

Joyride: Pedaling Toward A Healthier Planet 12 Keys to Success



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Big Hair!



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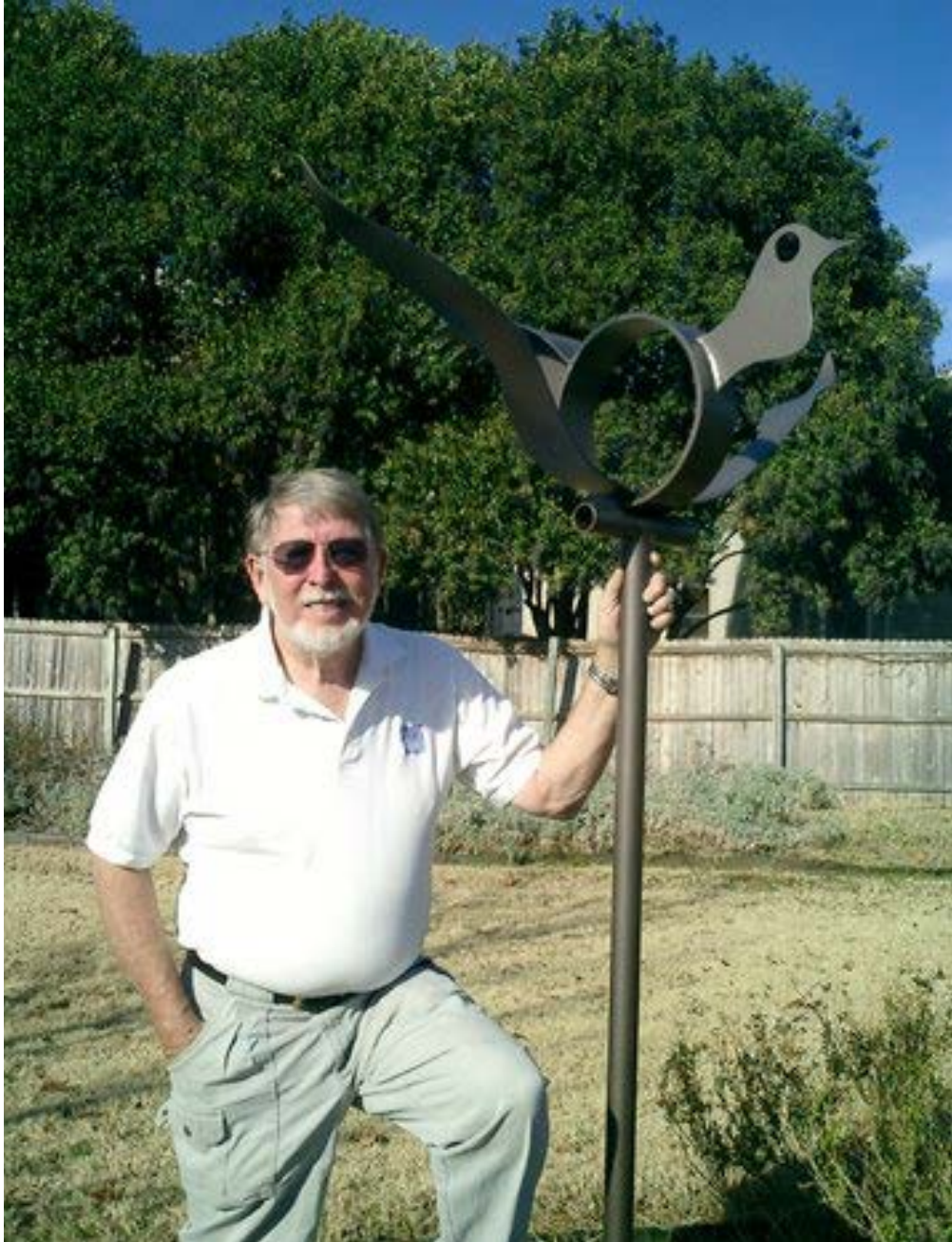
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“Go on...
take my bike”







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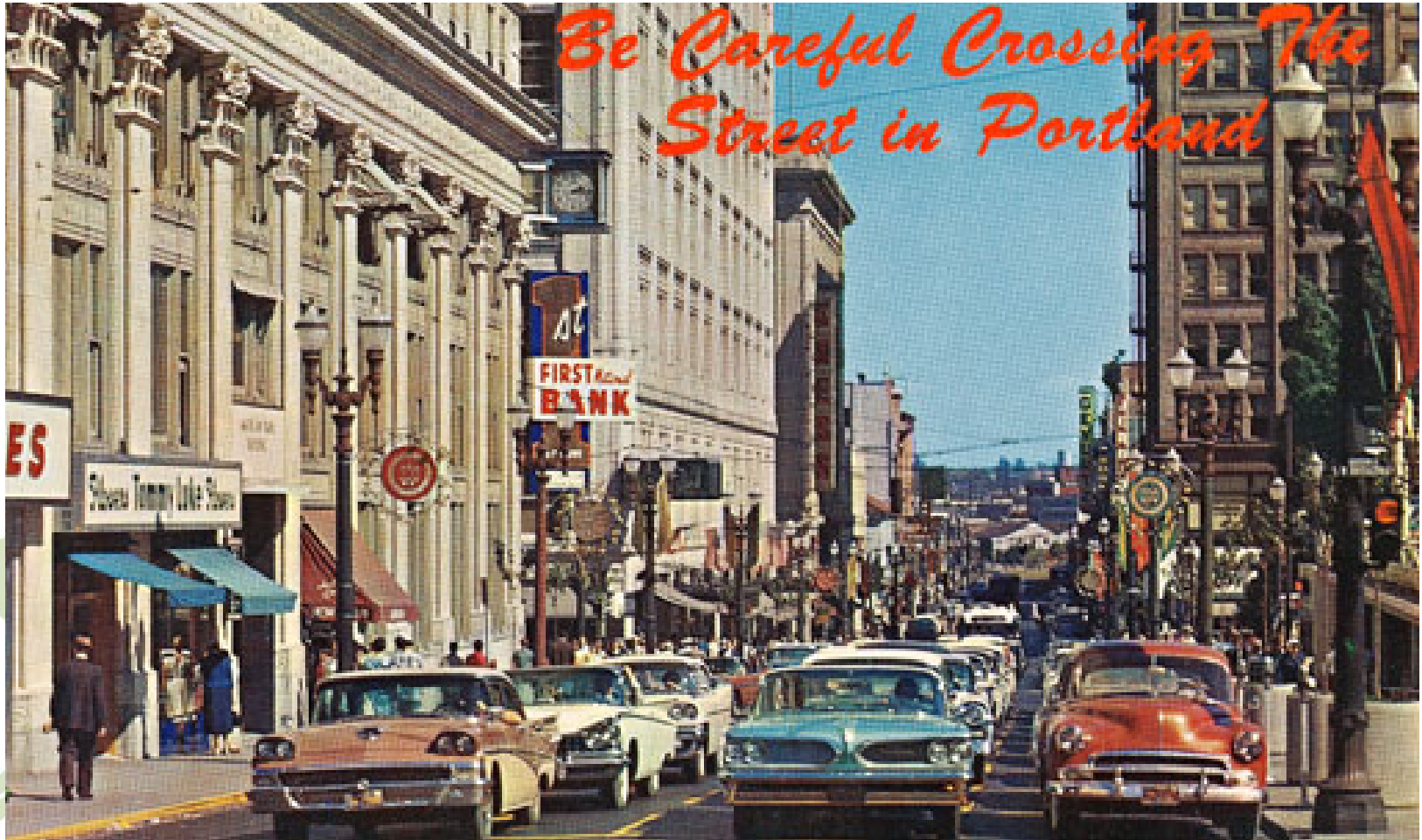


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Be Careful Crossing The Street in Portland



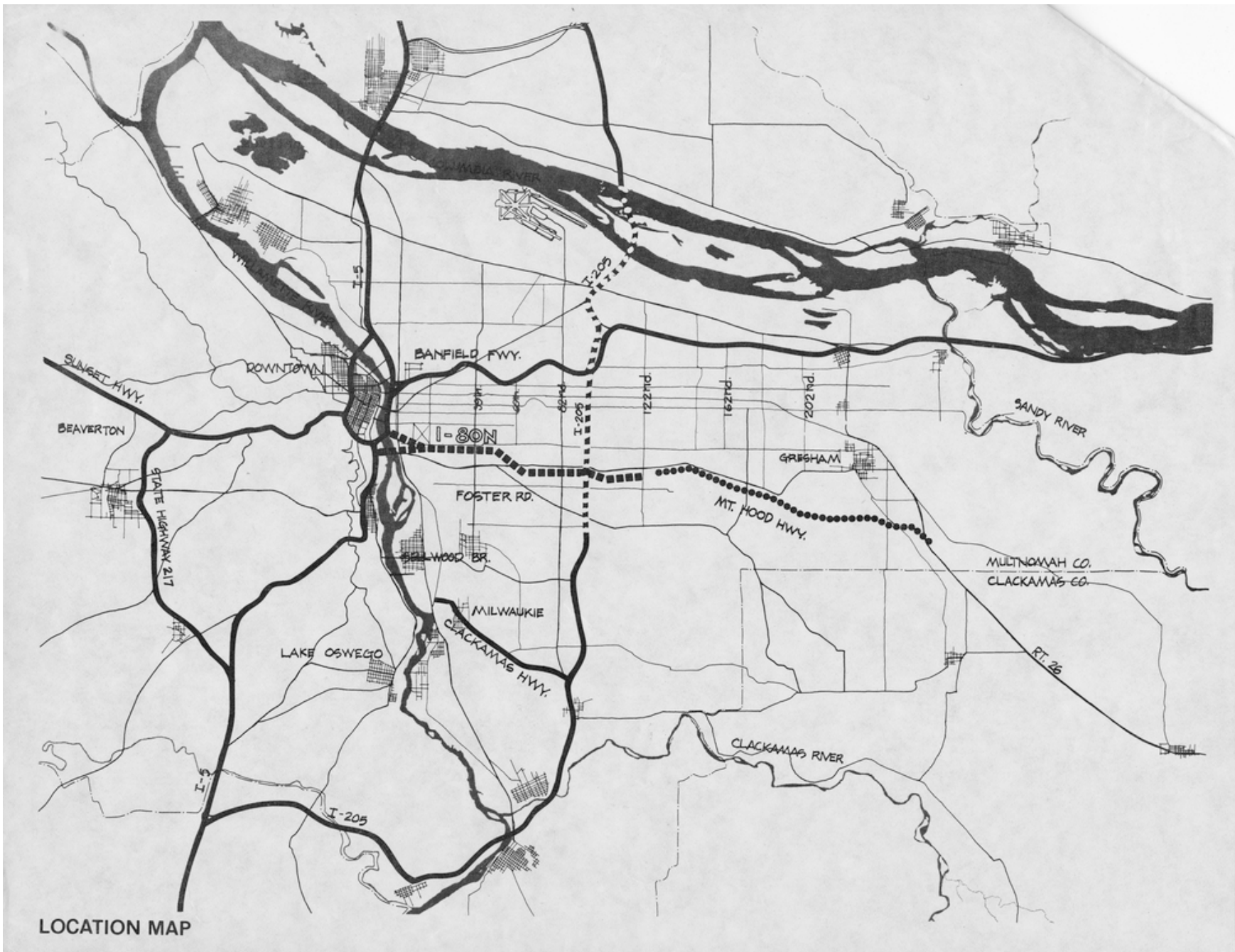




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LOCATION MAP

Light Rail



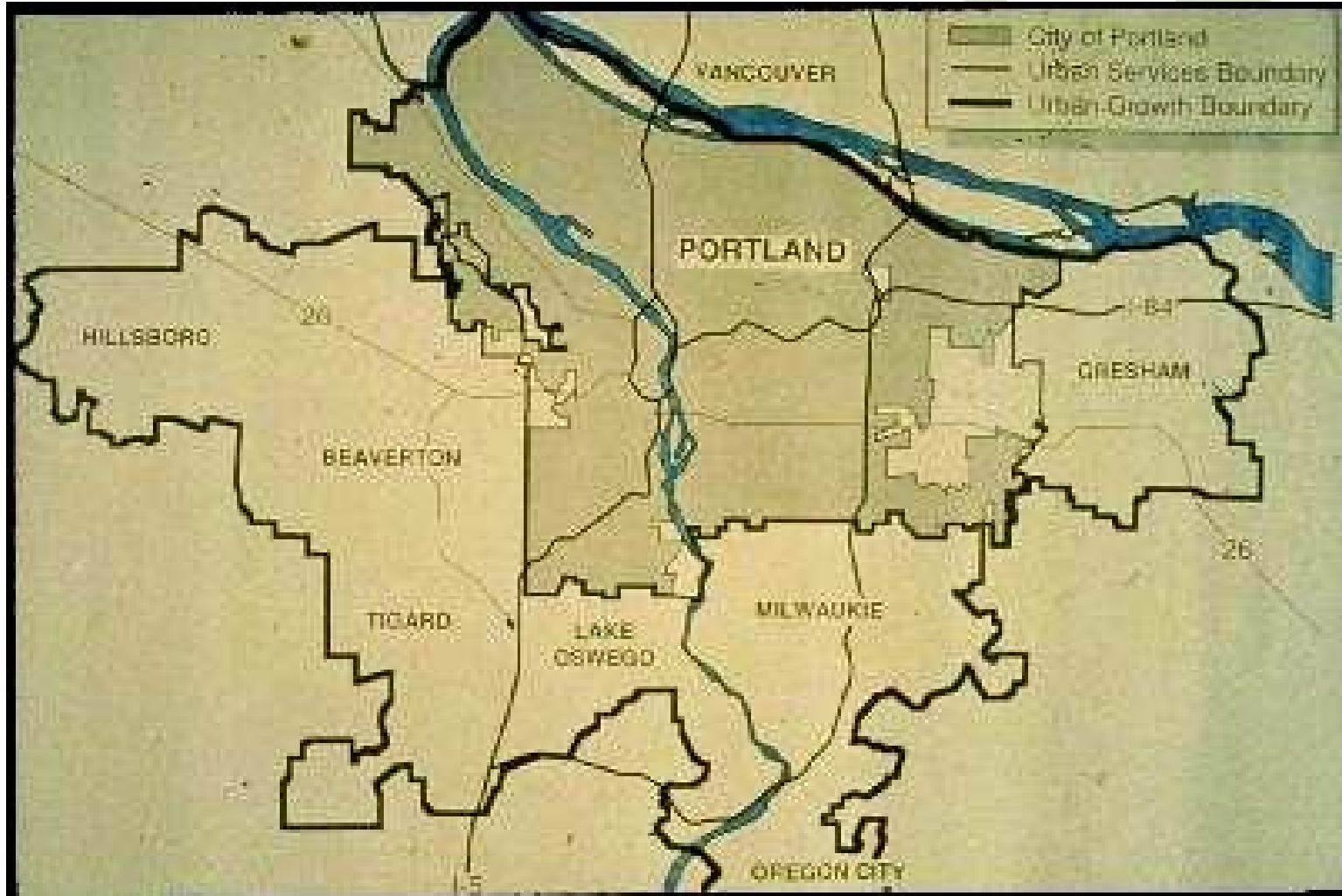
Pioneer Square



Harbor Drive becomes Waterfront Park



Urban Growth Boundary



Compact development



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



Key 1: Political leadership

- Then City Commissioner, now Congressman Earl Blumenauer



Key 2: Advocacy





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The state of bike parking





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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

Long way to go...



