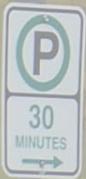


# Bicycle Transportation in Portland, OR: A Tale of Three Cities



Global Green; October 21, 2008  
Roger Geller, Bicycle Coordinator  
Portland, OR

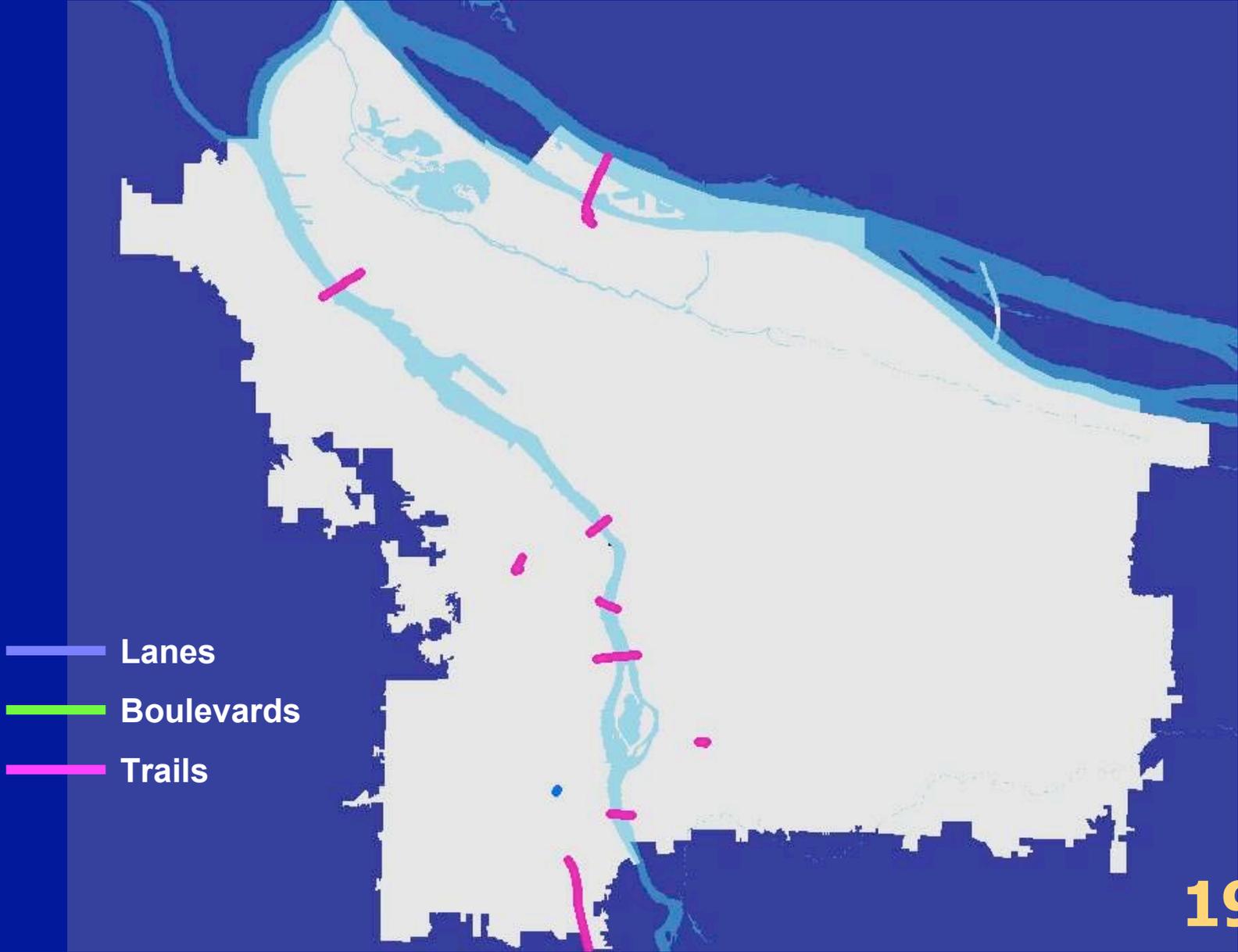
# Initial Building Blocks of Portland's Success in Bicycle Transportation

- “Complete Streets” Policies/Laws
  - “Bicycle Bill” (1974): all streets to have appropriate bicycle/pedestrian facilities
  - State Transportation Planning Rule (TPR)
  - Regional Policies
  - Local Policies
- Dedicated Funding
  - Floor of 1% of GTR

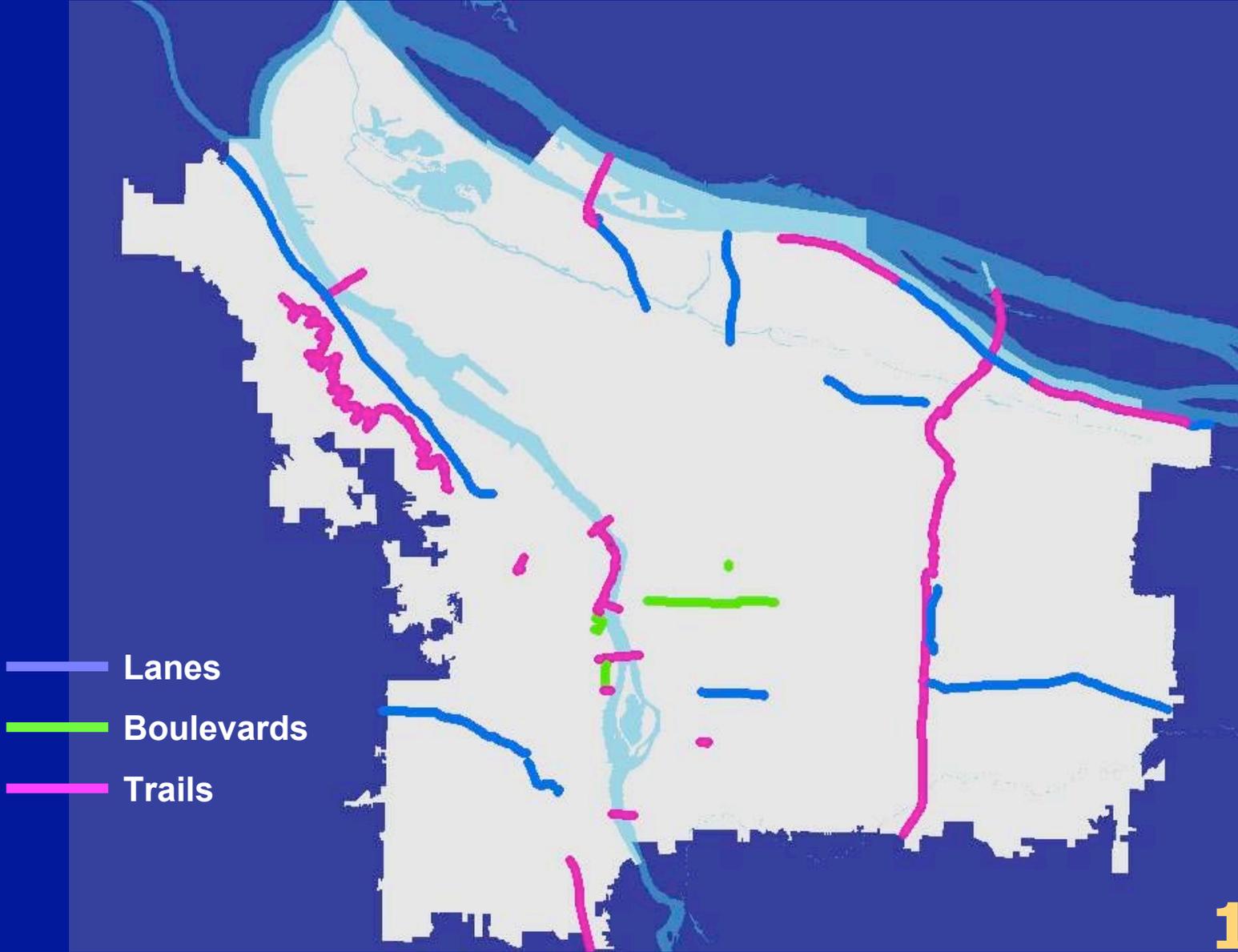
# City No. 1

where we've done a lot

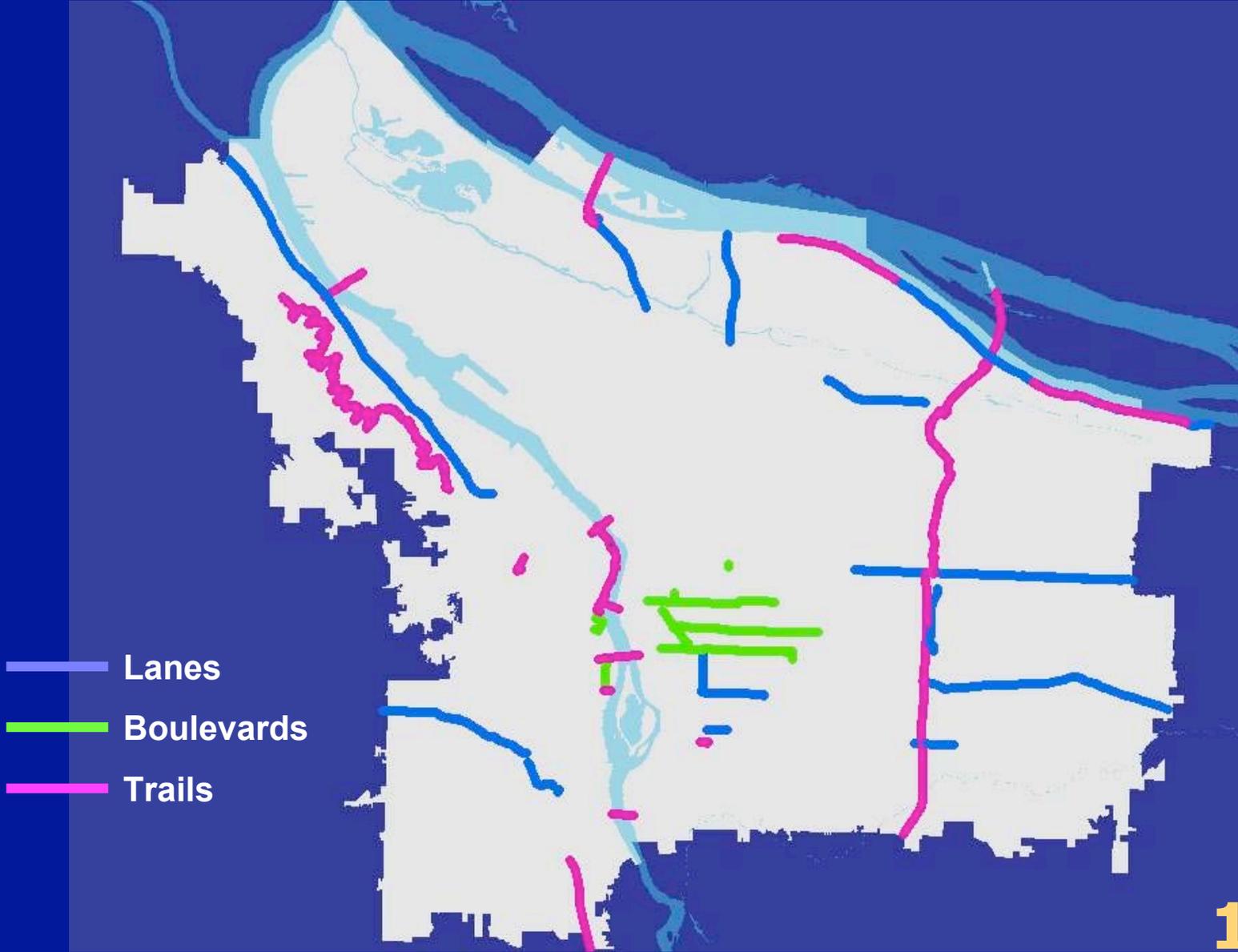
# Development of Portland's Bikeway Network



