirk.com

www.altaplanning.com
History
• 1971 “Bike Bill”
  – Min. 1% trans. funding for bike/ped projects
  – Bike/ped facilities should be included in all new & reconstruction projects
• This led to Portland’s 1st Bicycle Task Force & Plan in 1973: still meeting today!
History

• Early projects: neighborhood routes, bike route signing

Early projects: bike racks, bike commute days, events.
History

• 90s: Increasing political support led by Congressman Earl Blumenauer
Advocacy
Plan for a network of bike routes faces adamant resistance

☐ Residents love bicycles - until they’re forced to give up parking in front of their houses

Commuting by bicycle remains stuck in low gear
Short-term bicycle parking examples:
Poor Rack Placement
Long way to go...
Our first reconnaissance mission to the blue planet indicates that the rectangular creatures in Photo #1 are the dominant life forms, and feed primarily on the creatures in Photo #2.
Enter the Bike Program
BikeFest
Portland Master Plan

- Master Plan Adopted 1996:
  - Policies
  - Benchmarks (semi-annual report to Council)
  - Bikeway network (Bridges, bike lanes, boulevards, paths)
  - Maintenance, intersections, and spot improvements
  - Bike parking
  - Bikes & transit integration
  - Education/encouragement
  - Bikeway standards
Development of Portland’s Bikeway Network
Development of Portland’s Bikeway Network
Development of Portland’s Bikeway Network

1990
Development of Portland’s Bikeway Network

1995
Development of Portland’s Bikeway Network

2000
Development of Portland’s Bikeway Network
Portland Bike Plan Vision, adopted 1996:
630 mile network
Bicycle Lanes

- Arterial streets
  - > 3,000 vpd
- Allow bicyclists safe access to main streets
  - quick transport
  - commercial districts
  - safe crossings
- 187 street miles
Narrowing Lanes

Before

After
Narrowing Lanes
Removing a Lane – “Road Diet”
Restricting Parking

Before

After
Bicycle Boulevards

Developed on low traffic volume streets that already work well for bicycles

Priority for Bikes Improvements:
  – crossings
  – continuous travel
  – traffic diversion

• 29 miles
Bicycle Boulevards: Diversion
Bicycle Boulevards: Traffic Calming
Bicycle Boulevards: Crossing Enhancements

Cars cannot turn left nor cut through.
Boulevard Signs & Markings
Creativity
Innovations in Design

Colored Lanes
Bike Boxes
Buffered Bike Lanes
Signing & Marking
Scramble Signal
HAWK Signal
Cycle track
Right-Turn Lane
Exit Ramp
Shared Use Paths

- Multiple non-motorized users
- Completely off-road
  - except crossing
- Primarily developed by Parks Bureau, ODOT, Metro
  - I-205
  - Springwater
  - Waterfront
  - Eastside Esplanade
- 55 miles
Springwater Corridor
Eastbank Esplanade
SW - OMSI

Before


After

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Focus on Bridges
Bike/ped movements split, motorists must stop, cyclist have through movement priority (see photo page 8)

Sidewalks widened to 10.5'

Ramp from Naito Closed

Bike lanes connect to roadway entry (off photo)

No bike lanes connect to roadway entry
Before: Eastbound Hawthorne Bridge access to sidewalks – bicyclists make sharp turn, yield to motorists. Note 6’ wide sidewalks.

After: Eastbound Hawthorne Bridge access to sidewalks – bicyclists proceed straight, motorists yield, Note 10.5’ wide sidewalks.
Hawthorne

Eastbound eastside, connecting to Hawthorne St. bike lanes

Blue area on eastbound viaduct at off-ramp

Eastbound, westside

Westbound, eastside

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Steel Bridge

Before: Steel Bridge, upper deck. Bicyclists and pedestrians sharing one 5’ sidewalk with guardrail.

After: Steel Bridge Riverwalk on lower deck. It’s a cantilevered 10’ shared use path connecting to paths on either side.
Bicycle Parking

At schools

On-street & in garages
Bike Industry Growth

Economic Activity Related to Bicycling

- Tours, races, rides, events, $7,169,630, 11%
- Distribution and Manufacturing, $11,645,000, 19%
- Professional services, $6,557,998, 10%
- Retail, $37,625,257, 60%

$63 million in revenue 800+ jobs
Bike Industry Growth
Bike Industry Growth
Average Daily Bicycle Traffic
4 Main Willamette River Bicycle Bridges

<table>
<thead>
<tr>
<th>Year</th>
<th>Hawthorne</th>
<th>Steel</th>
<th>Broadway</th>
<th>Burnside</th>
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<td>350</td>
<td>200</td>
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<td>2006</td>
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Based on either 24-hour hose counts or extrapolated from 4-6 pm counts

* Broadway Bridge closed for construction during time of count.
Annual Increase in Bicycle and Automobile Traffic Compared to 1991 Volumes
4 Main Willamette River Bicycle Bridges

% Increase Compared to 1991

<table>
<thead>
<tr>
<th>Year</th>
<th>Percent Bike Increase</th>
<th>Percent Auto Increase</th>
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<tbody>
<tr>
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<td>25%</td>
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<tr>
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<td>2005</td>
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</table>

Based on either 24-hour hose counts or extrapolated from 4-6 pm counts
Increase in Bicycle and Automobile Traffic and Population 1991-2000*
On the Broadway, Steel, Burnside and Hawthorne Bridges

*Population increase based on values from 1990 and 2000 US Census.
Increasing Bicycle Commute Mode Split

With 1990 bikeway network...
With 1990 bikeway network...

...and 1990 mode splits (by census tract)
Bicycle Commute Mode Split 2000

With 2000 bikeway network...

...and 2000 mode splits
Increasing Bicycle Use

1992: 83 miles of bikeways, 2,850 daily trips

2004: Smarttrips program expands

2008: 274 miles of bikeways, 16,711 daily trips
Decreasing Crash Rate

Year

Cyclists per Day

Crashes and Indexed Crash Rate

- Bridge Bicycle Traffic
- Reported Bicycle Crashes
- Indexed Bicycle Crash Rate (Trend Line)

Reported Crashes

Bicycle Fatalities


155 163 171 189 195 160 167 166 161 179 175 173 164 174 188 203 186 *

2 0 4 3 2 1 5 3 0 0 5 0 4 1 4 0 6 0

Reported Bicycle Crashes

Indexed Bicycle Crash Rate (Trend Line)
Portland’s success reflects a community commitment to making bicycling an integral part of daily life!
Joyride: Pedaling Toward a Healthier Planet

By Mia Birk
Alta Planning and Design
miabirk@altaplanning.com
www.altaplanning.com