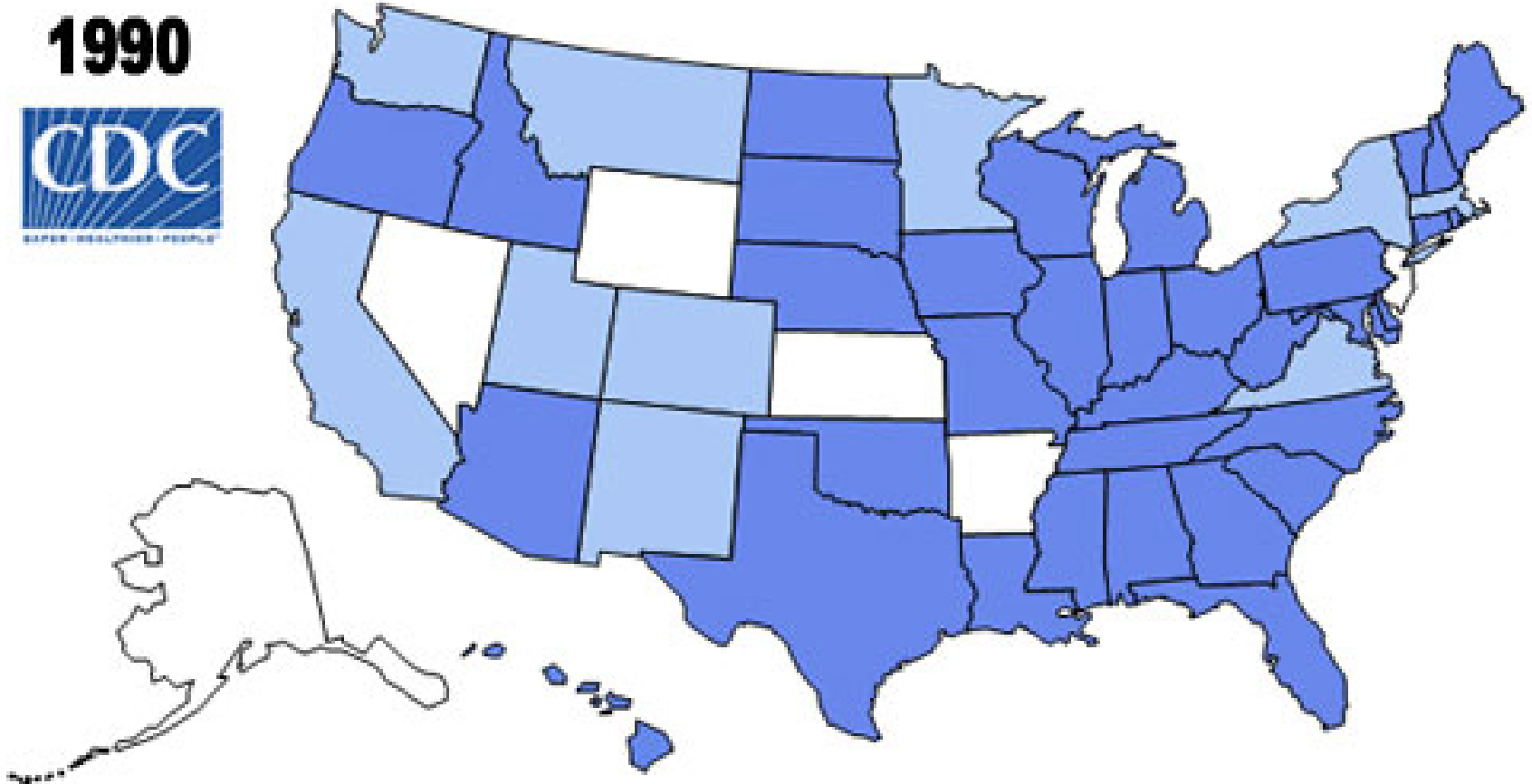




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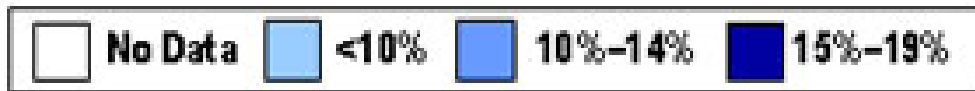
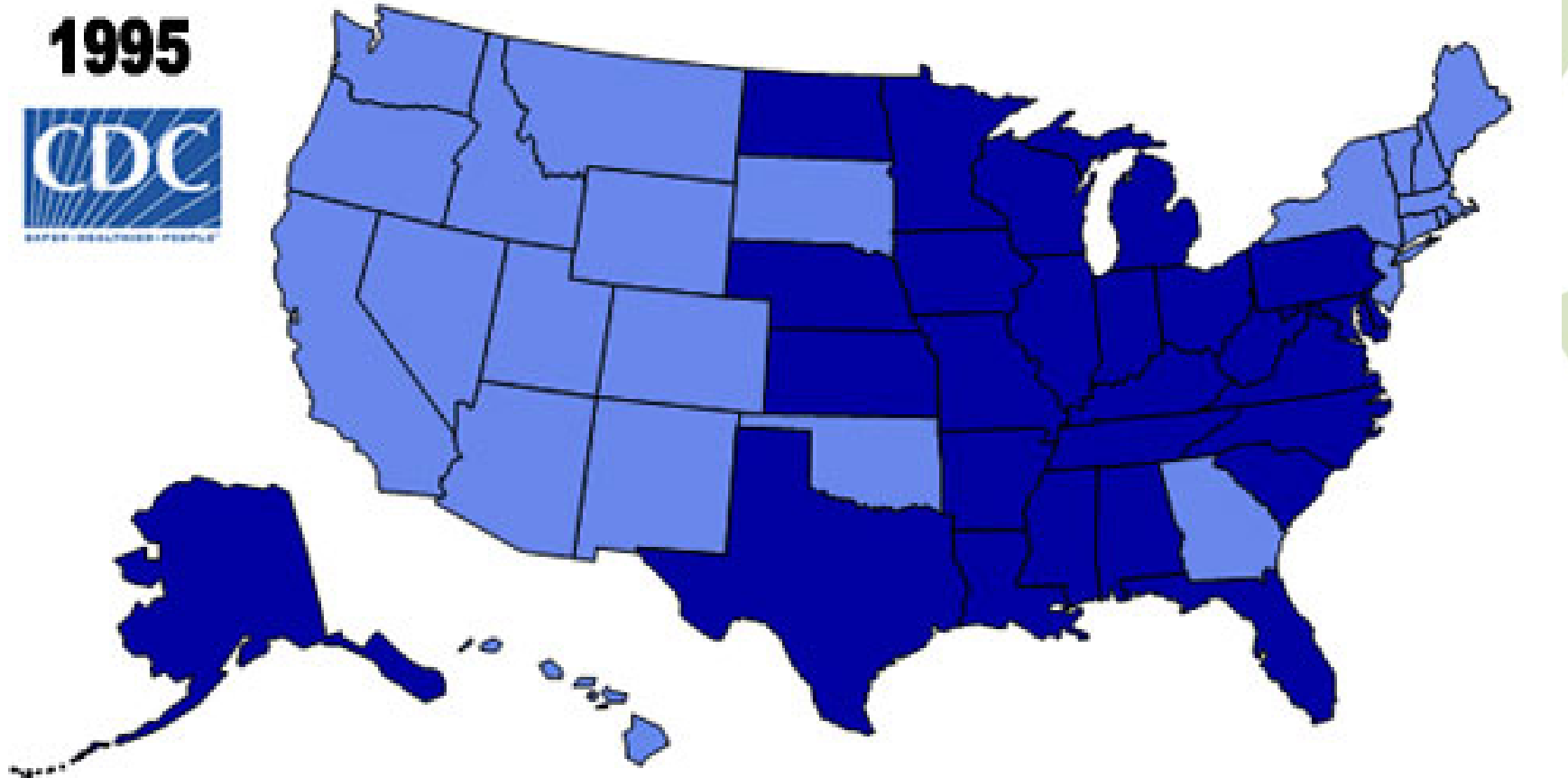
Obesity Trends Among U.S. Adults

1990

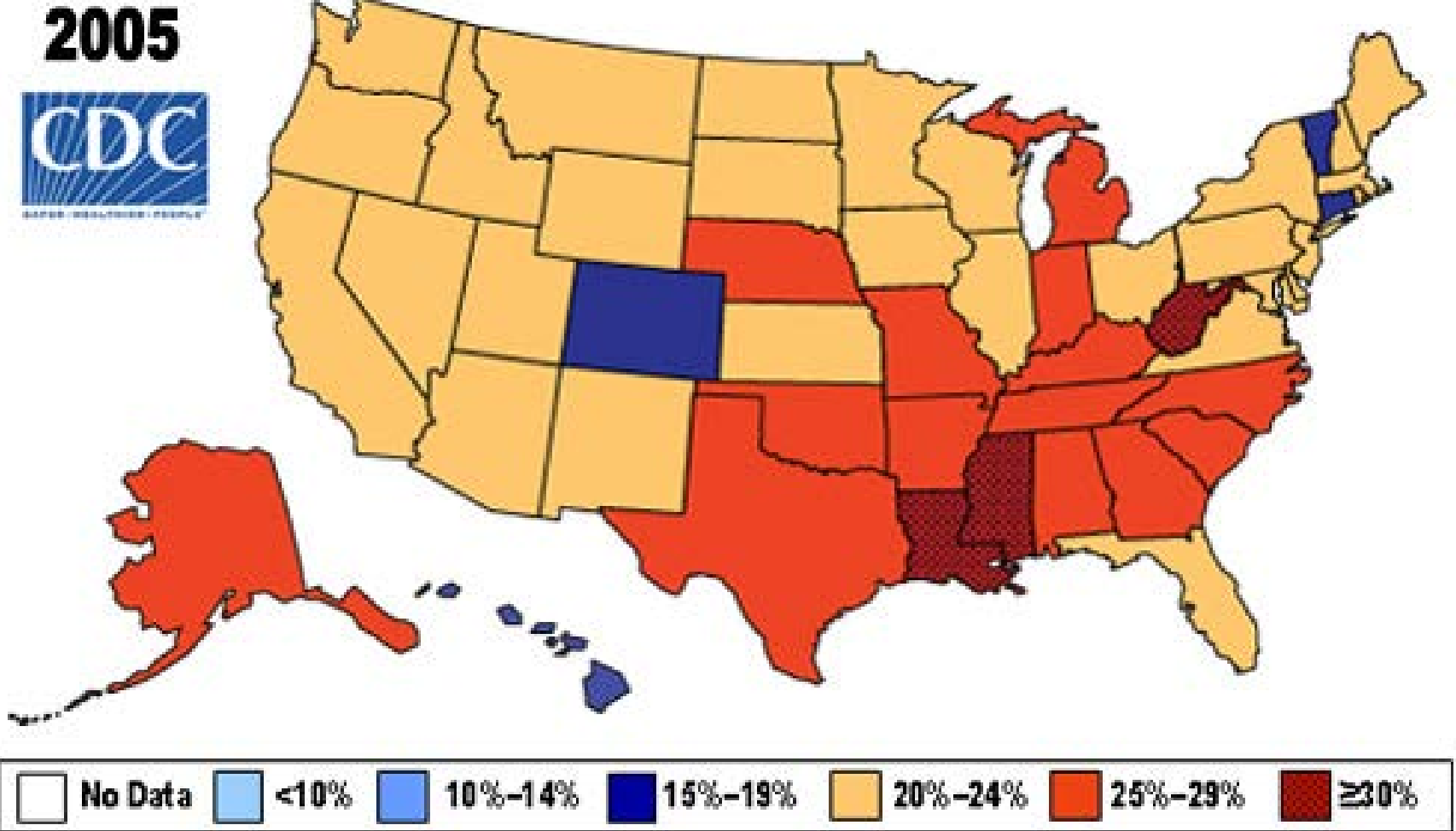


Obesity Trends Among U.S. Adults

1995

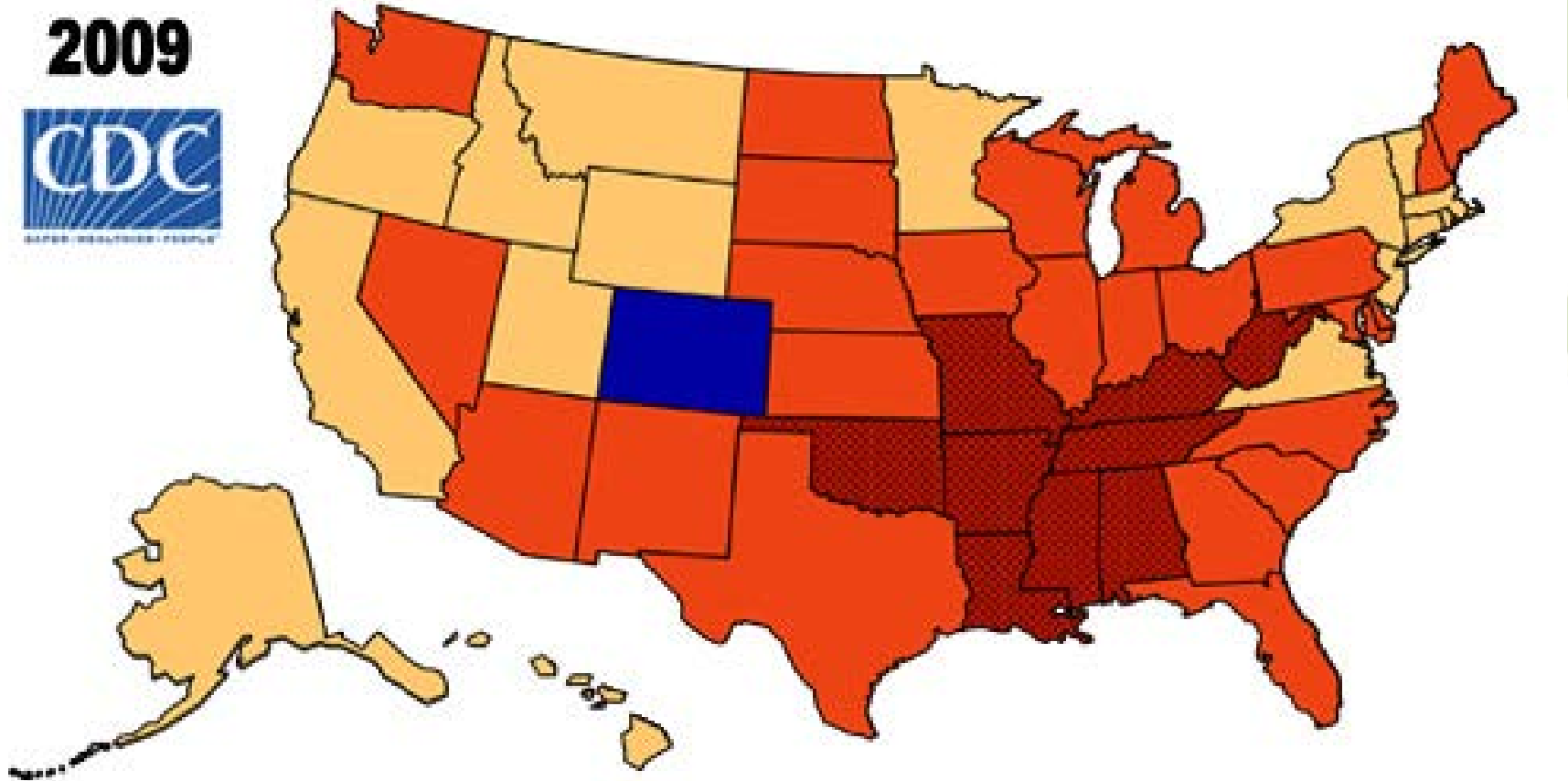


Obesity Trends Among U.S. Adults



Obesity Trends Among U.S. Adults

2009





Bicycle Lanes

- Arterial streets
- Allow bicyclists safe access to main streets
 - quick transport
 - commercial districts
 - safe crossings