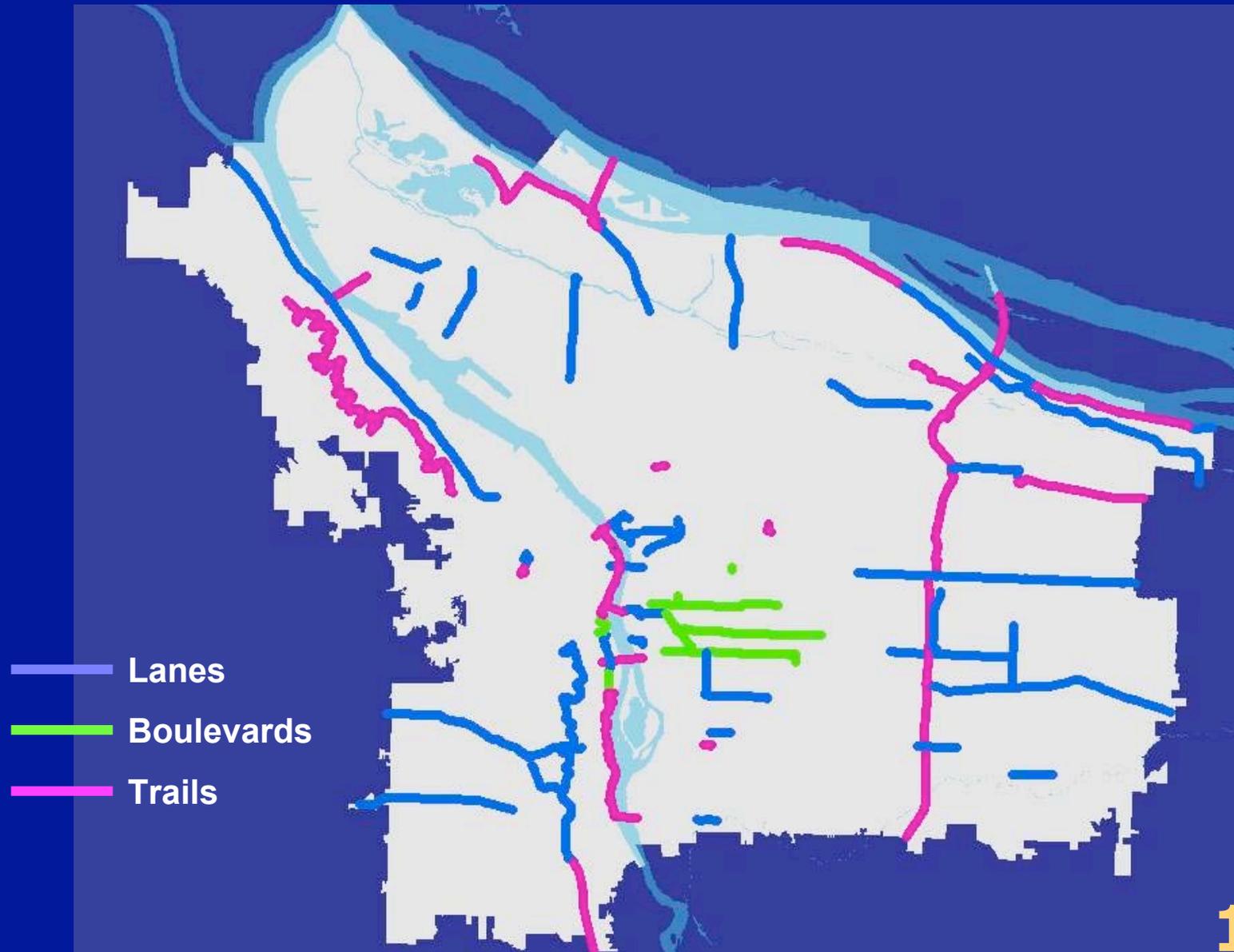
# Development of Portland's Bikeway Network



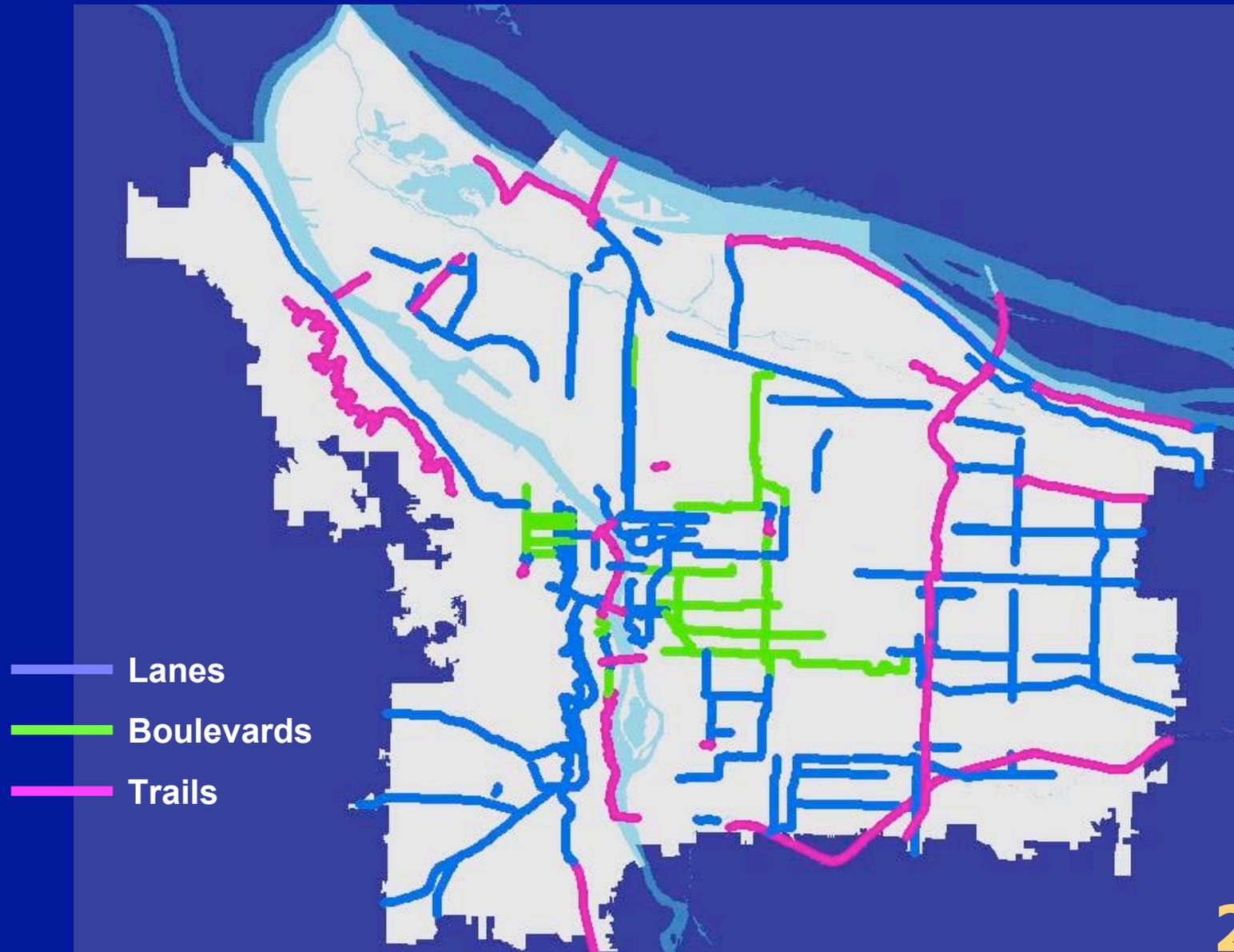
# Development of Portland's Bikeway Network



# Development of Portland's Bikeway Network

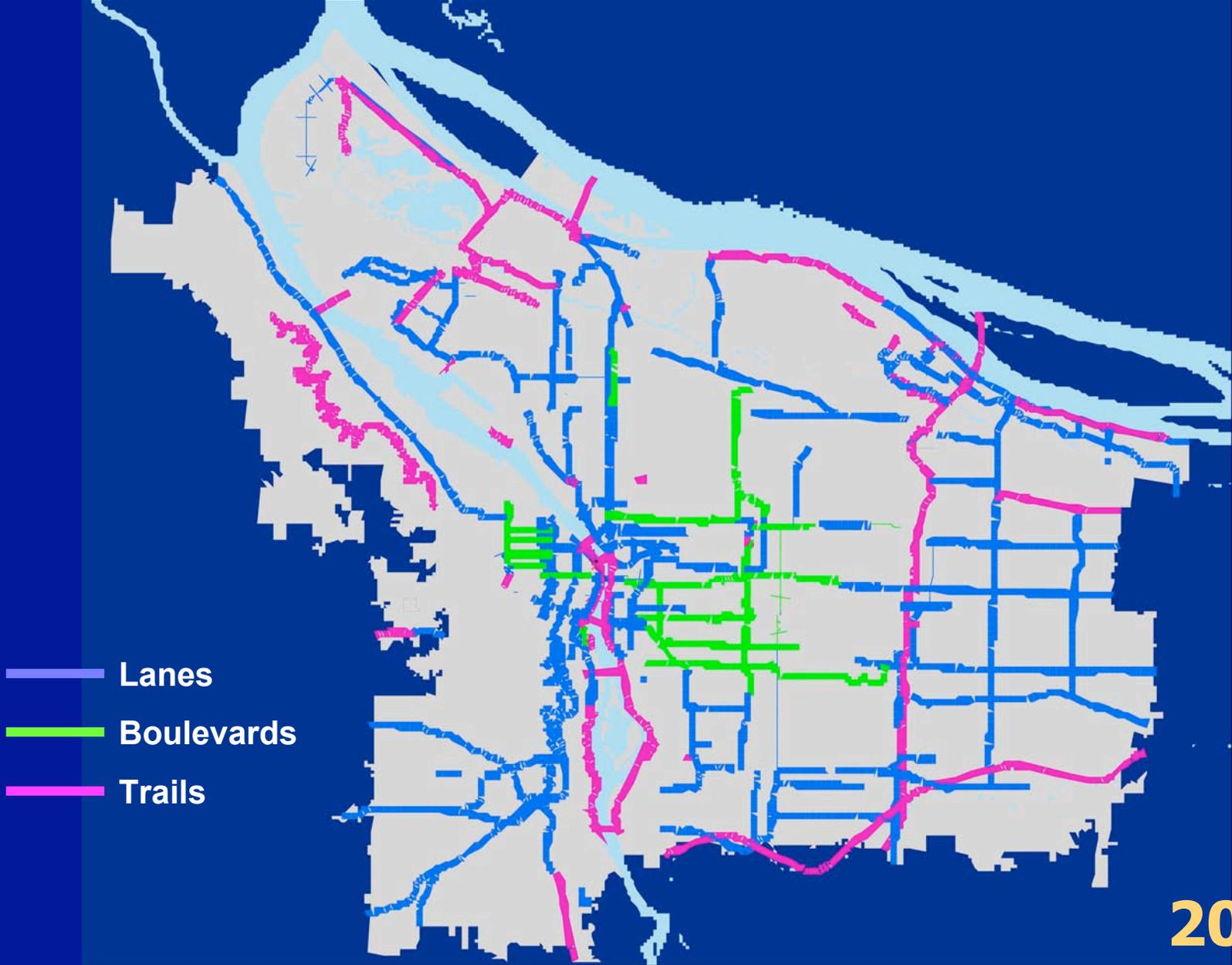


# Development of Portland's Bikeway Network

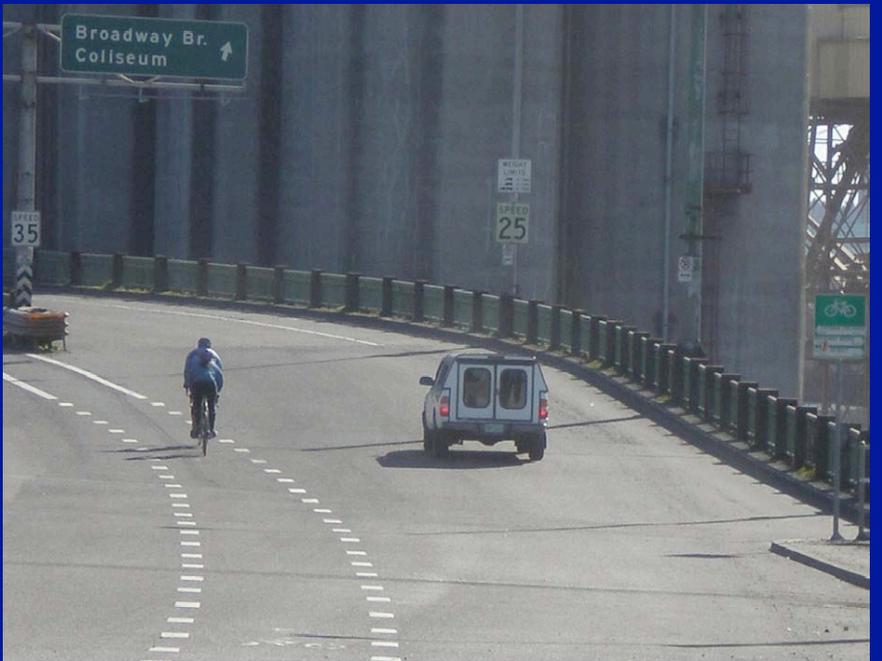
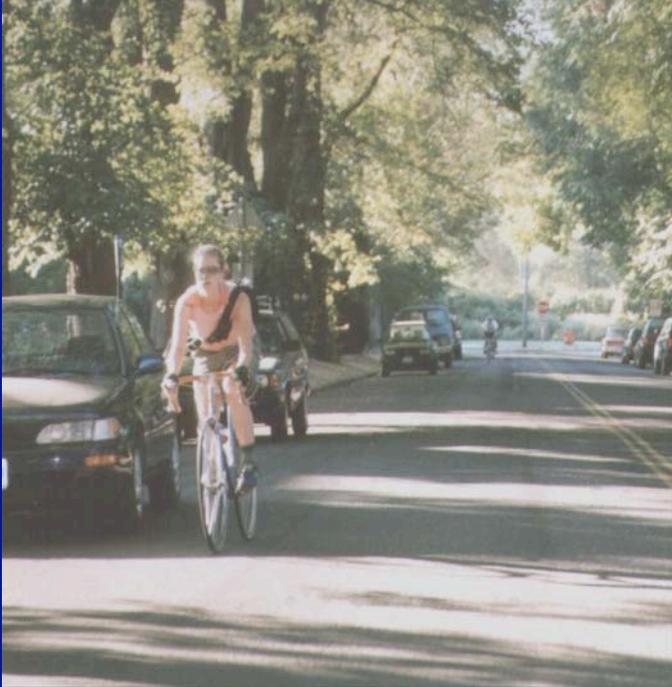