Bicycle Boulevards

Low traffic
volume streets
Priority for Bikes
Improvements:
–crossings
–continuous
travel



Off-Street Paths



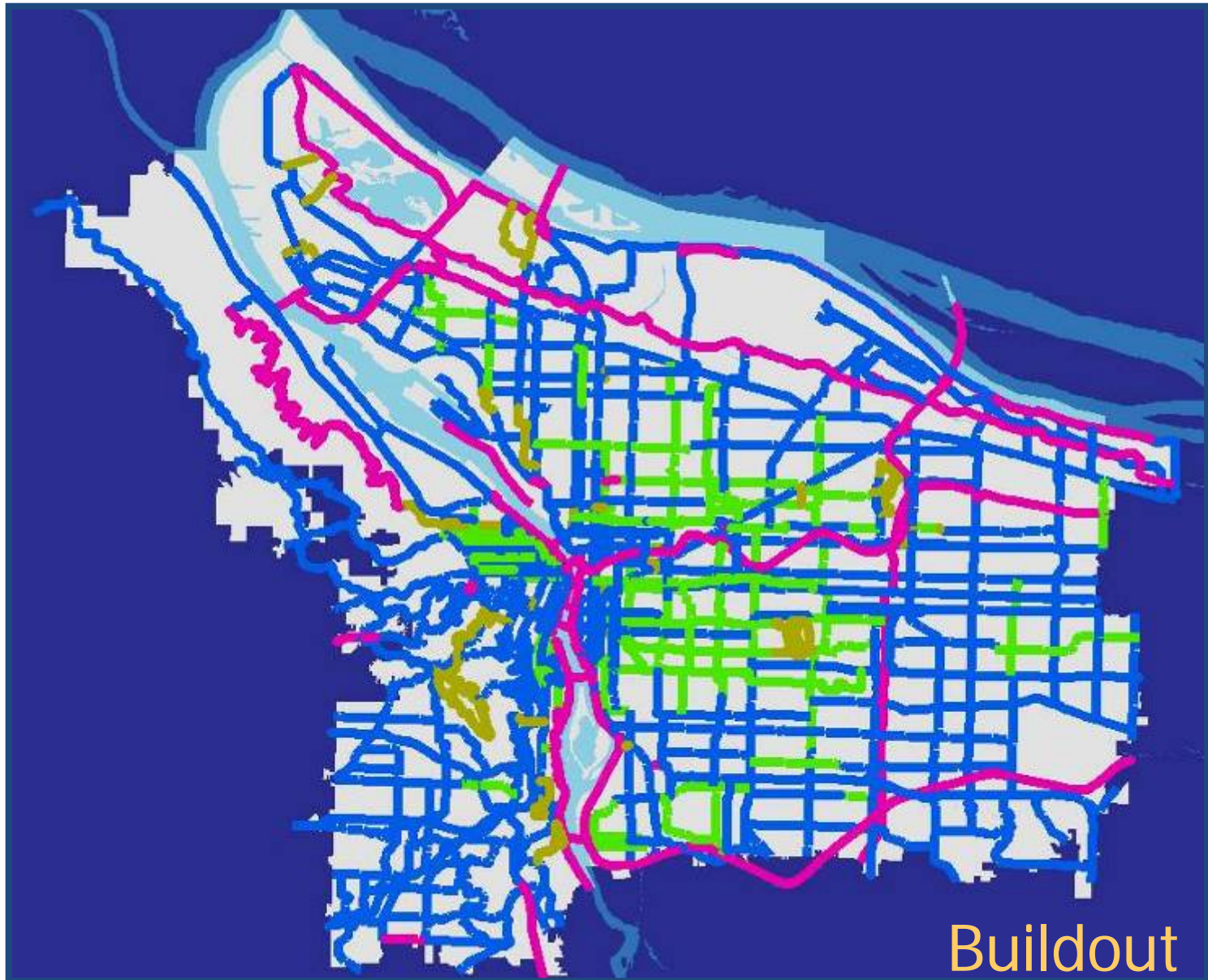
Bicycle Parking



Education



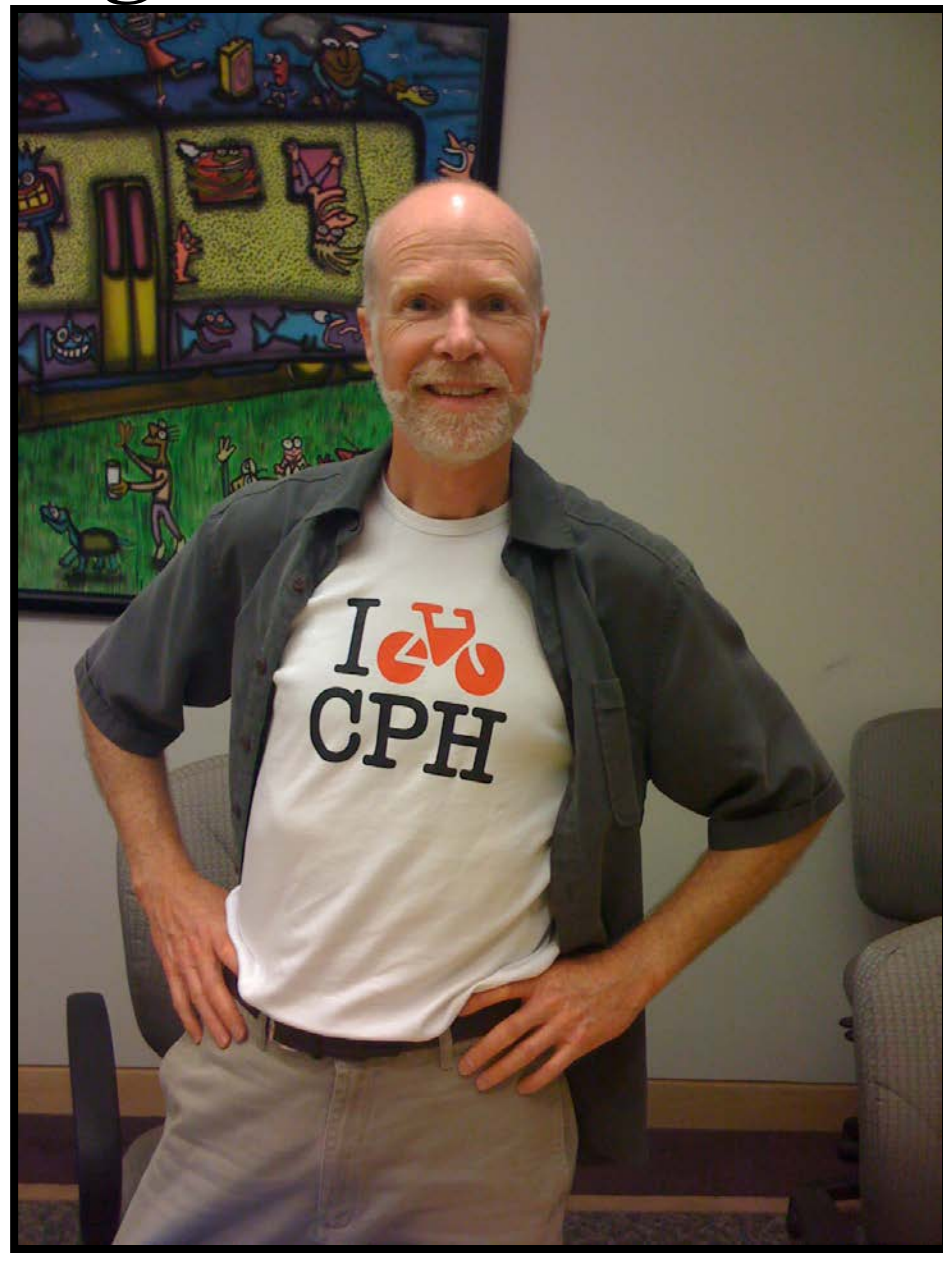
Key #3: Bold, visionary Bike Plan





**Official City Policy:
Make the Bicycle an Integral Part
of Daily Life**

Key #4: The right staff



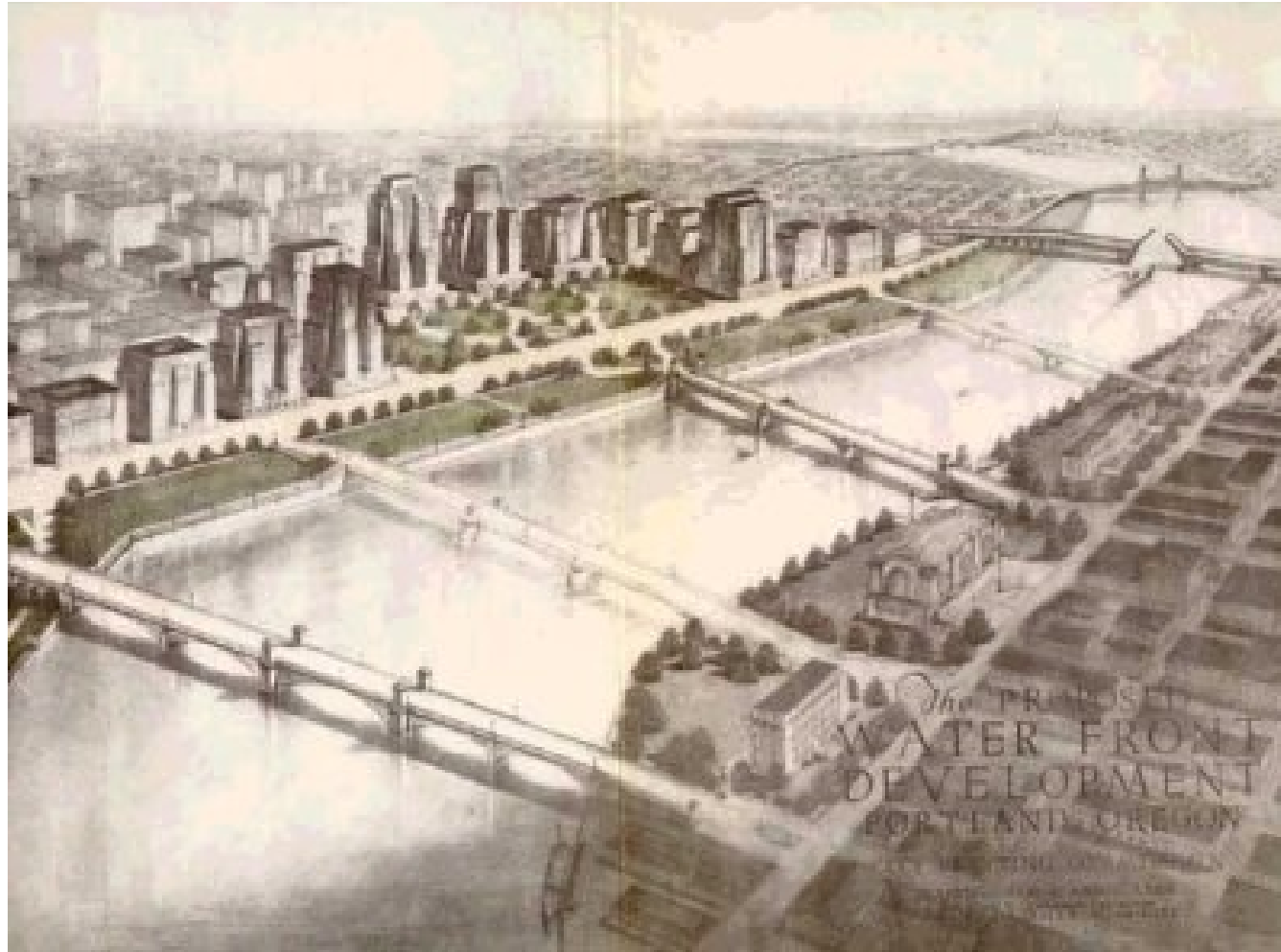
Narrowing Lanes



Removing a Lane – “Road Diet”



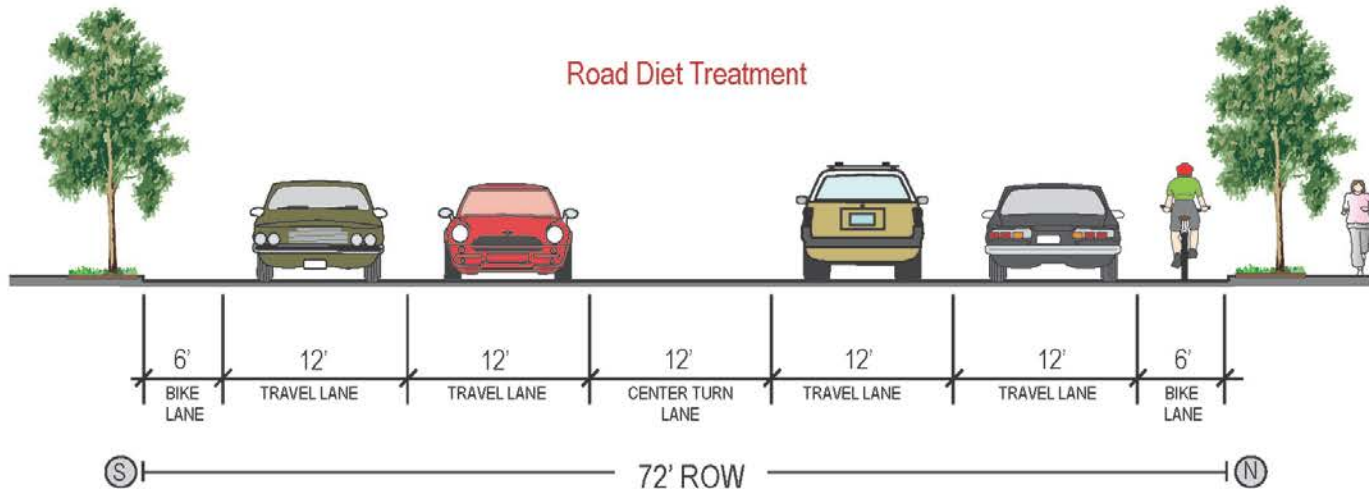
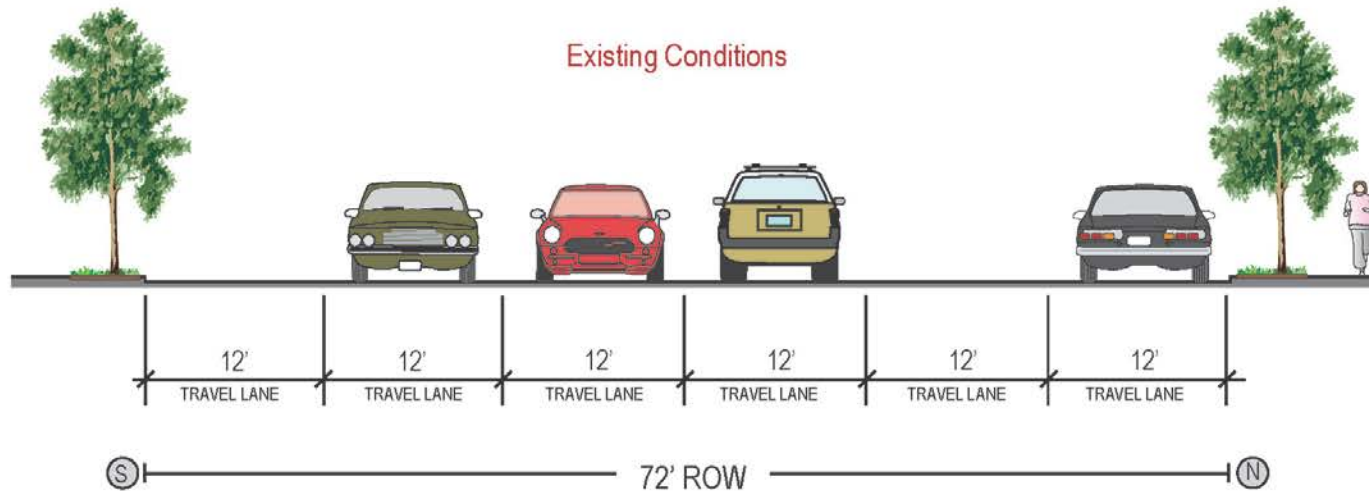
Focus on Bridges



Burnside Bridge



Six to Five Lane Road Diet





ONLY
BIKE





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Key 5: Embrace Role of Change Agent

Big events



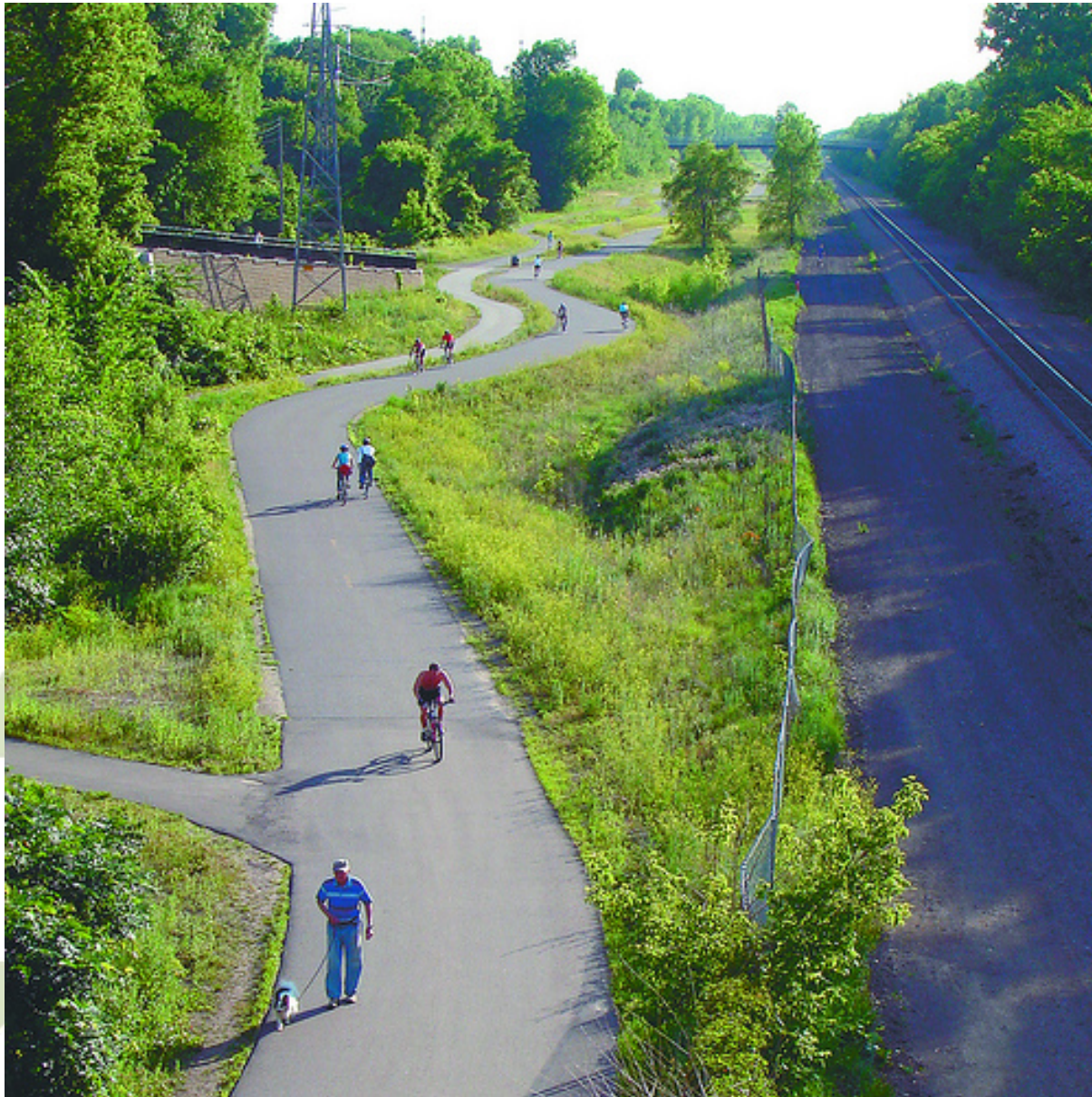
Personalized Travel Encouragement Programs





Safe Routes to School



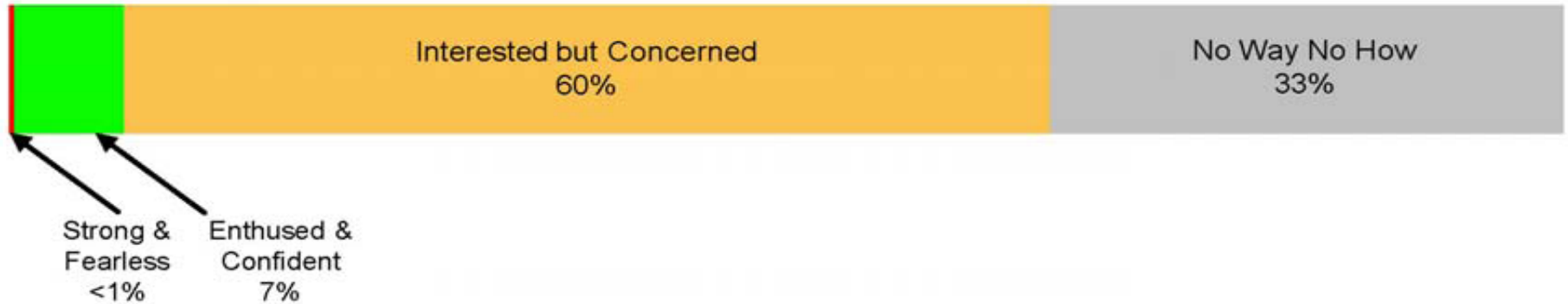


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Four Types of Transportation Cyclists in Portland By Proportion of Population





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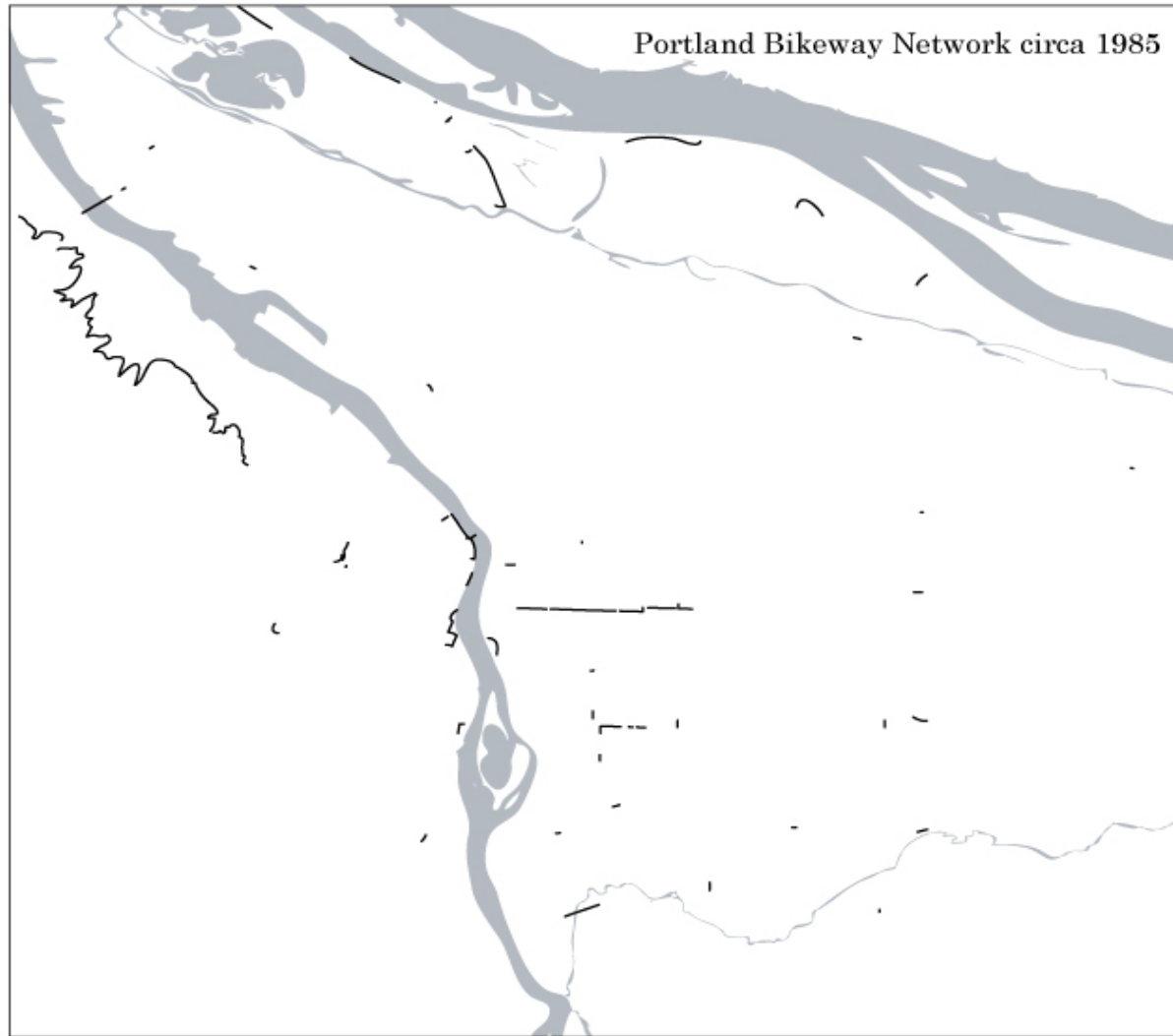
Eastbank Esplanade



Key 6: Thick Skin



Portland Bike network, 1985







Springwater on the Willamette



Before



After

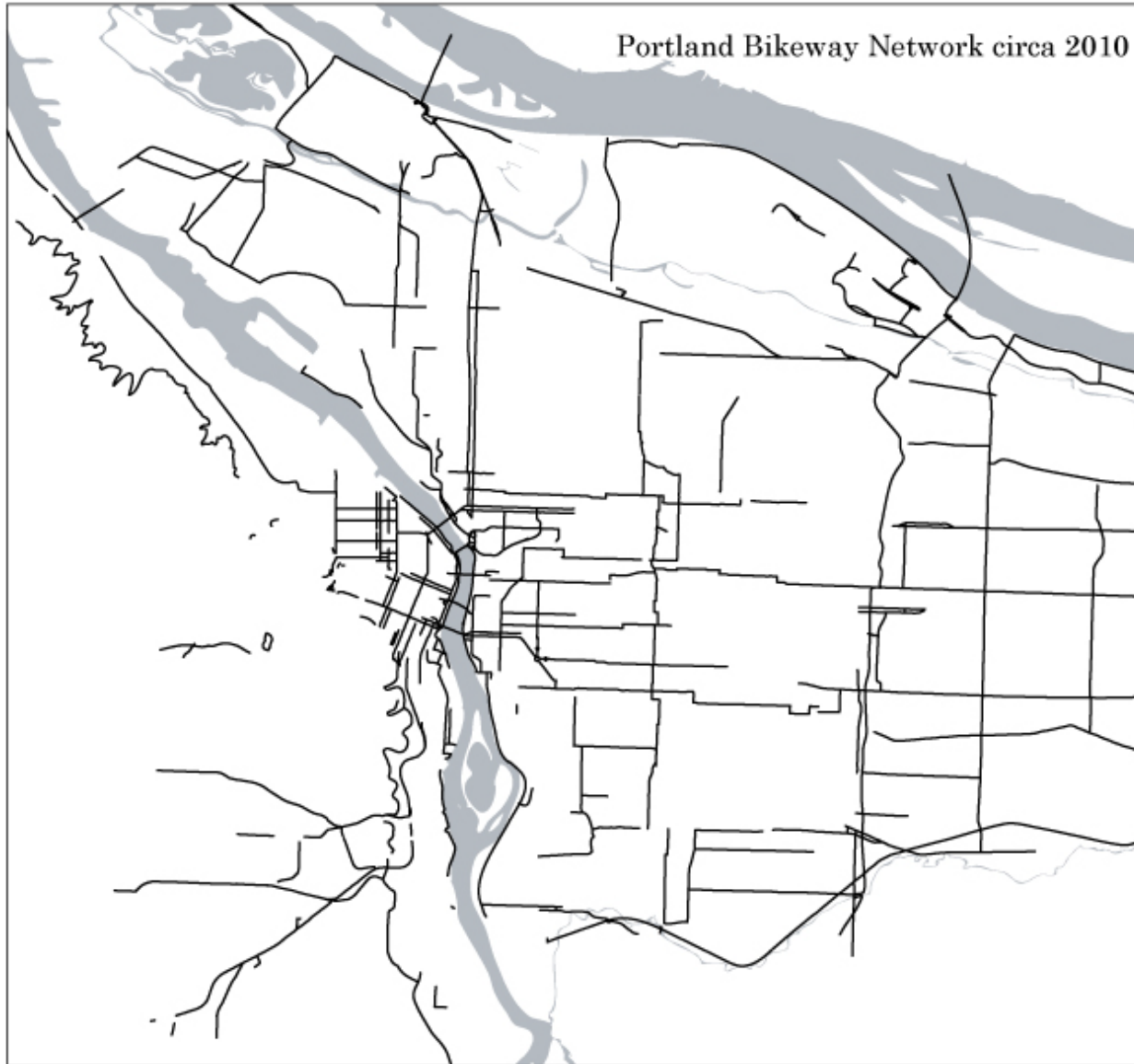
Springwater-OMSI Rail-With-Trail : Portland, Oregon : Opened November 2002

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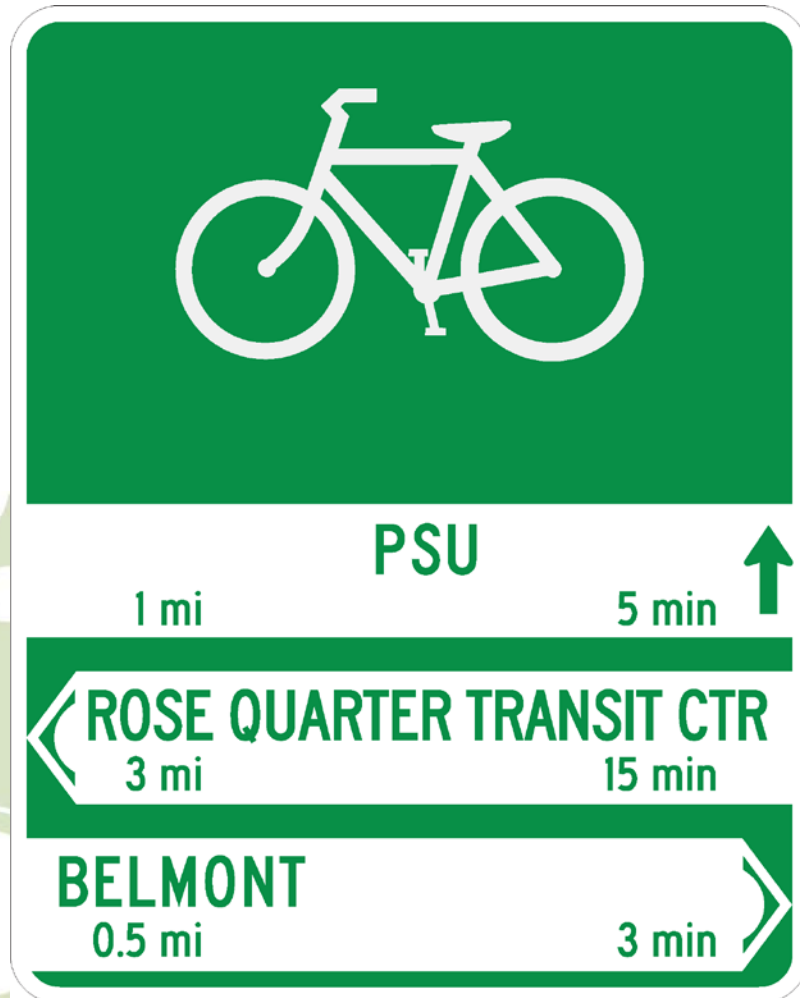
Portland's Bikeway Network Today