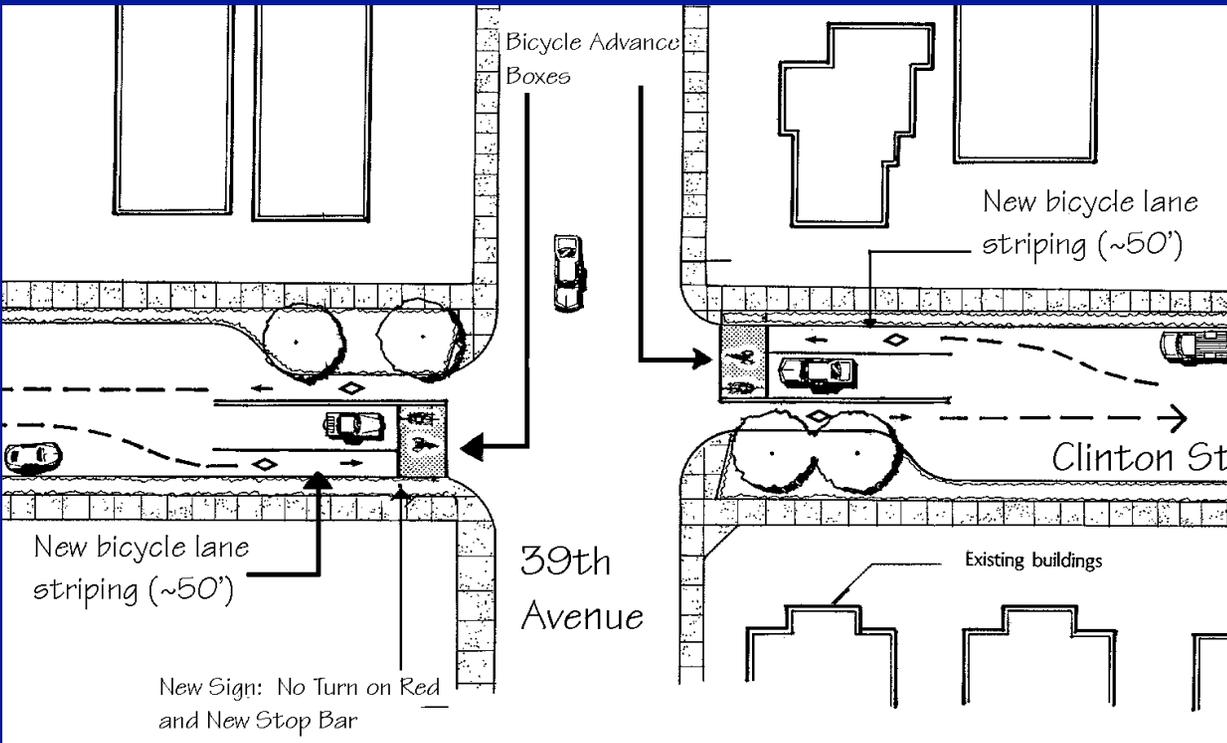
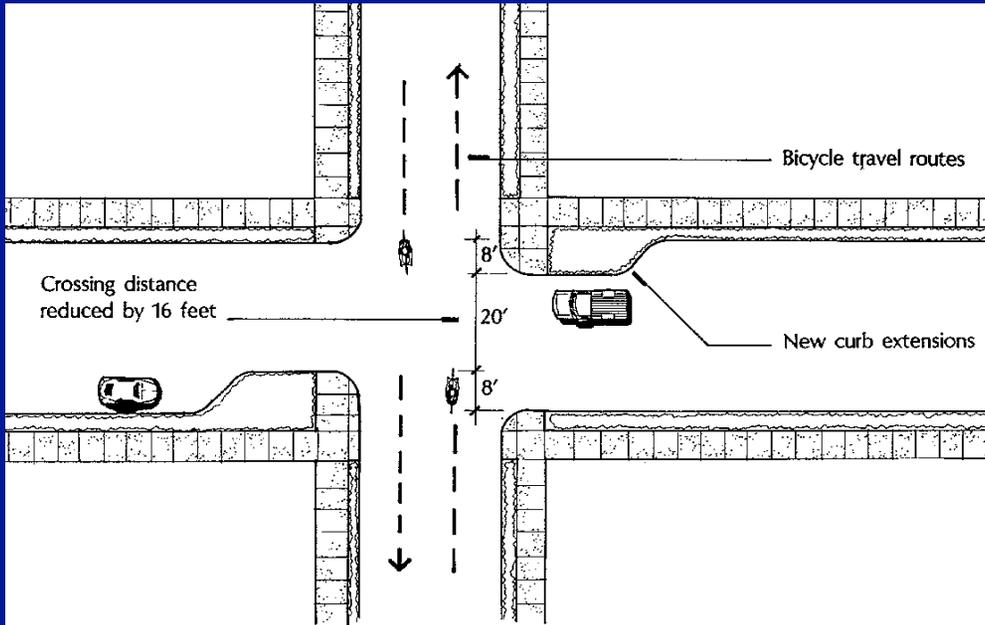
2000