Color in conflict areas



Signage



Bike signal



Bicycle Parking



At schools



At businesses

On-Street Bike Parking



Buffered/Protected Bike Lanes



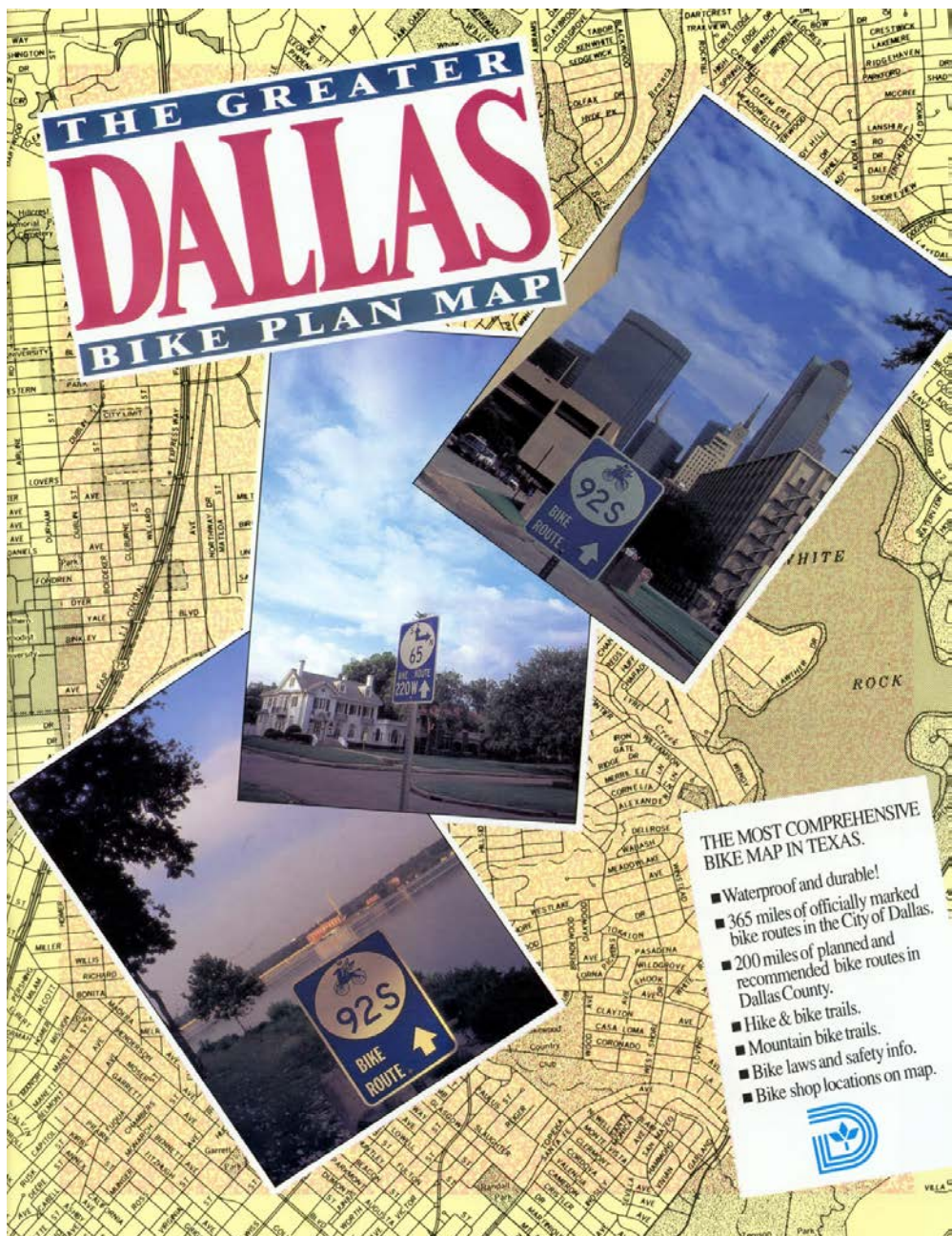




Key 7: Institutionalize throughout public works



THE GREATER DALLAS BIKE PLAN MAP



THE MOST COMPREHENSIVE
BIKE MAP IN TEXAS.

- Waterproof and durable!
- 365 miles of officially marked bike routes in the City of Dallas.
- 200 miles of planned and recommended bike routes in Dallas County.
- Hike & bike trails.
- Mountain bike trails.
- Bike laws and safety info.
- Bike shop locations on map.







Portland



Minneapolis

Vancouver BC

Key: More low stress, separation

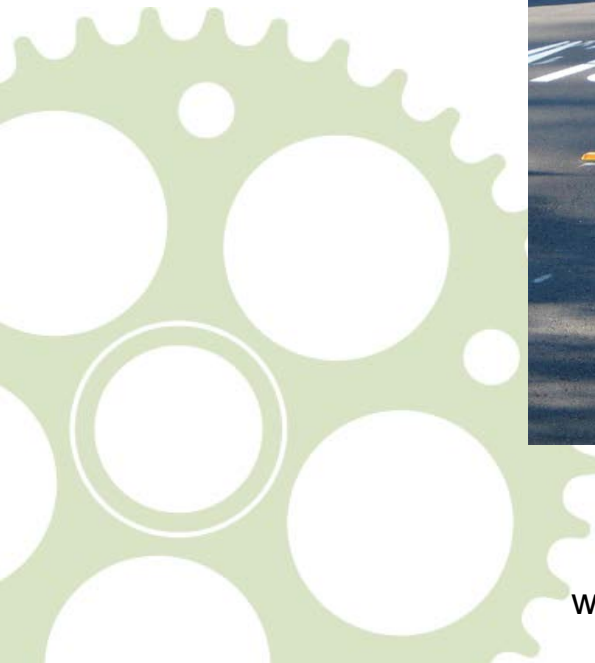


Washington DC



Pennsylvania Ave, Washington DC

Berkeley, CA



Increase professional capacity

Initiative for Bicycle & Pedestrian Innovation:

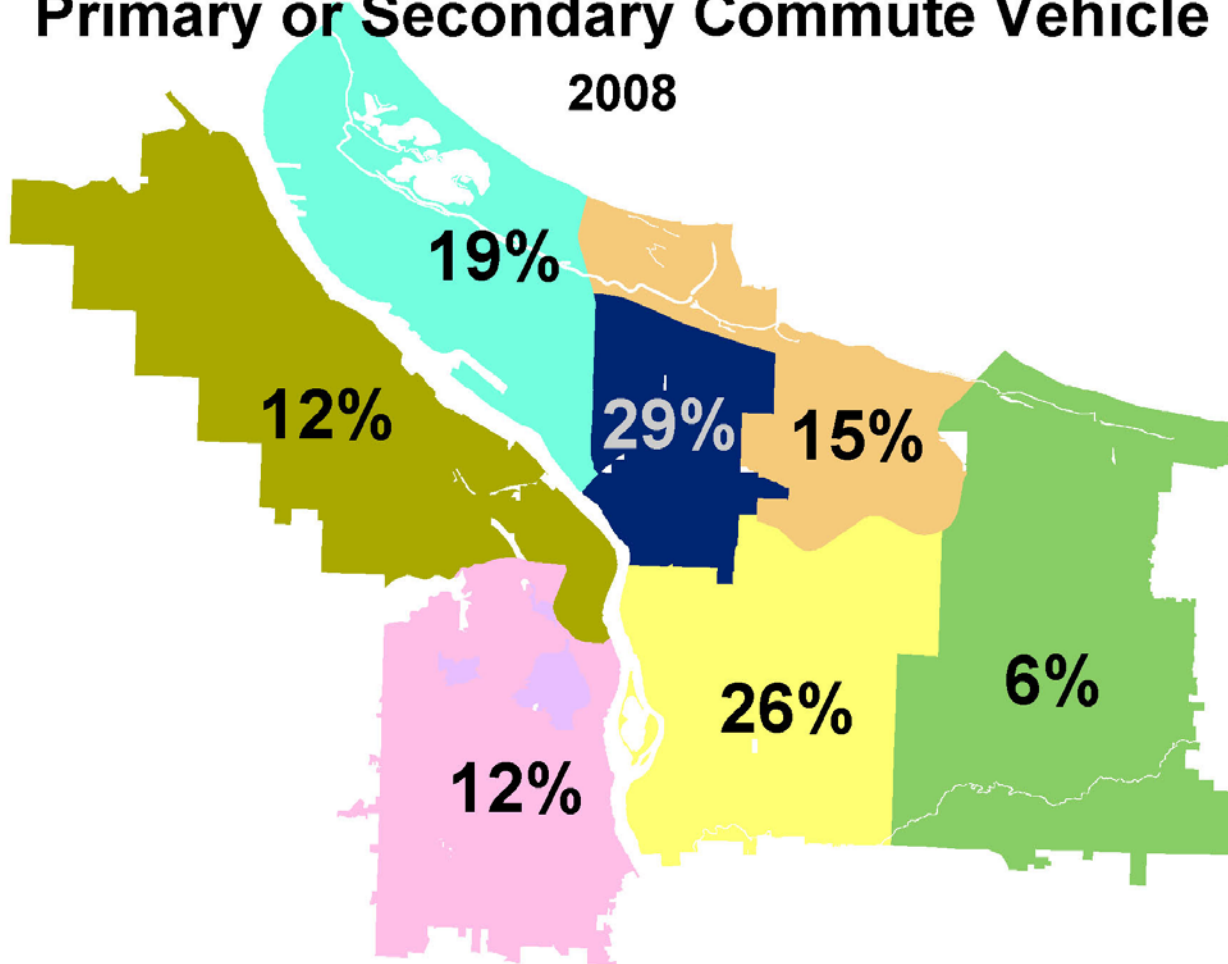
www.ibpi.usp.pdx.edu/



Bicycle Commuting in Portland

People Reporting the Bicycle as Their Primary or Secondary Commute Vehicle

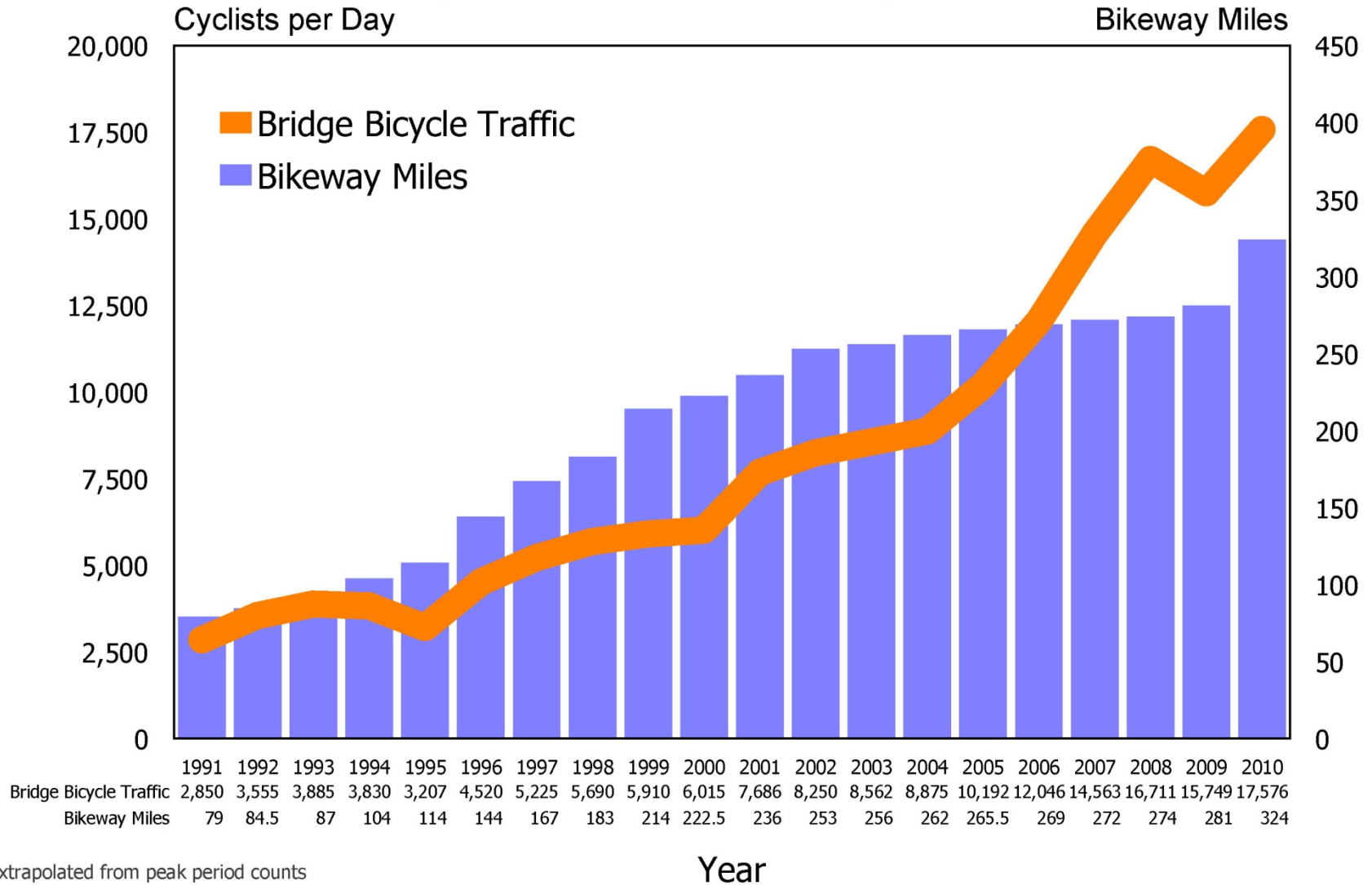
2008



Source: City of Portland Office of the Auditor:
Service Efforts & Accomplishments Report 2007-08

Citywide: 18%

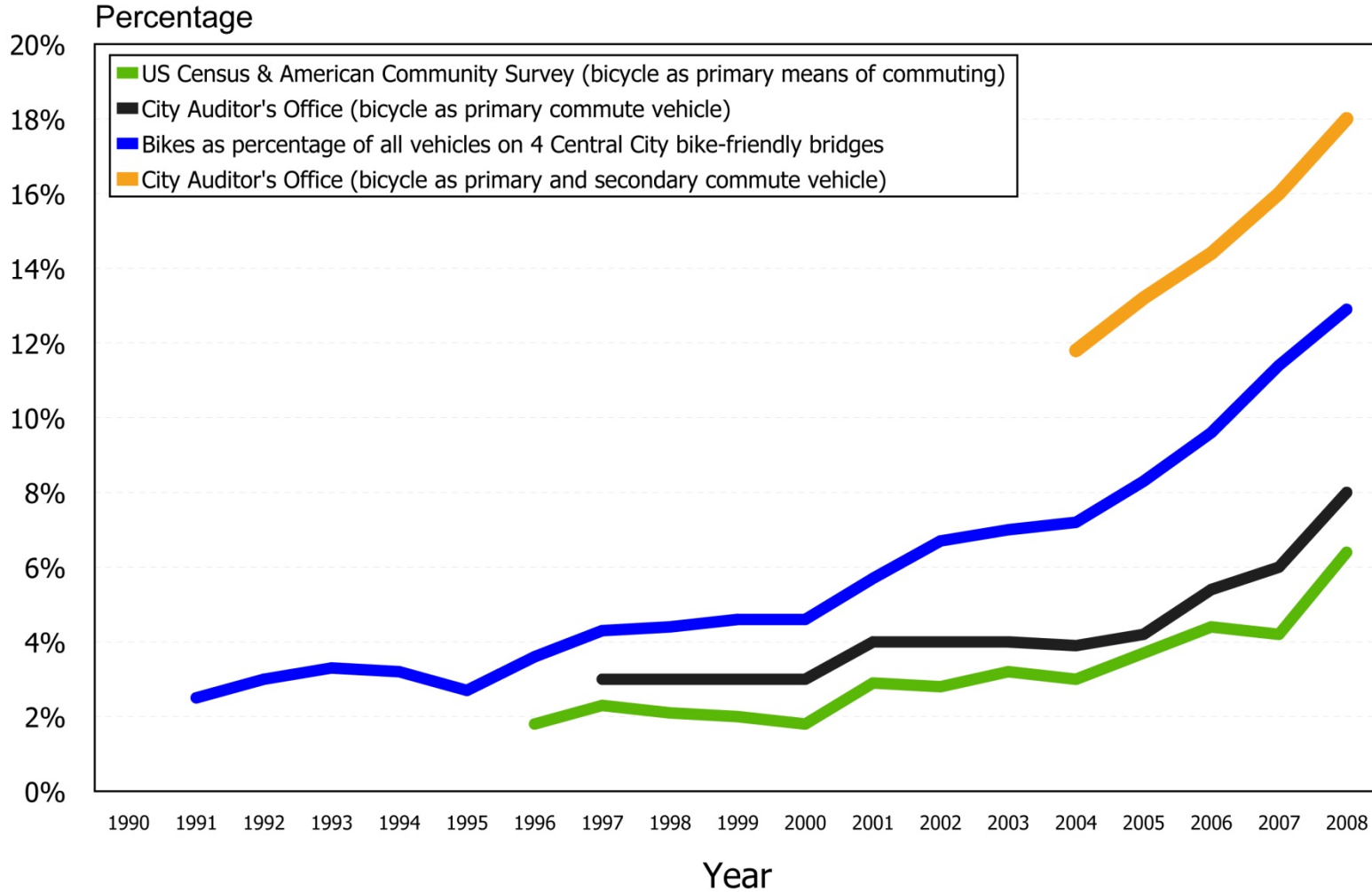
Bicycle Traffic across Four Main Portland Bicycle Bridges Juxtaposed with Bikeway Miles



Extrapolated from peak period counts

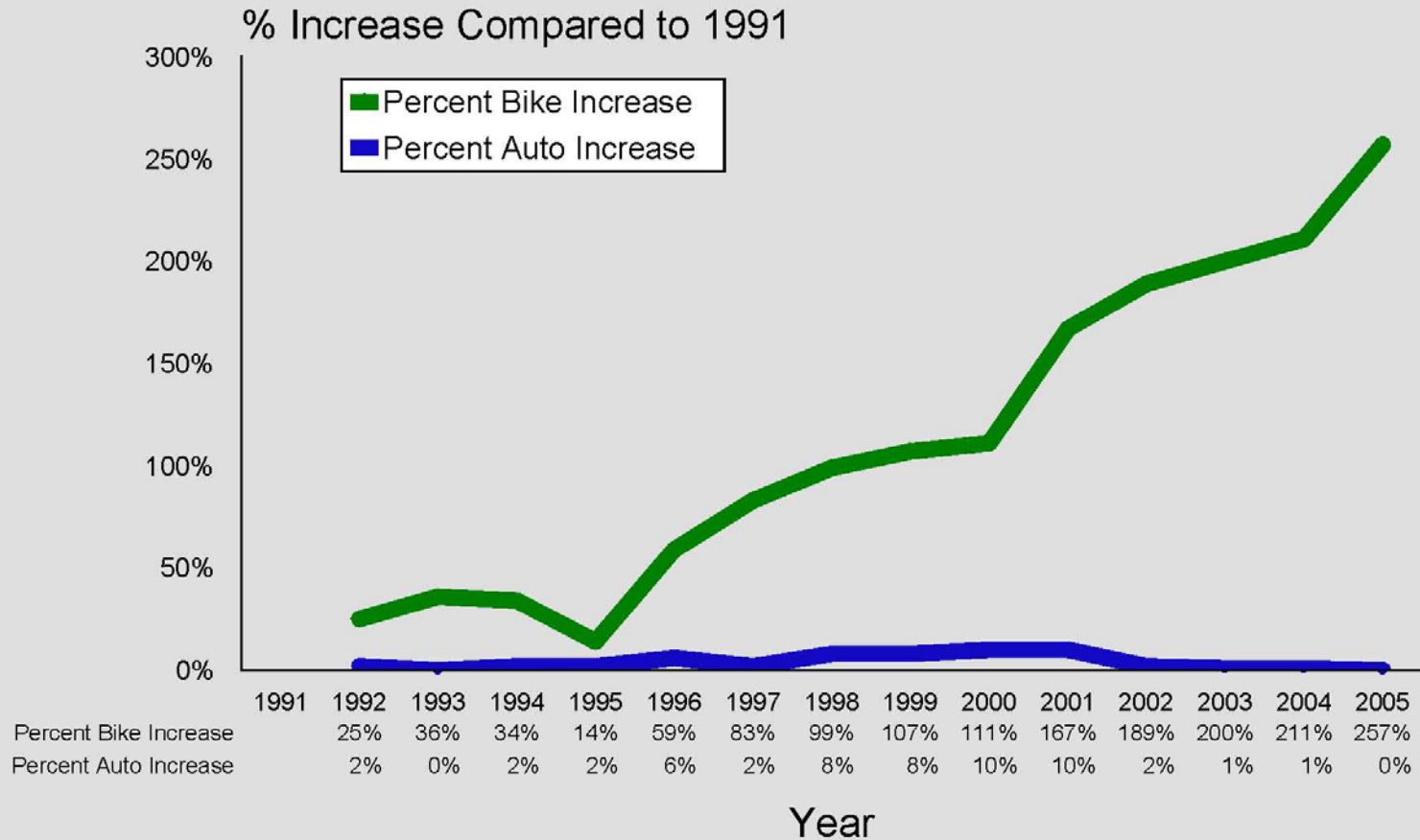
Rising Bicycle Use in Portland

Bridge Counts, US Census, City Auditor's Reports



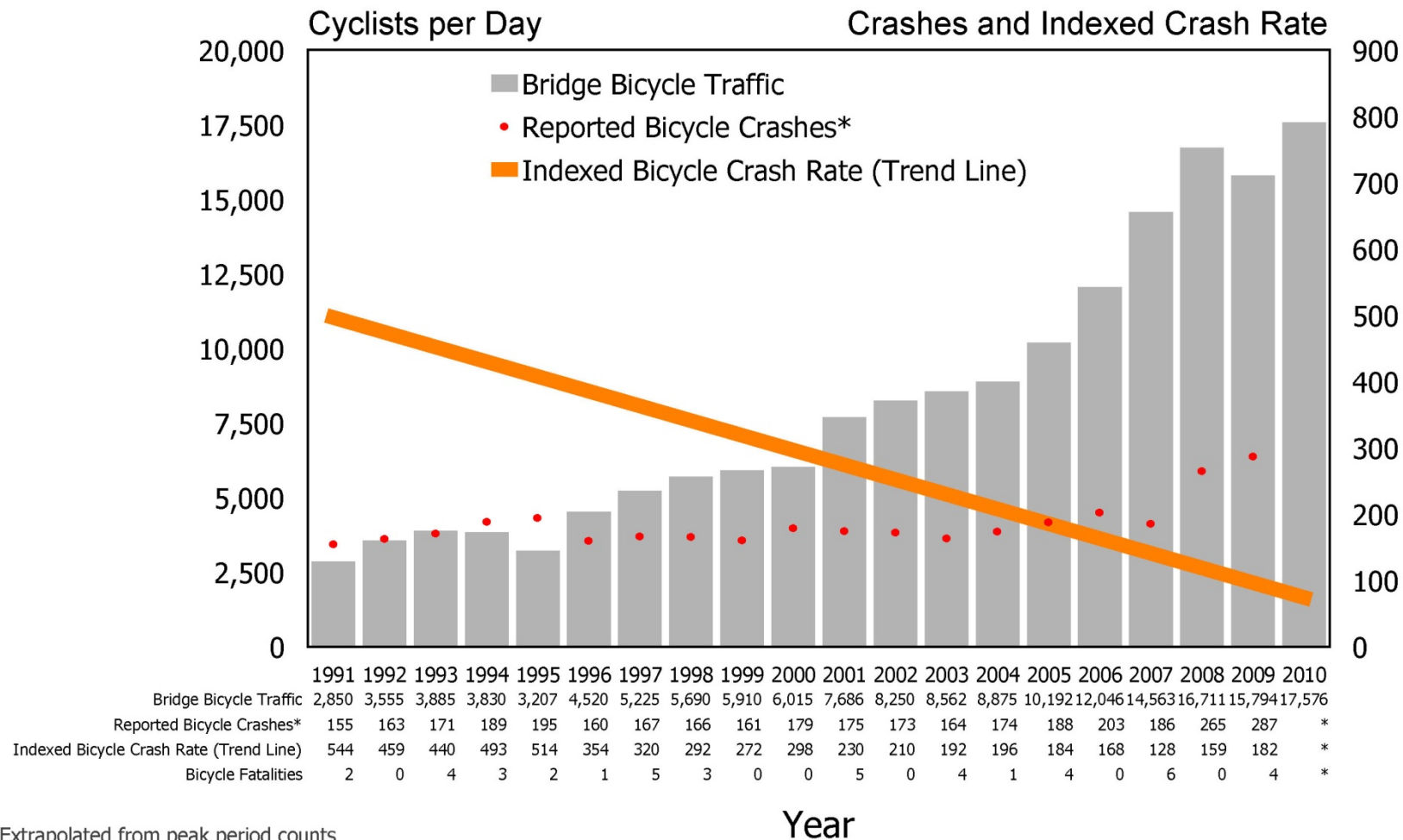
Annual Increase in Bicycle and Automobile Traffic Compared to 1991 Volumes

4 Main Willamette River Bicycle Bridges



Based on either 24-hour hose counts or extrapolated from 4-6 pm counts

Combined Bicycle Traffic over Four Main Portland Bicycle Bridges Juxtaposed with Bicycle Crashes



Extrapolated from peak period counts

"Crash Rate" represents an indexing of annual reported crashes to daily bicycle trips across the four main bicycle bridges.

*2008, 2009 Reported Bicycle Crashes data reflects increased crash reporting requirements.



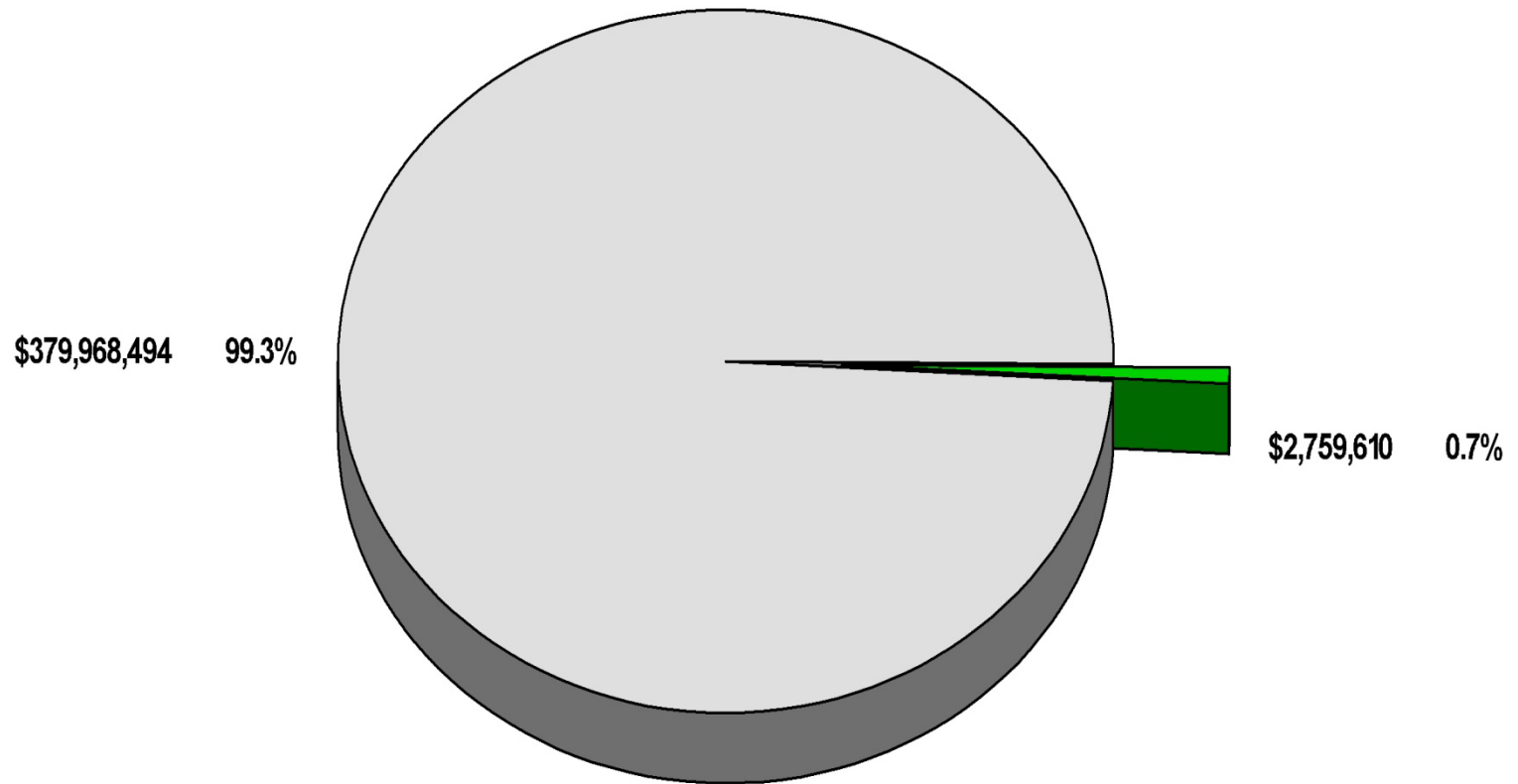
\$100 million bike industry



 **IRA RYAN**
cycles

PDOT's Bicycle Capital Funding 2000-2007

Total Actual
Expenditures: \$383 million 0.7% of PDOT's capital budget!