# Development of Portland's Bikeway Network



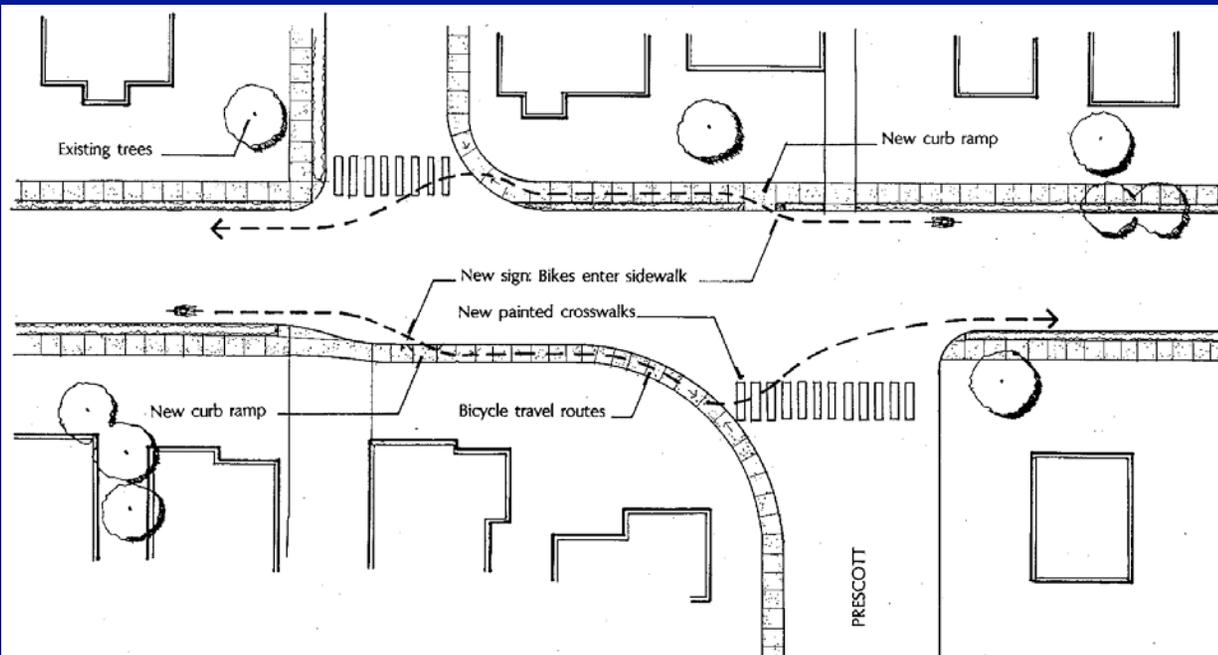
facilities



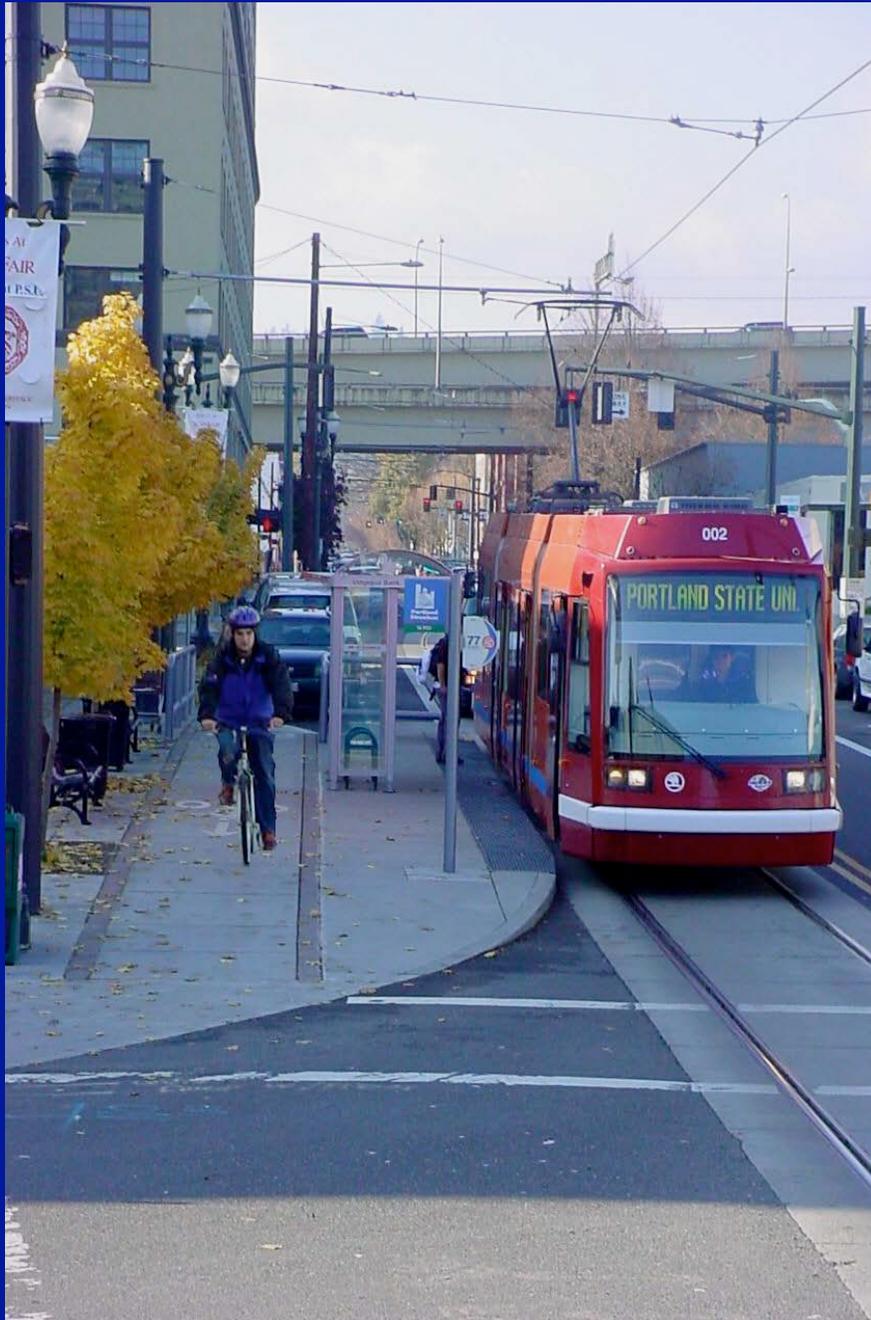


engineering

**Include big bike  
box slide**



engineering



**manage transit  
-bike conflicts  
(streetcar platform  
bike lane)**

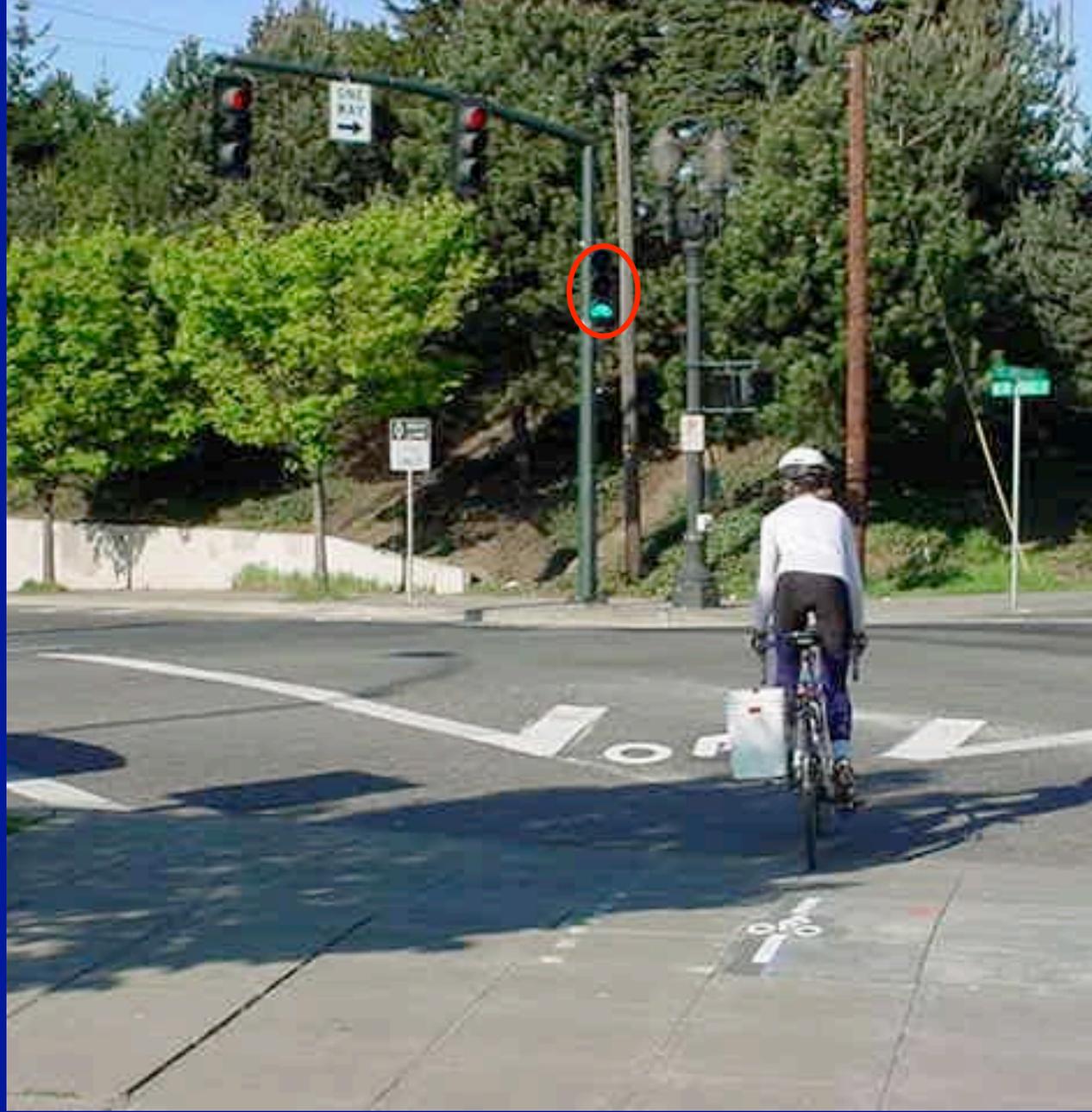








**exclusive bike phase**  
(scramble signal)



# exclusive bike phase (eliminating right turn on red)



# exclusive bike phase (HAWK signal)



# shared lane pavement markings (sharrows)





**PSU** 5 min ↑

1 mi

← **ROSE QUARTER TRANSIT CTR** 3 mi 15 min

**BELMONT** 0.5 mi 3 min →





# on street bike parking (corrals)



# Encouragement

- **SmartTrips**
  - 20,000 households per year since 2003
  - Individualized marketing
    - 3 contacts per hhold
    - 10 contacts per interested hhold
  - 9% reduction in single-occupancy auto use
- **Bicycle Commute Challenge**
  - 888 participating businesses
  - 9,700 individuals
- **2,100 Annual Rides**

# Education

- **Safer Routes to School**
  - training and classwork in 25 schools
- **“Options Mobile”** deployed at more than 70 events annually
- **Visibility Campaigns**
  - “Get Lit”
  - “See and Be Seen”



**covered bike parking**  
(bike oasis)

# Increasing Bicycle Use

Cyclists  
Per Day

Bikeway  
Miles

15,000

12,500

10,000

7,500

5,000

2,500

0

— Bridge Bicycle Traffic

■ Bikeway Miles

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

**2007:**  
271 miles of bikeways  
14,563 daily trips

350

300

250

200

150

100

50

0

**Year:**

1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007

Bridge Bicycle Traffic

2,850 3,555 3,885 3,830 3,207 4,520 5,225 5,690 5,910 6,015 7,686 8,250 8,562 8,875 10,192 12,046 14,563

Bikeway Miles

78 84 86 103 113 144 166 183 213 222 235 252 254 260 262 263 266

# Increasing Bicycle Use

Cyclists  
Per Day

Bikeway  
Miles

15,000

12,500

10,000

7,500

5,000

2,500

0

— Bridge Bicycle Traffic

■ Bikeway Miles

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

**2008:**  
274 miles of bikeways  
16,711 daily trips

350

300

250

200

150

100

50

0

**Year:**

1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008

Bridge Bicycle Traffic

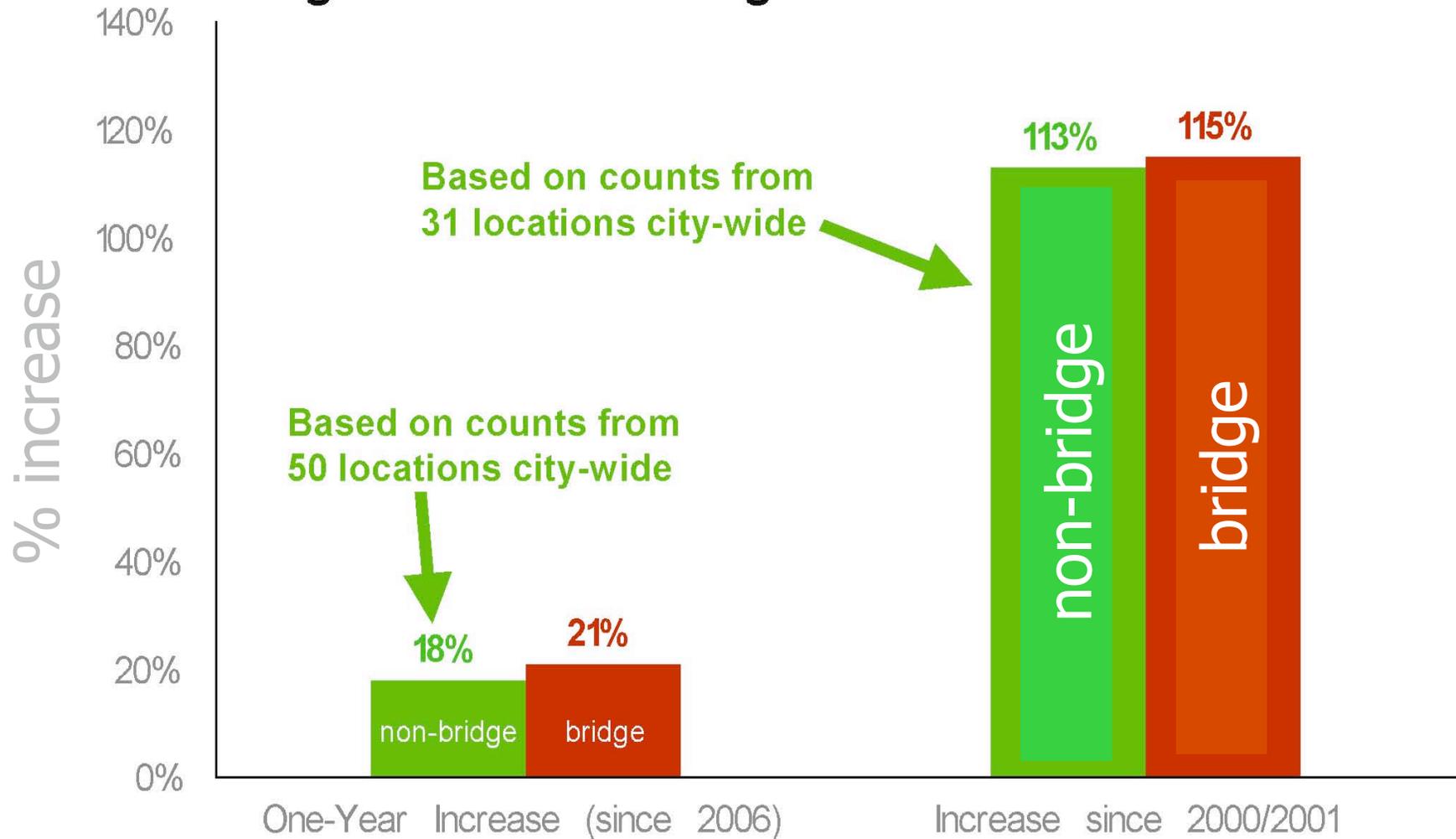
2,850 3,555 3,885 3,830 3,207 4,520 5,225 5,690 5,910 6,015 7,686 8,250 8,562 8,875 10,192 12,046 14,563 16,711

Bikeway Miles

78 84 86 103 113 144 166 183 213 222 235 252 254 260 262 263 271 274

# Increase in Bicycle Traffic

## Bridge and Non-Bridge Locations 2007

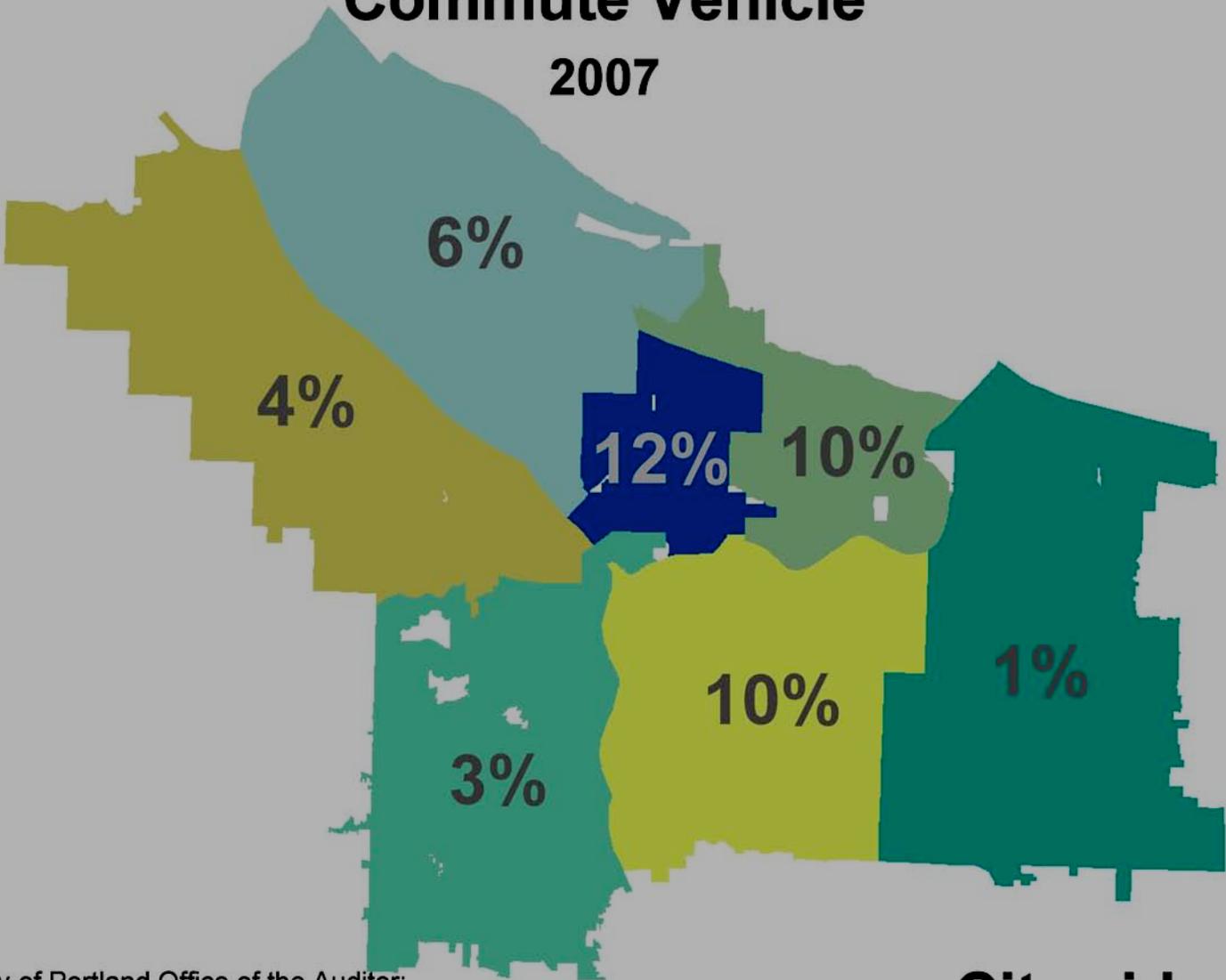


Based on manual and automated bicycle counts

■ Non-Bridge Locations  
■ Bridges (Hawthorne, Burnside, Steel & Broadway)

# People Reporting the Bicycle as their Primary Commute Vehicle

2007

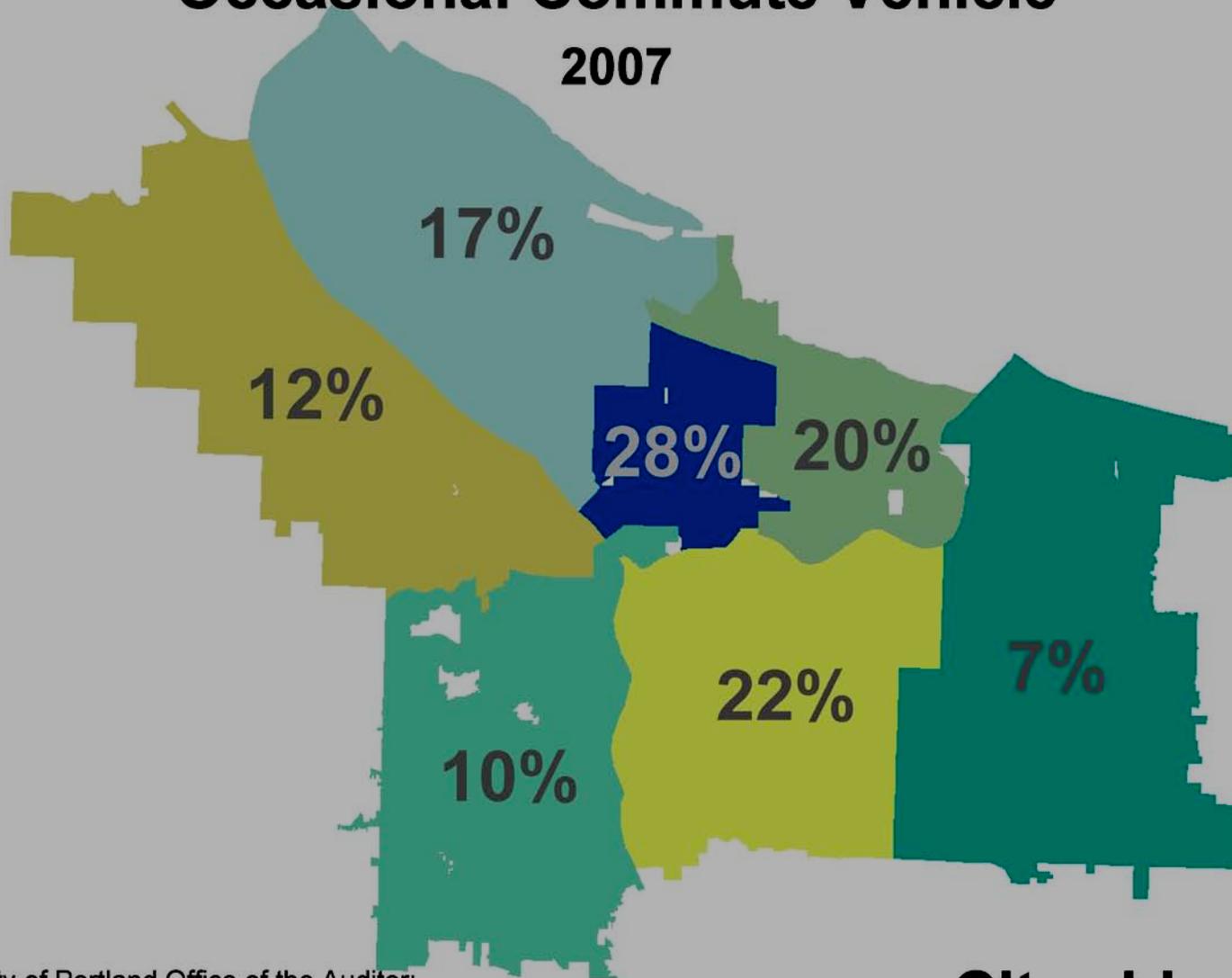


Source: City of Portland Office of the Auditor:  
Service Efforts & Accomplishments Report 2006-07

**Citywide: 6%**

# People Reporting the Bicycle as at least an Occasional Commute Vehicle

2007



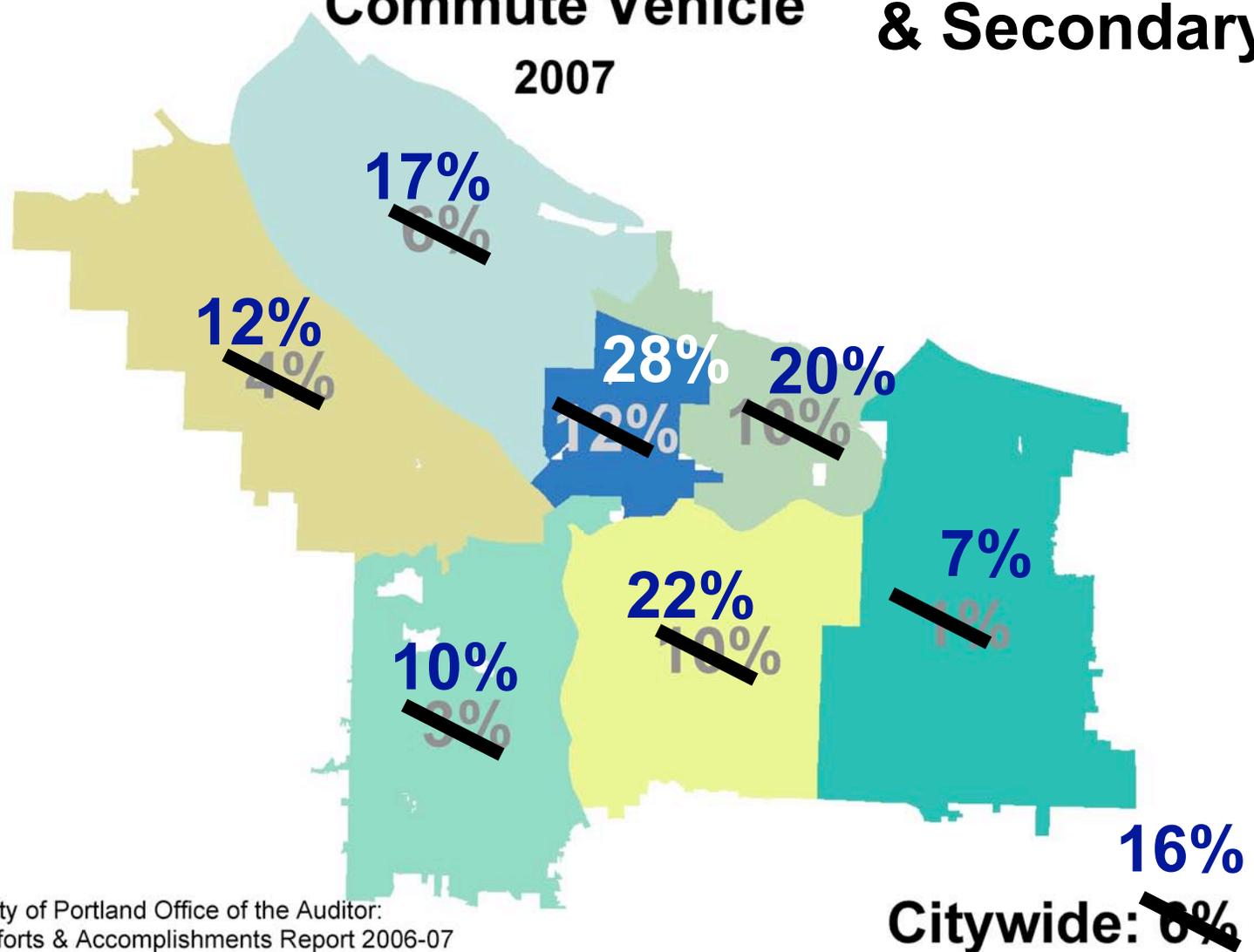
Source: City of Portland Office of the Auditor:  
Service Efforts & Accomplishments Report 2006-07

**Citywide: 16%**

# Bicycle Commuting in Portland

People Reporting the Bicycle as their Primary Commute Vehicle & Secondary

2007

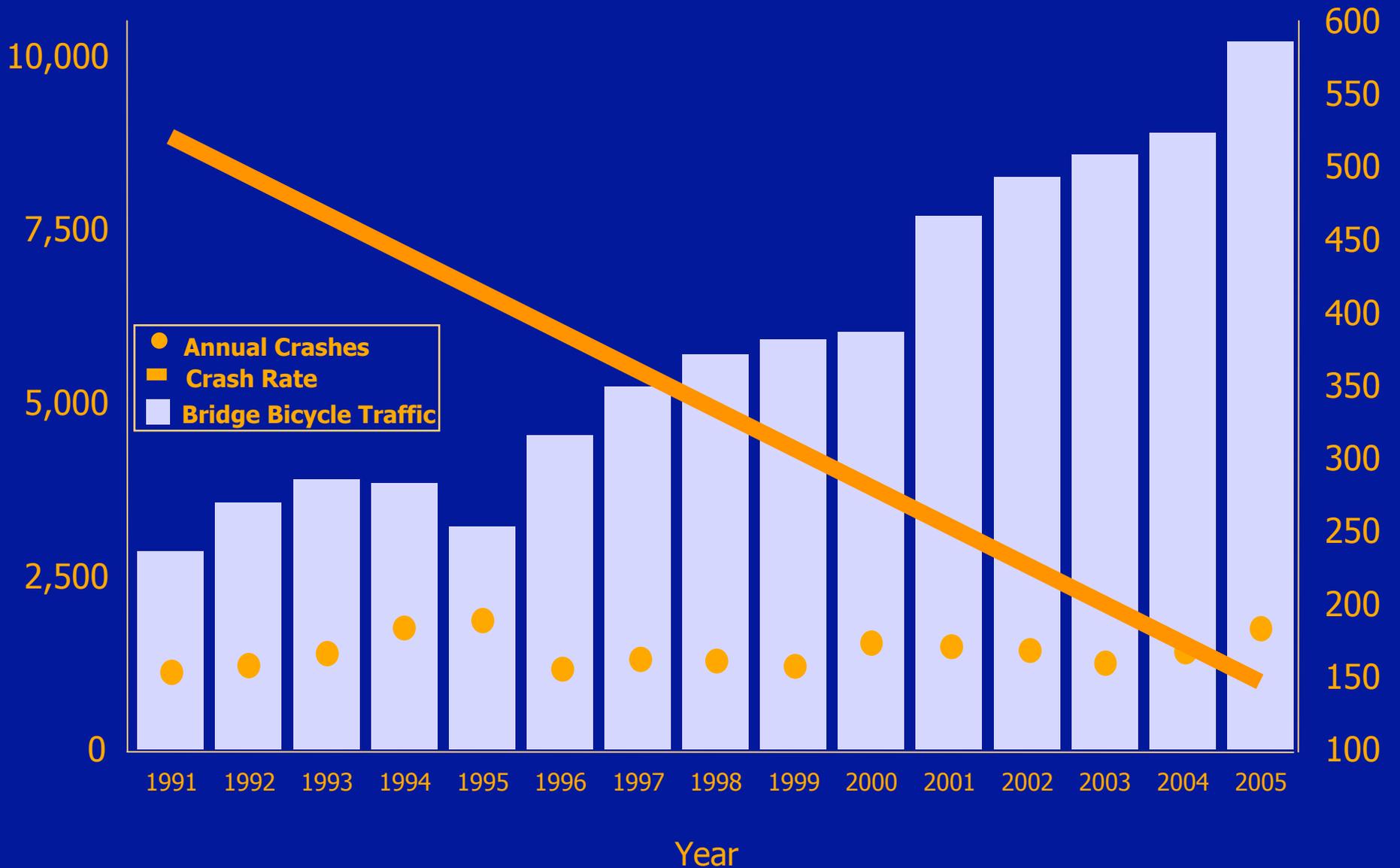


Source: City of Portland Office of the Auditor:  
Service Efforts & Accomplishments Report 2006-07