■ Bicycle Capital Expenditures
□ All Other Capital Expenditures

Key #9: Documentation Your Progress



National Bicycle & Pedestrian
Documentation Project

With the Institute of Transportation Engineers (ITE)

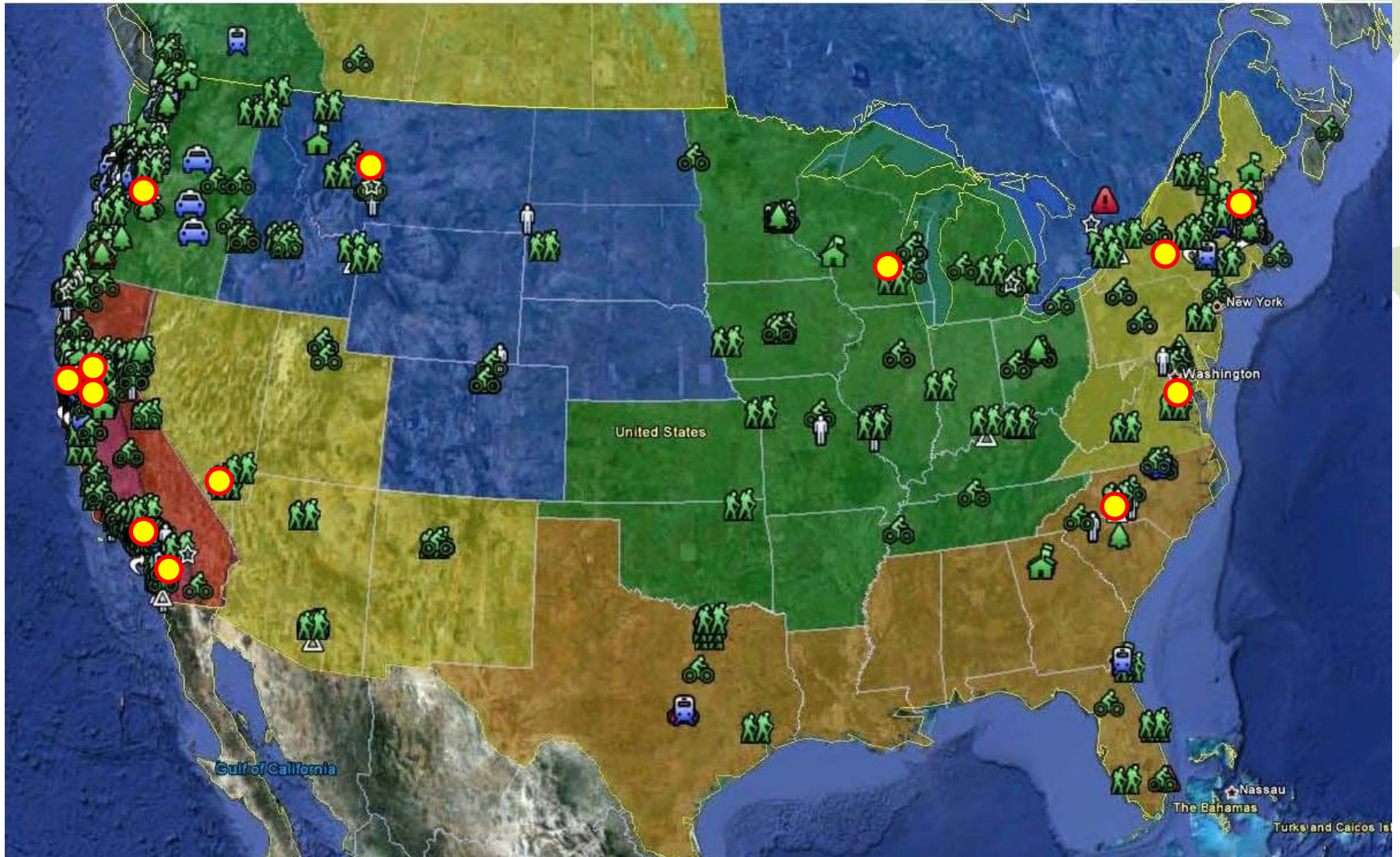
Transportation Research Board
January 2006

Mia Birk, Principal
Michael Jones, Principal
Lauren Buckland, Planner

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PLANNING + DESIGN

Public Bike Sharing



Washington, D.C.

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NACTO Urban Bikeway Design Guide

www.CitiesforCycling.org



Key #10: Use best practices

Online Guide & Slideshow

One-Way Protected Cycle Tracks



Urban Bikeway Design Guide

- Bike Lanes
- Cycle Tracks
 - One-Way Protected Cycle Tracks
 - Raised Cycle Tracks
 - Two-Way Cycle Tracks
- Intersections
- Signals
- Signing & Marking
- City Projects
- Master Reference Matrix

CYCLE TRACKS

A cycle track is an exclusive bike facility that combines the user experience of a separated path with the on-street infrastructure of a conventional bike lane.

A cycle track is physically separated from motor traffic and distinct from the sidewalk. Cycle tracks have different forms but all share common elements—they provide space that is intended to be exclusively or primarily used for bicycles, and are separated from motor vehicle travel lanes, parking lanes, and sidewalks. In situations where on-street parking is allowed cycle tracks are located to the curb-side of the parking (in contrast to bike lanes).

Cycle tracks may be one-way or two-way, and may be at street level, at sidewalk level, or at an intermediate level. If at sidewalk level, a curb or median separates them from motor traffic, while different pavement color/texture separates the cycle track from the sidewalk. If at street level, they can be separated from motor traffic by raised medians, on-street parking, or bollards. By separating cyclists from motor traffic, cycle tracks can offer a higher level of security than bike lanes and are attractive to a wider spectrum of the public.

Raised Cycle Tracks

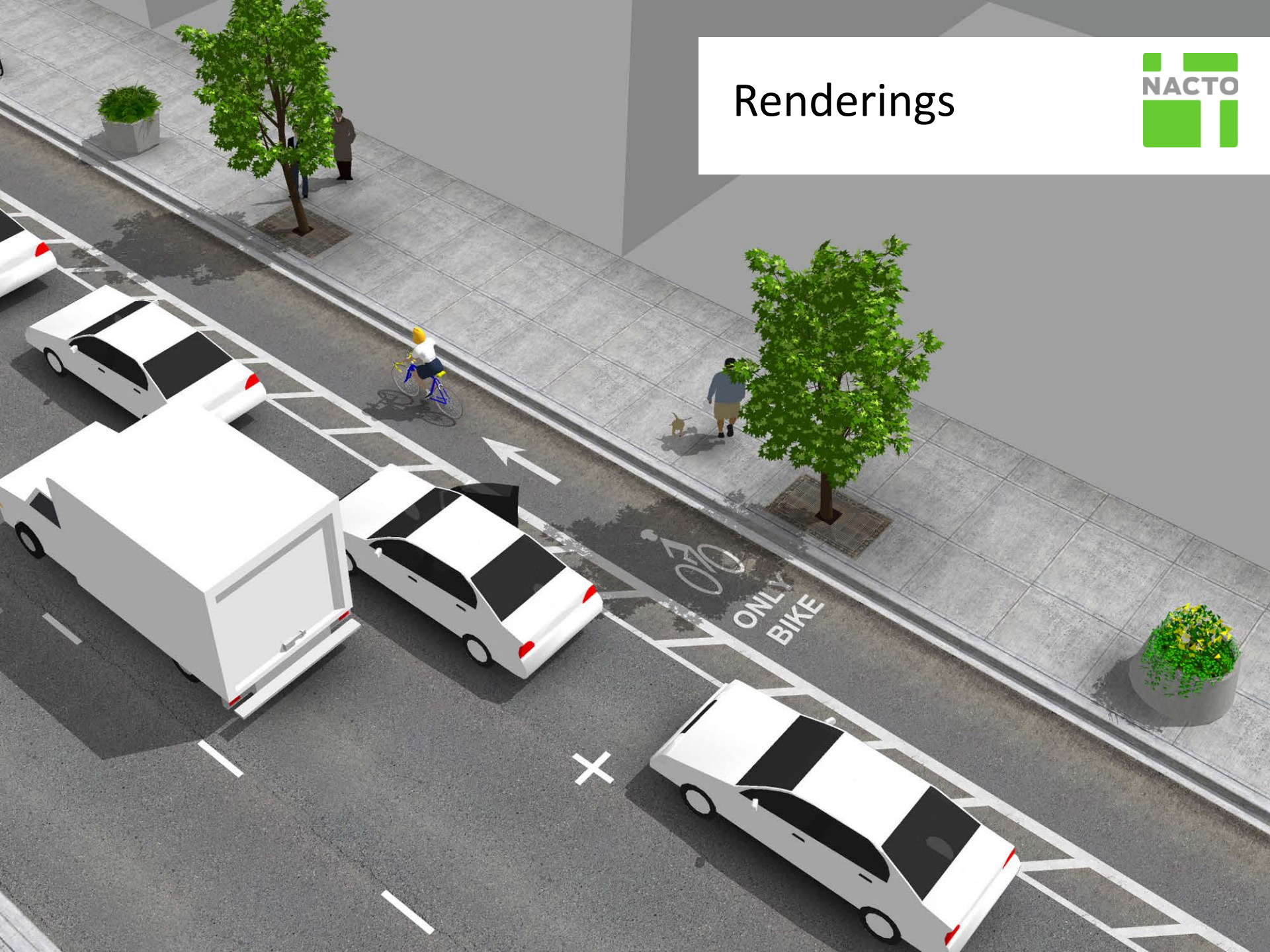
Raised cycle tracks are bicycle facilities that are vertically separated from motor vehicle traffic. Many are paired with a furnishing zone between the cycle track and motor vehicle travel lane and/or pedestrian area. A raised cycle track may allow for one-way or two-way travel by bicyclists. Two-way cycle tracks have some different operational characteristics that merit additional consideration.

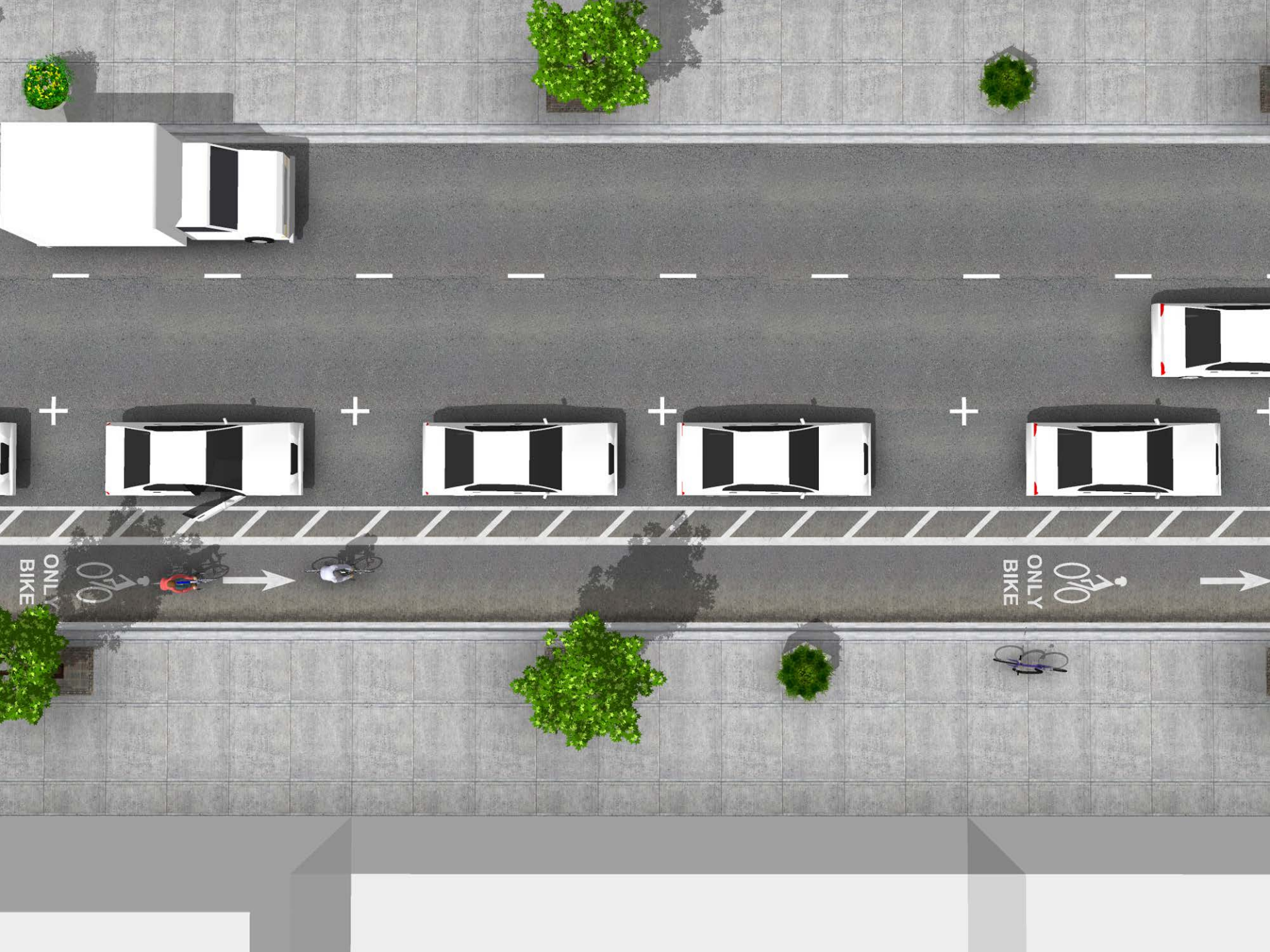
Raised cycle tracks may be at the level of the adjacent sidewalk, or set at an intermediate level between the roadway and sidewalk to segregate the cycle track from the pedestrian area. A raised cycle track may be combined with a parking lane or other barrier between the cycle track and the motor vehicle travel lane (refer to protected cycle tracks for additional guidance). At intersections, the raised cycle track can be dropped and merged onto the street (see cycle track intersection approach), or it can be maintained at sidewalk level, where bicyclists cross with pedestrians, possibly with a dedicated bicycle signal.

When placed adjacent to a travel lane, one-way raised cycle tracks may be configured with a mountable curb to allow entry and exit from the bicycle lane for passing other bicyclists or to access vehicular turn lanes. This configuration has also been known as a 'raised bike lane.'



Renderings











Technical Guidance



A cycle track, like a bike lane, is a type of preferential lane as defined by the MUTCD.

See MUTCD advice on diagonal striping Section 3B.24 05

4 in Normal white line
8 in Wide white line

Bicycle lane word, symbol, and/or arrow markings (MUTCD Figure 9C-3) shall be placed at the beginning of a cycle track and at periodic intervals along the facility based on engineering judgment.

When using a pavement marking buffer, desired parking lane and buffer combined width is 11 feet to discourage motor vehicle encroachment into the cycle zone.

Travel lanes

Three feet is the desired width for a parking buffer to allow for passenger loading and to prevent door collisions.

If pavement markings are used to separate motor vehicle parking lanes from the preferential bicycle lane, solid white lane line markings shall be used. Diagonal crosshatch markings may be placed in the neutral area for special emphasis. See MUTCD Section 3B.24. Raised medians or other barriers can also provide physical separation to the cycle track.

A BIKE ONLY legend (MUTCD 3D.01) may be used to supplement the preferential lane word or symbol marking.

Parking lane

Cycle Track
5-7 foot minimum

The desired width for a cycle track should be 5 feet. In areas with high bicyclist volumes or uphill sections, the desired width should be 7 feet to allow for bicyclists passing each other.

Colored pavement may be used to further define the bicycle space.



A BIKE LANE sign (MUTCD R3-17) may be used to designate the portion of the street for preferential use by bicyclists. A supplemental "No Cars" selective exclusion sign may be added for further clarification.

Sidewalk curbs and furnishings should be used to prevent pedestrian use of the cycle zone.

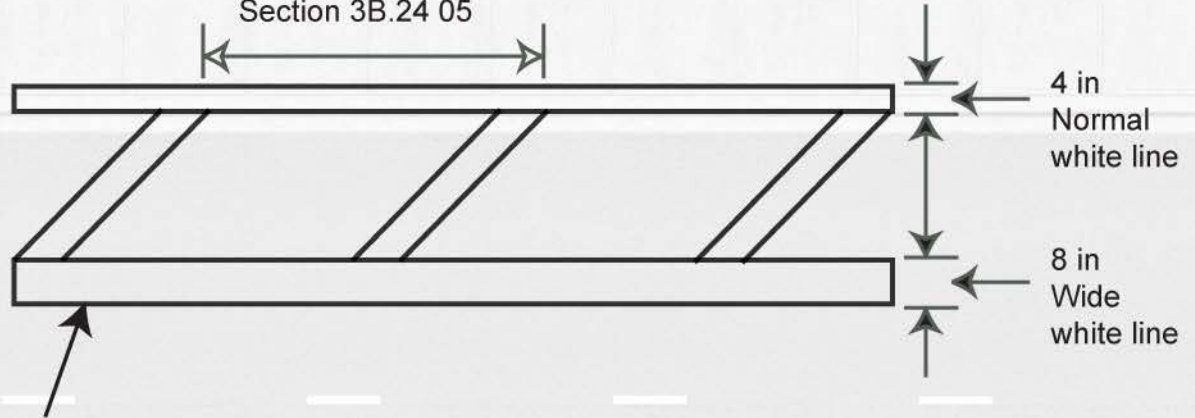
Gutter seams, drainage inlets, and utility covers should be configured so as not to impede bicycle travel and to facilitate run-off.

Cycle tracks may be shifted more closely to the travel lanes on minor intersection approaches to put bicyclists clearly in the field of view of motorists. (Not Shown).

Cycle Tracks
One-Way Protected Cycle Track with Parking Buffer

A cycle track, like a bike lane, is a type of preferential lane as defined by the MUTCD.

See MUTCD advice on diagonal striping Section 3B.24 05



red width for a
v for passenger
at door collisions.

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With high bicyclist volumes or uphill sections, the desired width should be 7 feet to allow for bicyclists passing each other.



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pedestrian use of the cycle zone.

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Cycle Track
One-Way Protec

A cycle track, like a bike lane, is a type of preferential lane as defined by the MUTCD.

See MUTCD advice on diagonal striping Section 3B.24 05

4 in Normal white line
8 in Wide white line

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When using a pavement marking buffer, desired parking lane and buffer combined width is 11 feet to discourage motor vehicle encroachment into the cycle zone.

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A BIKE ONLY legend (MUTCD 3D.01) may be used to supplement the preferential lane word or symbol marking.

Parking lane

Cycle Track
5-7 foot minimum

The desired width for a cycle track should be 5 feet. In areas with high bicyclist volumes or uphill sections, the desired width should be 7 feet to allow for bicyclists passing each other.



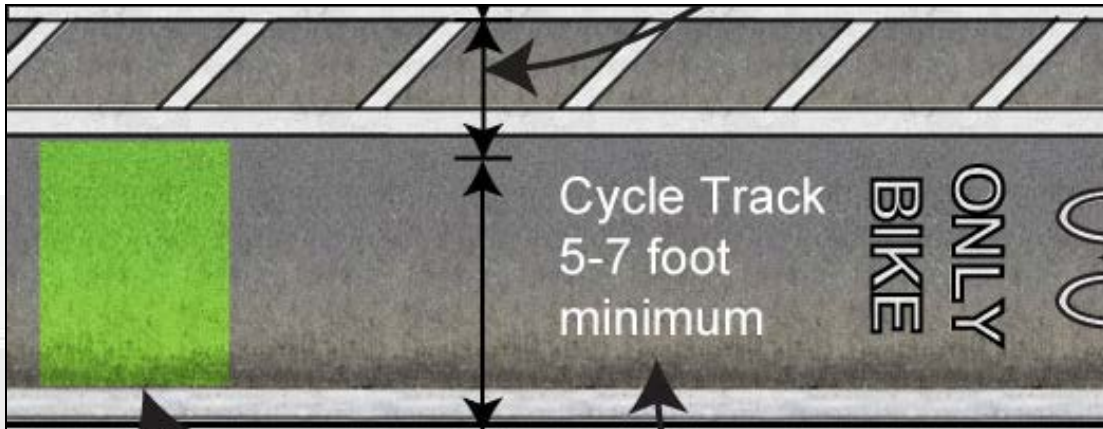
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Gutter seams, drainage inlets, and utility covers should be configured so as not to impede bicycle travel and to facilitate run-off.

Cycle tracks may be shifted more closely to the travel lanes on minor intersection approaches to put bicyclists clearly in the field of view of motorists. (Not Shown).

Colored pavement may be used to further define the bicycle space.



Cycle Track
5-7 foot
minimum

BIKE
ONLY



4 in
Normal
white line

8 in
Wide
white line

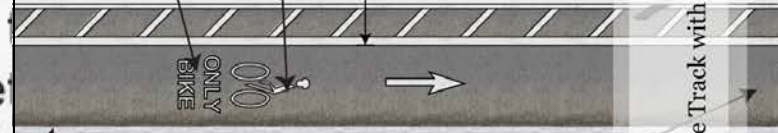
Bicycle lane word, symbol, and/or arrow markings (MUTCD Figure 9C-3) shall be placed at the beginning of a cycle track and at periodic intervals along the facility based on engineering judgment.

ONLY legend (MUTCD) may be used to supplement partial lane word or marking.

When using a pavement marking buffer, desired parking lane and buffer combined width is 11 feet to discourage motor vehicle encroachment into the cycle zone.

The desired width of a cycle track should be determined based on the number of bicycles passing in uphill sections, should be 7 feet for one-way bicycle traffic.

Colored pavement may be used to further define the bicycle space.



Obstacles and furnishings should be placed to prevent encroachment into the cycle zone.

Drainage inlets, and other features should be configured to not impede bicycle travel and prevent run-off.

Cycle tracks may be shifted more closely to the travel lanes on minor intersection approaches to put bicyclists clearly in the field of view of motorists. (Not Shown).

Cycle Tracks
One-Way Protected Cycle Track with Parking Buffer

Case Studies/City Projects

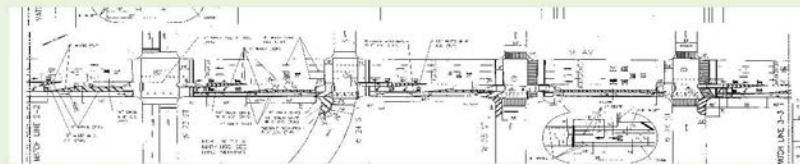
9th Avenue On-street Protected Bike Path

New York City

In the fall of 2007, the New York City Department of Transportation built the first on-street parking and signal protected bicycle facility in the United States on Ninth Avenue between 23rd Street and 16th Street in Manhattan. Ninth Avenue, a 70 ft.-wide avenue formerly dominated by motorists, was reduced from four unassigned traffic lanes to three through traffic lanes (a 30 ft. reduction) with dedicated turn bays, shorter pedestrian crossings, and southbound bicycle facilities protected by an eight-foot buffer/parking lane. Turning conflicts for cyclists were resolved by creating left turn bays adjacent to the bicycle path with protected left-turn phases to separate conflicting through cyclists and left-turning vehicles. Bicycle signal lenses regulate movement on the bicycle path. The project included the construction of pedestrian refuge islands with planting beds and turn bays, pavement markings, signs, traffic signals, and raised concrete islands. Dedicated commercial loading space was created for businesses on Ninth Avenue using multi-space parking meters.

The Ninth Avenue project was achieved using operating instead of capital revenues under the purview of the NYCDOT, allowing for swifter implementation procedures. NYCDOT maintained an open dialogue with all stakeholders from early on in the project and included a variety of specialists and city departments in the design process. Parking regulations were modified several times following the installation of the facility to meet the needs of residents, business owners, and customers.

http://www.nyc.gov/html/dot/downloads/pdf/trite_08_9thave.PDF





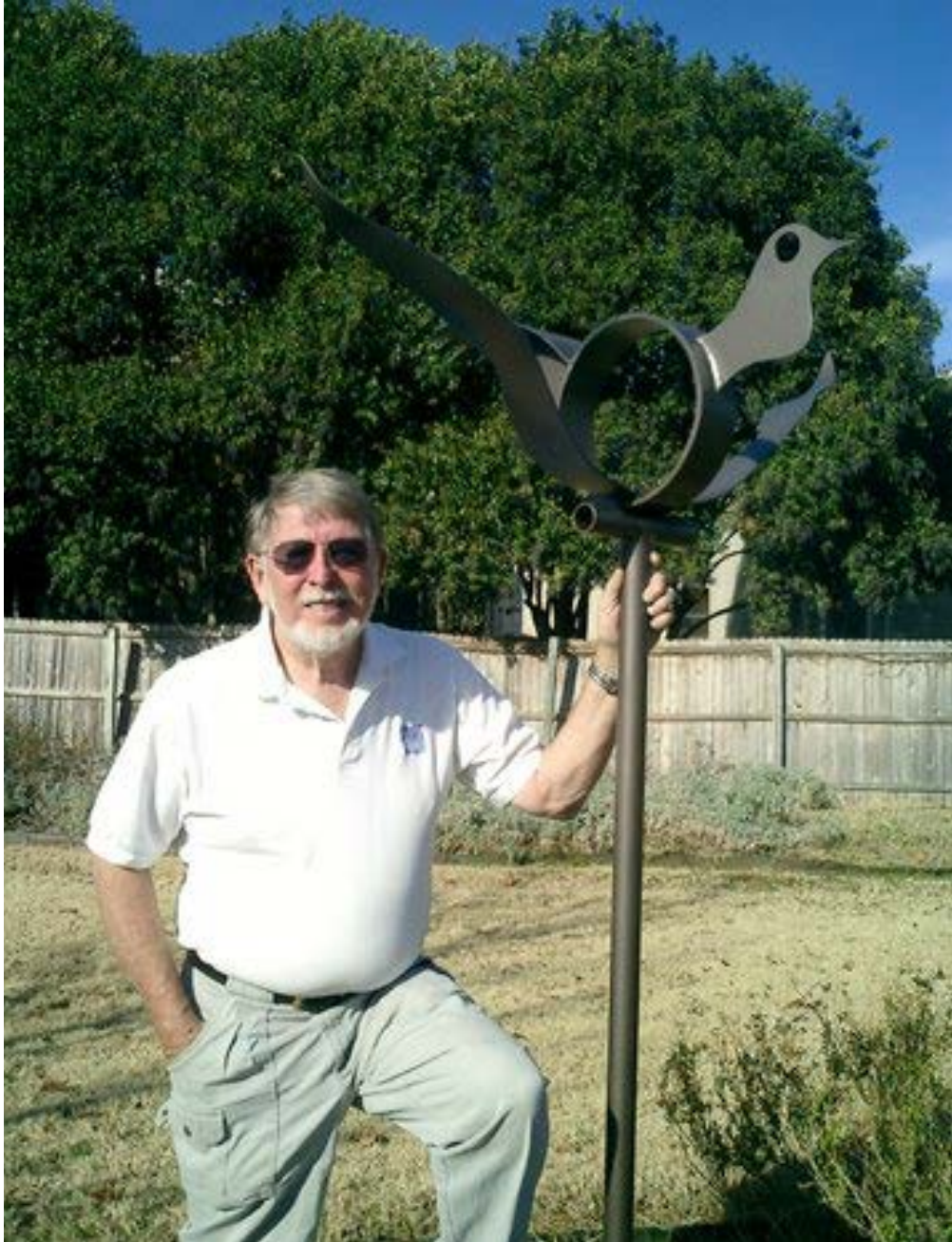
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Katy Trail Downtown Arts Loop

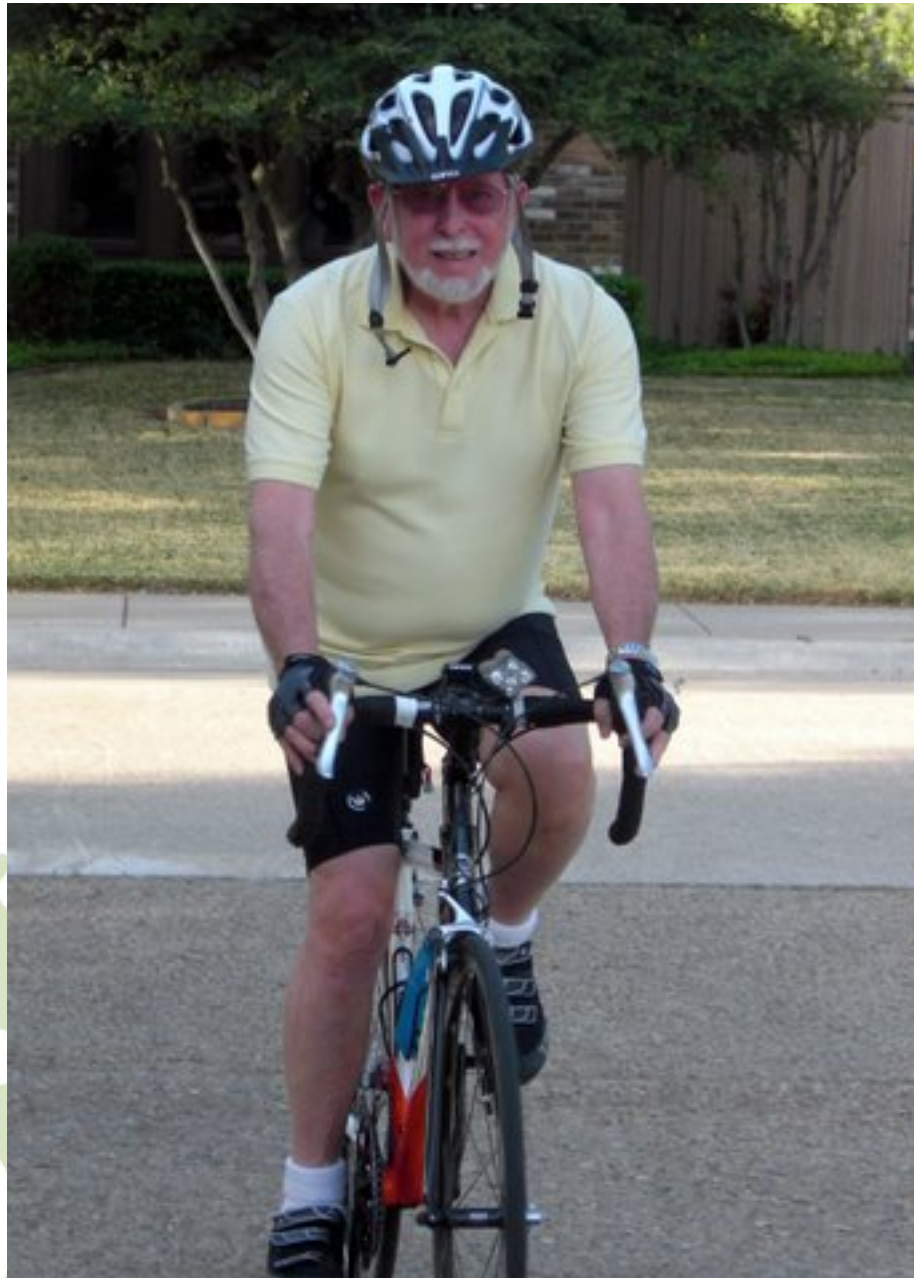




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Initiative for **Bicycle & Pedestrian** Innovation



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Home of the Huskies



Alliance
for
Biking & Walking



BICYCLE TRANSPORTATION ALLIANCE
OPENING MINDS AND ROADS TO BICYCLING



Here for Oregon. Here for Good.



The Dougy Center

The National Center for Grieving Children & Families



Community Cycling Center

The bicycle is a tool for empowerment and a vehicle for change