# Decreasing Crash Rate

Daily Bicycle Trips

Crashes/Crash Rate



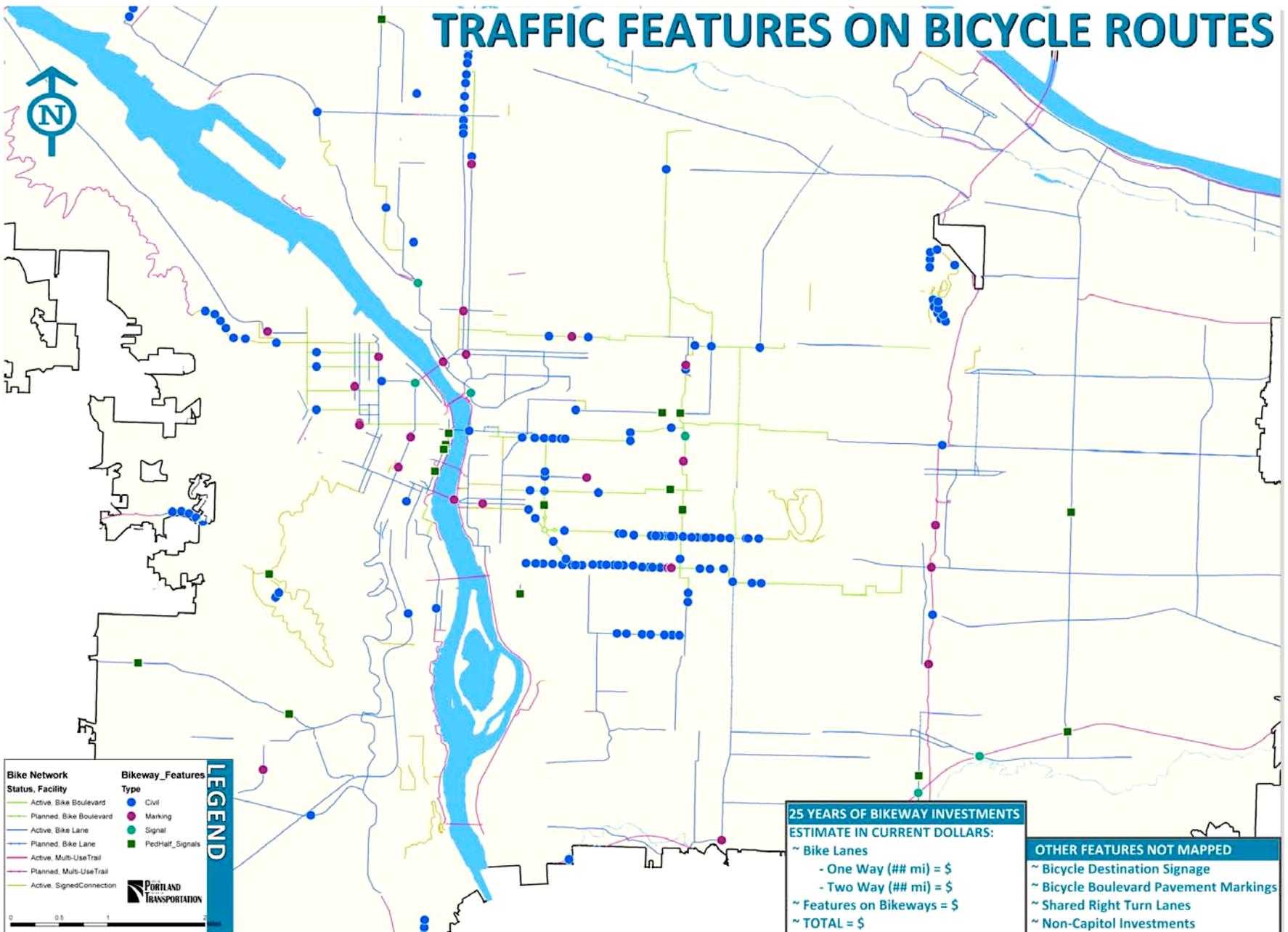
# explosion in bike culture & commerce

- breakfast on the bridges
- bike summer
- mini bike winter
- midnight mystery ride
- zoobombers
- move by bike
- [bikeportland.org](http://bikeportland.org)
- \$100 million local industry
- bike fashion
- pride in place: Portland as “bike city”
- politics

# City No. 2

where we've invested so little

# TRAFFIC FEATURES ON BICYCLE ROUTES



**25 YEARS OF BIKEWAY INVESTMENTS**  
**ESTIMATE IN CURRENT DOLLARS:**  
 ~ Bike Lanes  
 - One Way (## mi) = \$  
 - Two Way (## mi) = \$  
 ~ Features on Bikeways = \$  
 ~ TOTAL = \$

**OTHER FEATURES NOT MAPPED**  
 ~ Bicycle Destination Signage  
 ~ Bicycle Boulevard Pavement Markings  
 ~ Shared Right Turn Lanes  
 ~ Non-Capitol Investments

**LEGEND**

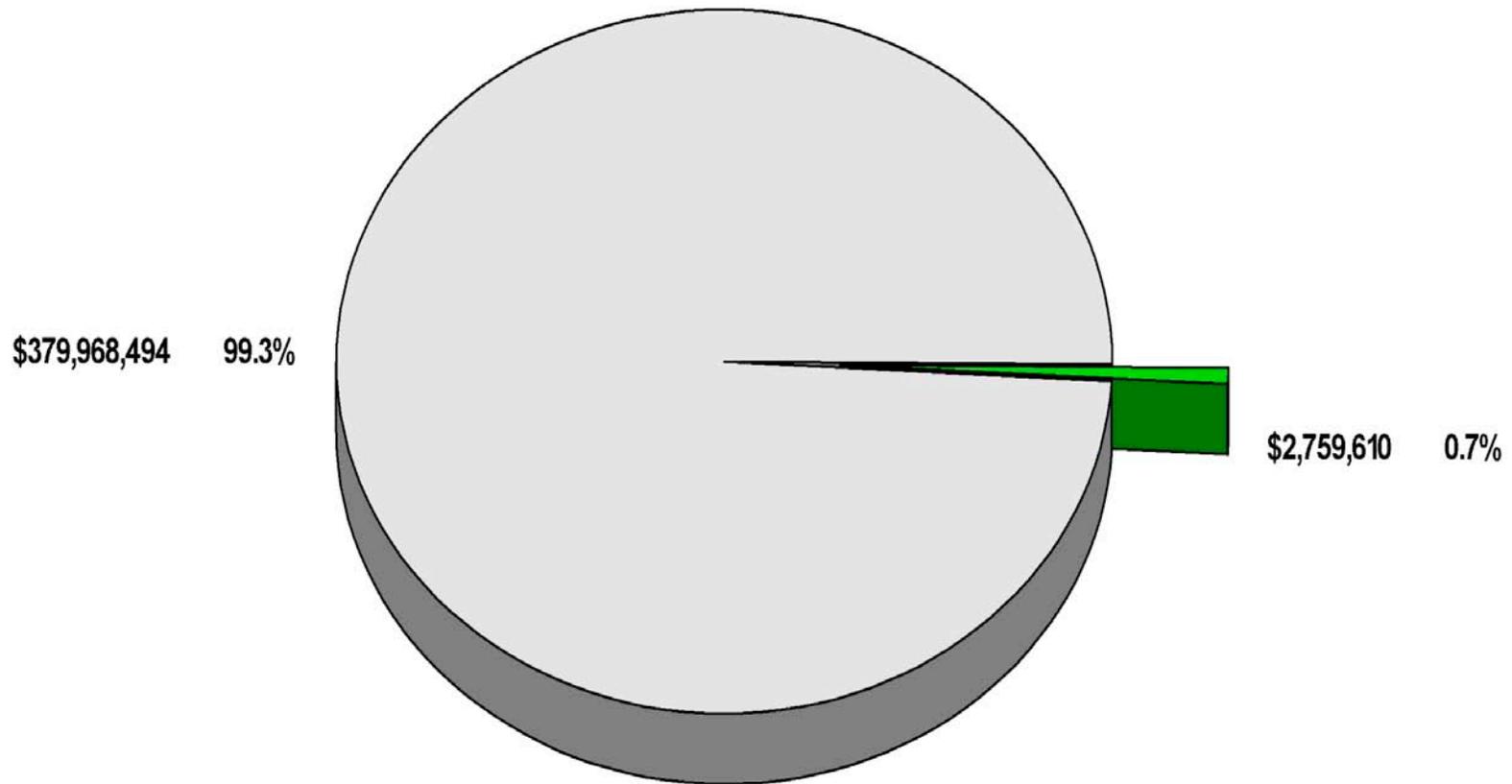
<b>Bike Network Status, Facility</b>	<b>Bikeway_Features Type</b>
Active, Bike Boulevard	Civil
Planned, Bike Boulevard	Marking
Active, Bike Lane	Signal
Planned, Bike Lane	Ped/Half_Signals
Active, Multi-Use Trail	
Planned, Multi-Use Trail	
Active, Signed Connection	

**PORTLAND TRANSPORTATION**

# Actual PDOT Capital Expenditures 2000-2007

Total Actual  
Expenditures: \$383 million

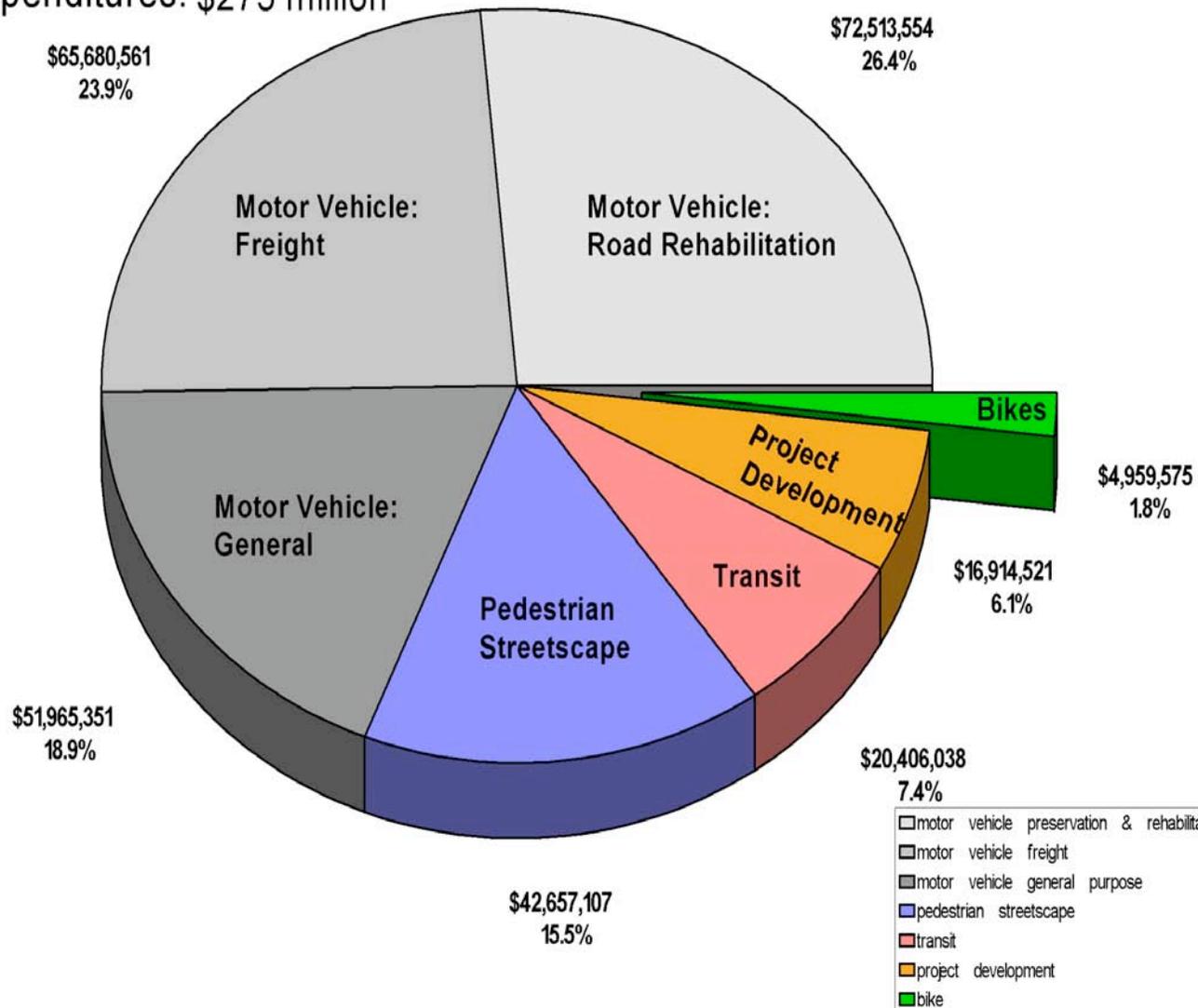
**0.7% of PDOT's capital budget!**



- Bicycle Capital Expenditures
- All Other Capital Expenditures

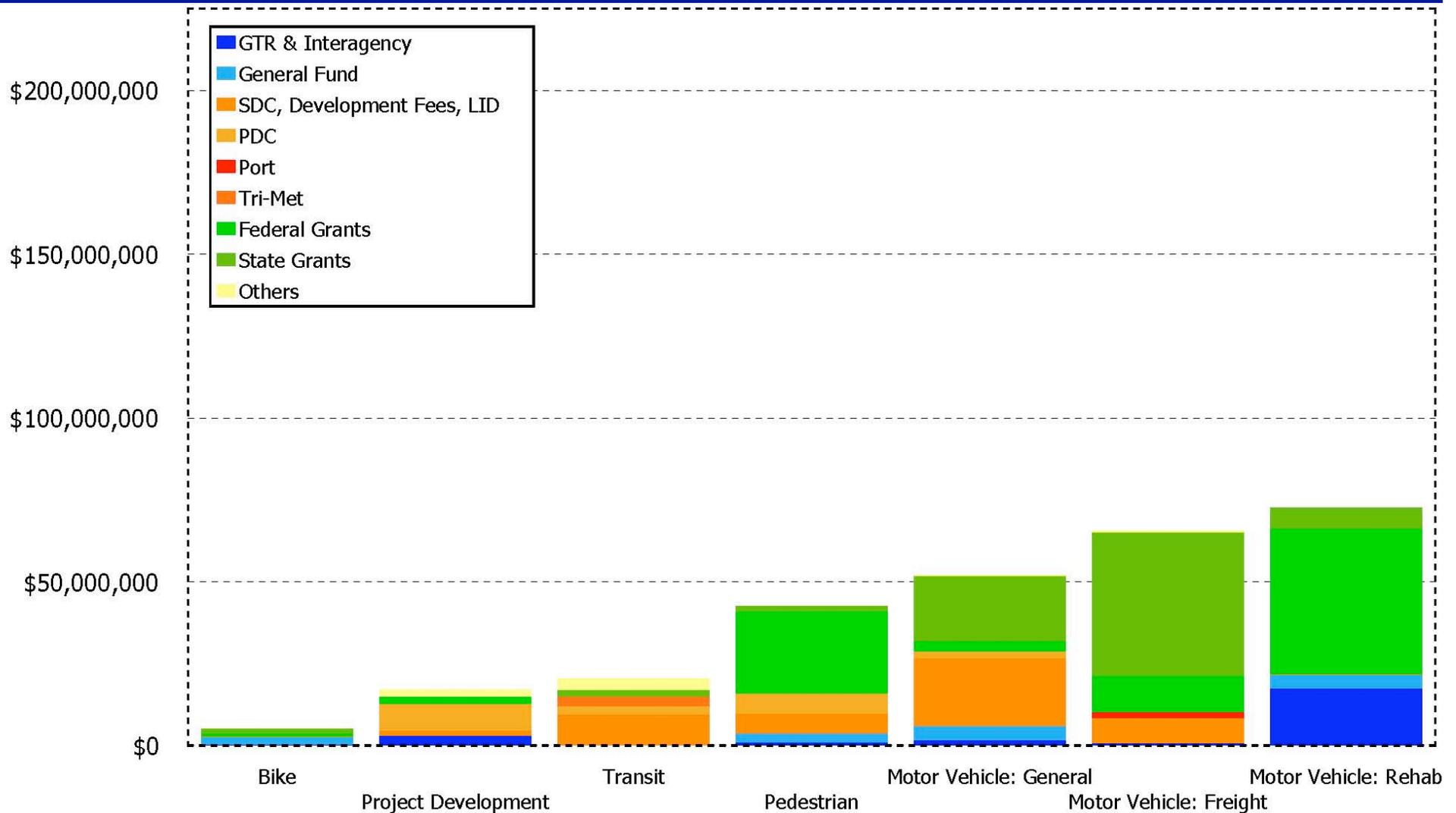
# Expected PDOT Capital Expenditures 2008-2012 By Mode of Transportation

Total Expected Expenditures: \$275 million

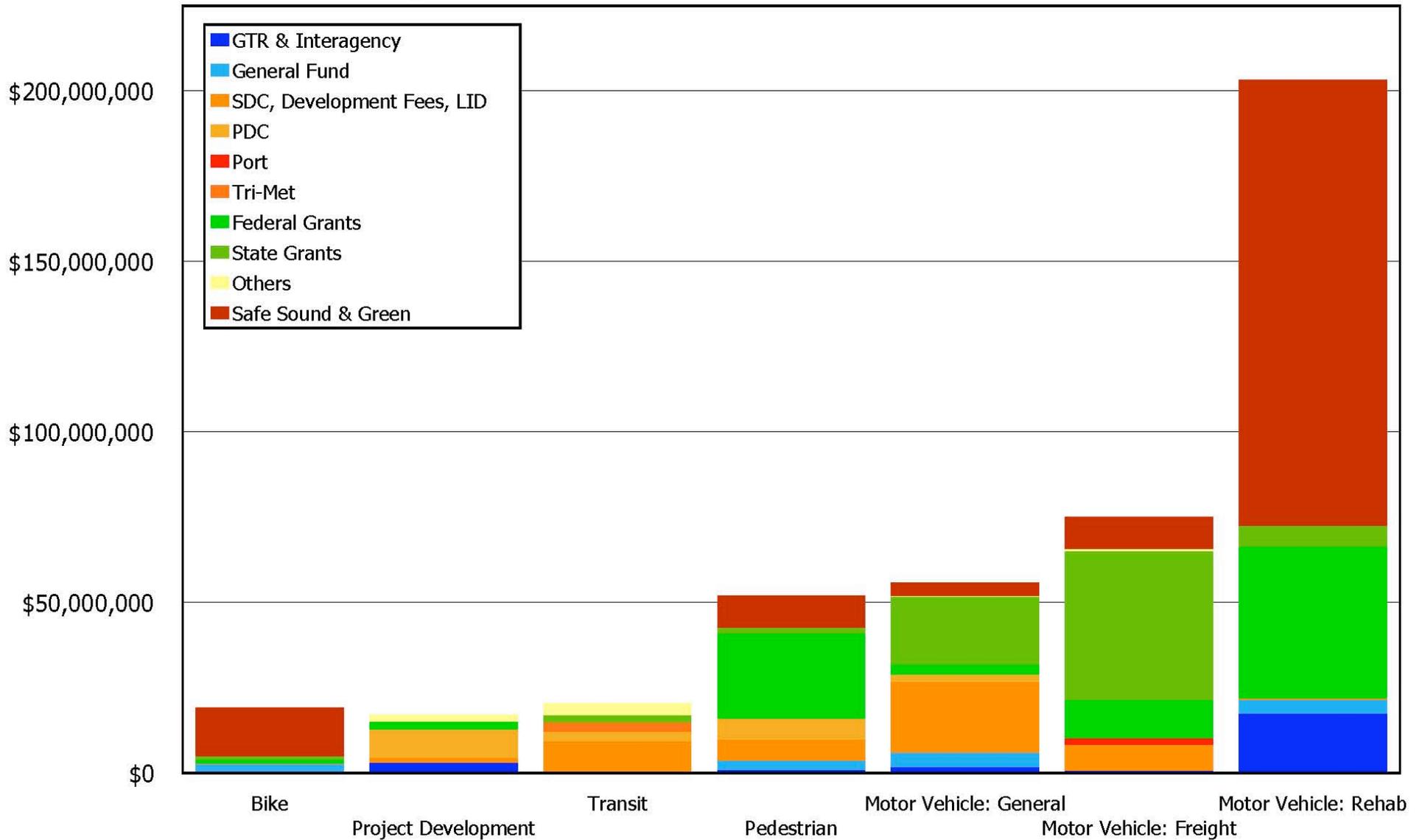


- motor vehicle preservation & rehabilitation
- motor vehicle freight
- motor vehicle general purpose
- pedestrian streetscape
- transit
- project development
- bike

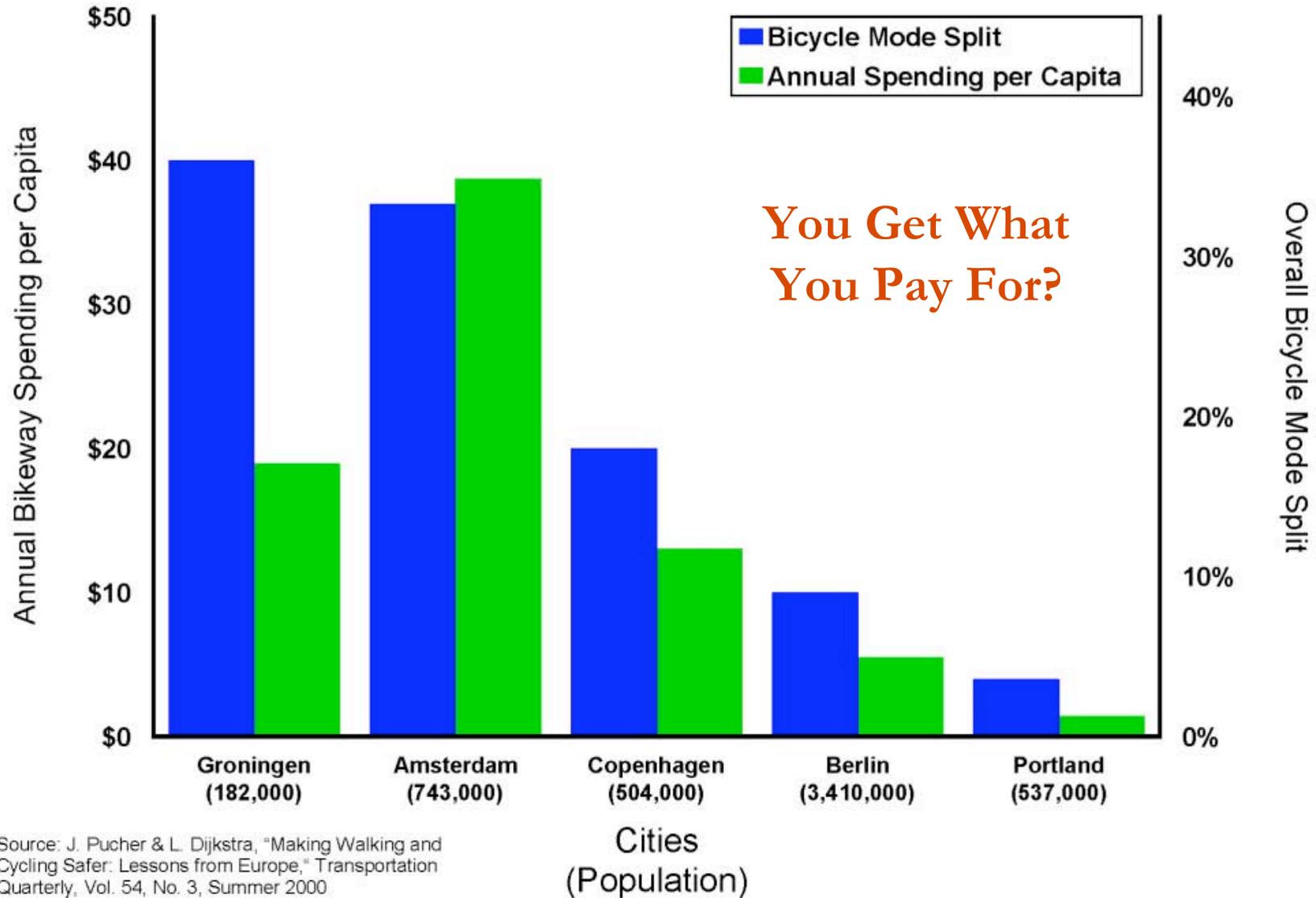
# PDOT's Proposed Capital Funding 2008-2012 (Before Safe, Sound & Green)



# PDOT's Proposed Capital Funding 2008-2012 (With Safe, Sound & Green)



# Annual Spending per Capita and Mode Split



# City No. 3

the city we want

# 4 Types of Transportation Cyclists

**Strong &  
Fearless**



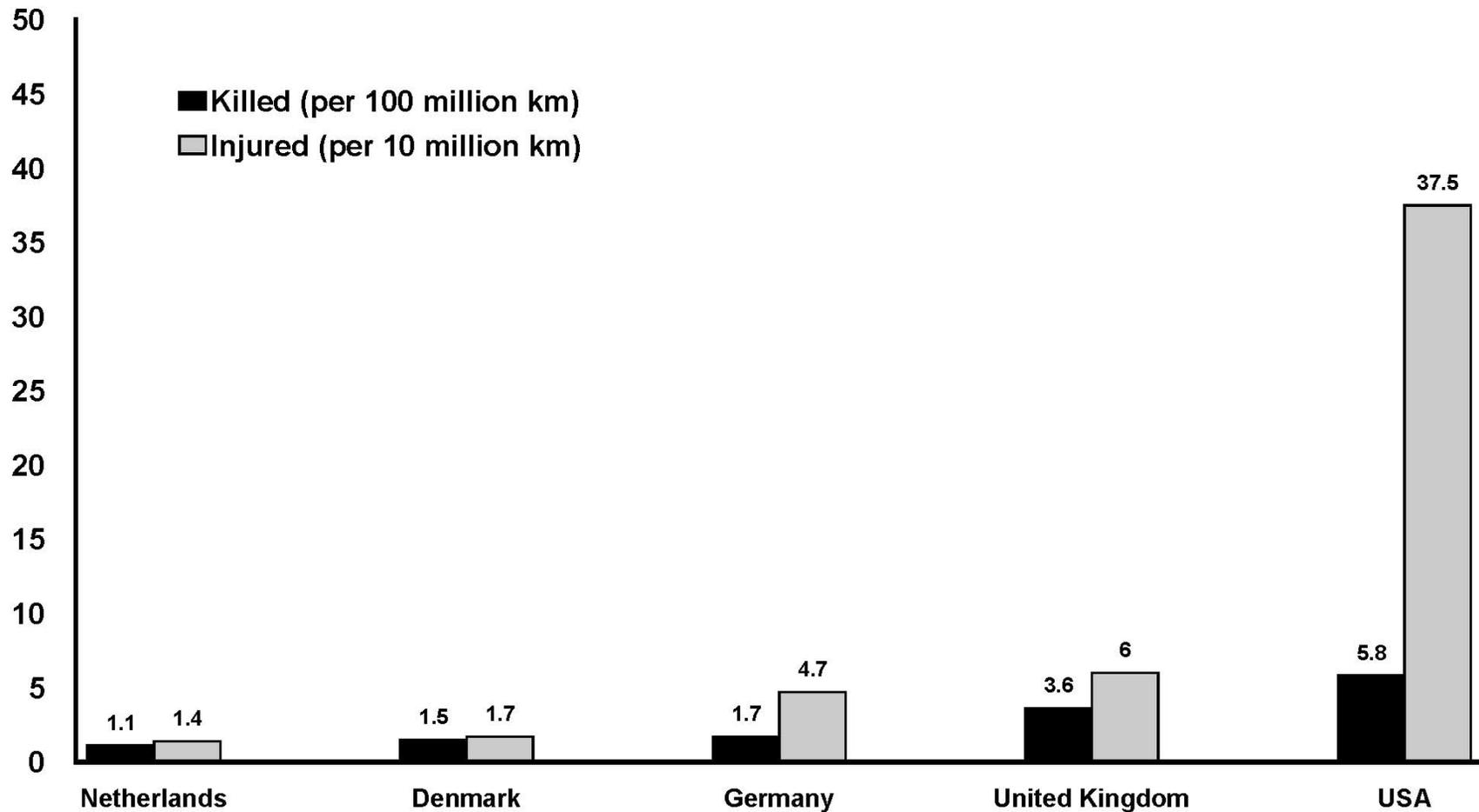
**Interested but Concerned**

**No way No How**



**Enthusied &  
Confident**

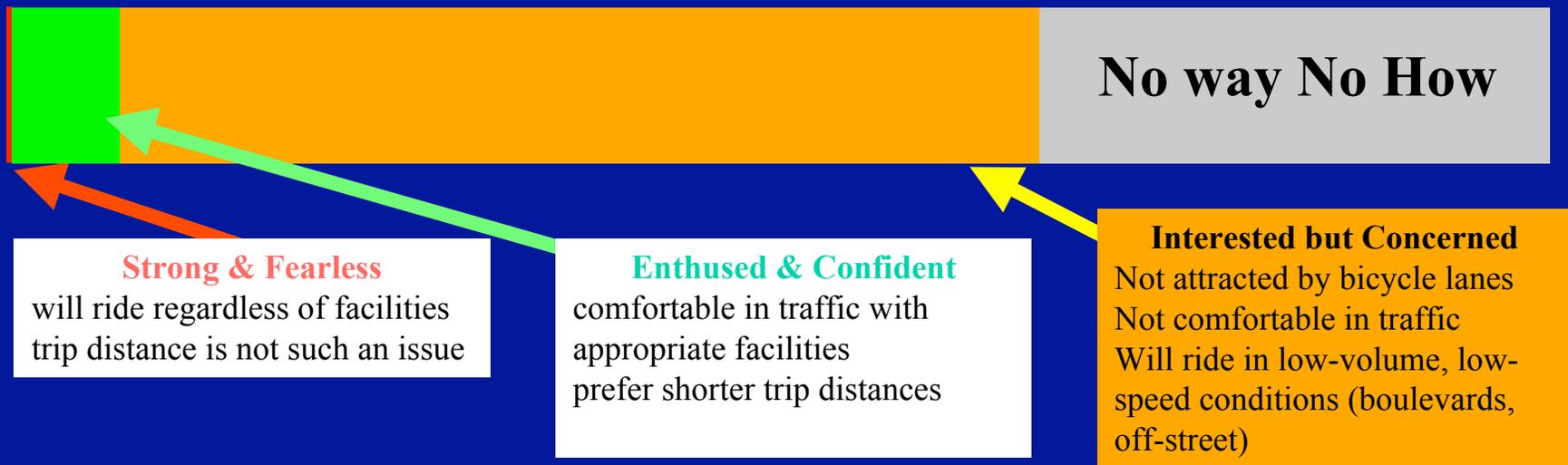
# Cyclist Injury & Fatality Rates per distance cycled



Source: J. Pucher & R. Buehler "Making Cycling Irresistible: Lessons from the Netherlands, Denmark, and Germany" Accepted for publication in *Transport Reviews*, Vol 28, No. 4, July 2008

# 4 Types of Transportation Cyclists

- **Strong & Fearless**      less than 1% of population
- **Enthused & Confident**      7-10% of population
- **Interested but Concerned**      ~60% of population
- **“No Way No How”**      ~30% of population



how do we attract “interested but concerned”?

- **comfort**
- **safety**
- **attractiveness**
- **direct routes**
- **connected system**



# bicycle boulevards



# Bicycle Boulevard

**City Code 16.90.030.**  
**Bicycle Boulevard:**  
A roadway with low  
vehicle traffic volumes  
where the movement of  
bicycles is given  
priority.



# Bicycle Boulevard

To Make A Good Bicycle Boulevard You Need:

People To Feel Safe And  
Comfortable On Superb Facilities



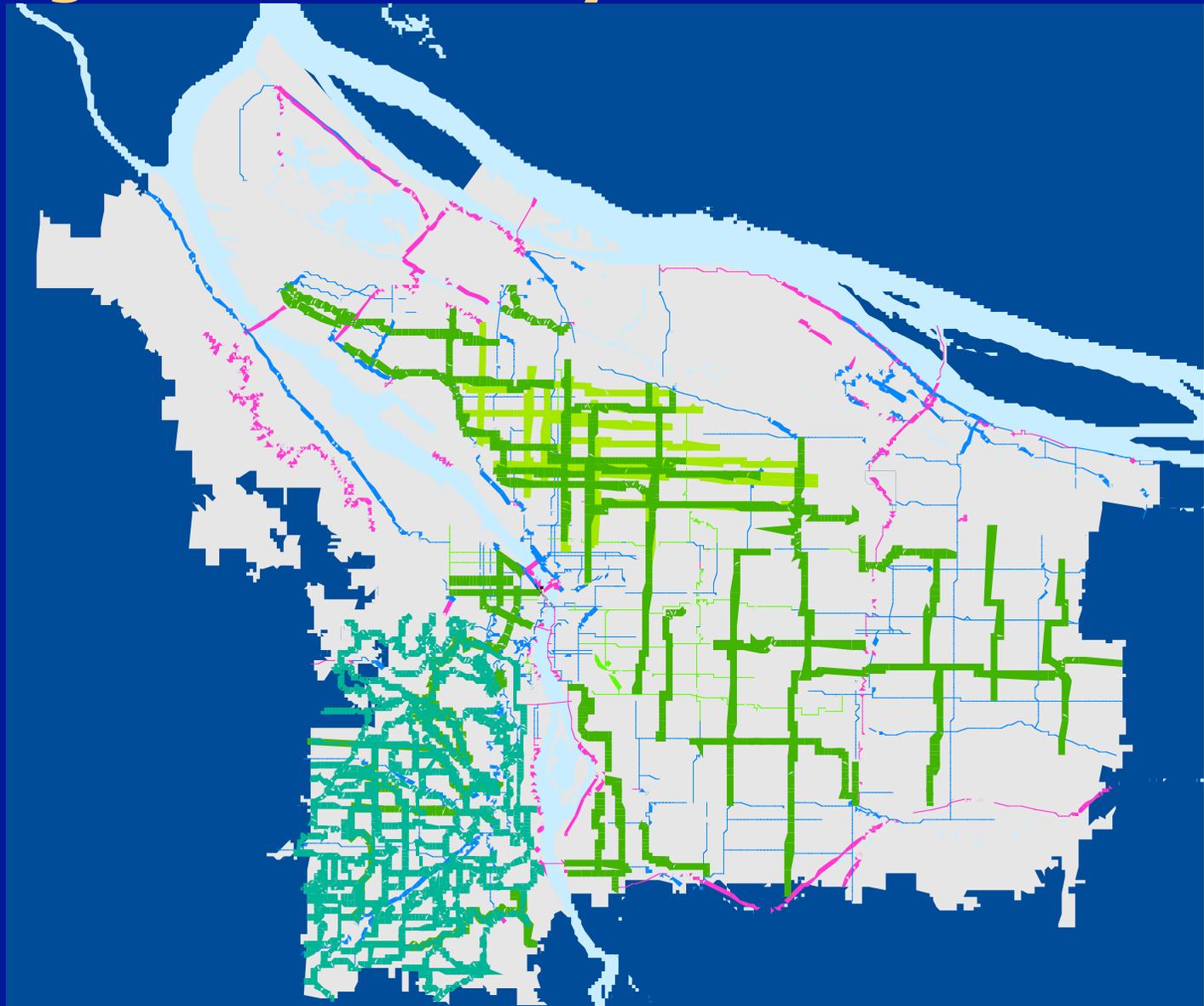
# Expanding Portland's Bicycle Boulevards

**Add in:**

**BTA N/NE  
Boulevards**

**City's Safe,  
Sound & Green**

**SW Trails  
Bikeways**





**attention & separation**



# separation

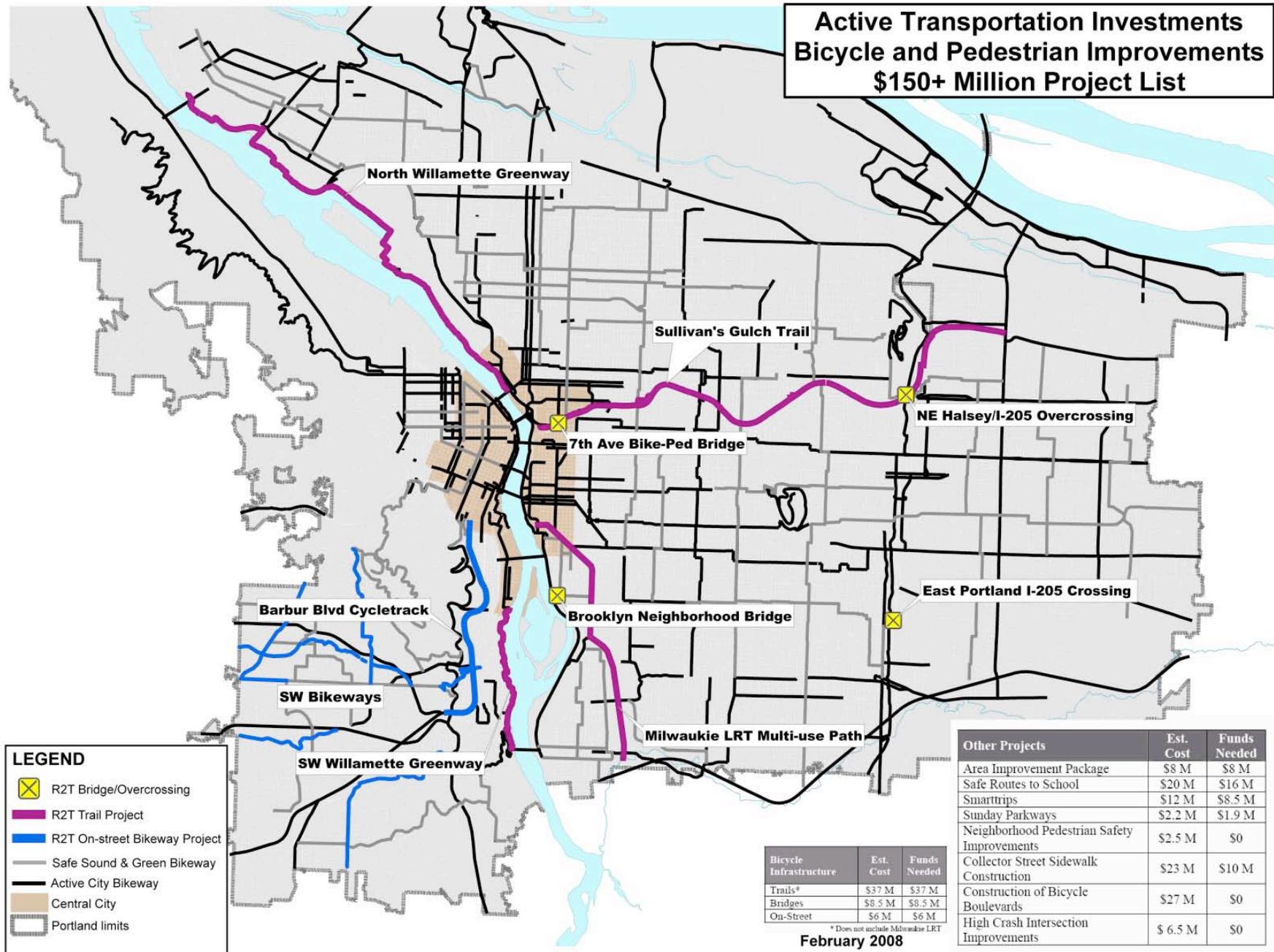


# Portland's "\$150 Million List"

- NP Greenway Trail
- Sullivan's Gulch Trail
- Barbur Blvd Cycletrack
- Greenway Trail Modernization
- "Brooklyn Bridge"
- NE 7th Avenue Bridge
- Halsey Street Overcrossing
- SW Bikeways
- Milwaukie LRT Multi-Use Path
- East Portland I-205 Bike Bridge
- 120 Miles of Bicycle Boulevards
- Area Improvement Package
- Expansion of Smartrips Program
- Sunday Parkways
- Expand SR2S Program
- Neighborhood Pedestrian Safety Improvements
- Collector Street Sidewalk Construction
- High Crash Intersection Improvements

# Portland's \$150 Million Plan

## Active Transportation Investments Bicycle and Pedestrian Improvements \$150+ Million Project List



# To Get to the City We Want

- **Policies**

- prioritize the bicycle

- **Funding**

- building a system, providing education, encouraging bicycling costs money

- **Designs**

- better designs to enhance comfort and safety
- designs that communicate transportation hierarchy

# Numbers to Consider

**0.04%**

Percentage of state budget we'd need to spend \$18 per capita on bicycle facilities & programs in Oregon's urban areas

**1.3%**

Percentage of state transportation budget we'd need to spend \$18 per capita on bicycle facilities & programs in Oregon's urban areas

**0.33%**

Percentage of Portland's annual budget Portland would need to spend \$18 per capita on bicycle facilities & programs















**Portland Rush Hour**



**For more information:**

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**503.823.7671**

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**[www.portlandonline.com/transportation](http://www.portlandonline.com/transportation)**

**search for “Platinum”**