

A woman wearing sunglasses and a blue long-sleeved shirt is riding a pink bicycle on a city street. A young child in a grey hoodie and cap is seated in a large orange basket on the front of the bike. The street features a green-painted bicycle lane with a white bicycle symbol and a white arrow pointing forward. In the background, there are brick buildings, a red fire hydrant, a red stop sign, and various street signs, including one that says 'NO STOPPING NO STANDING TOW ZONE'. A sign for 'THE LOOKUP' is visible on a building. The scene is bright and sunny.

Innovative Bicycle Facility Treatments

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Traditional Bicycle Facilities

- Traditional
 - Bike lanes
 - Designated shoulders
 - Signed shared roadways
 - Marked shared lanes
 - Shared use paths



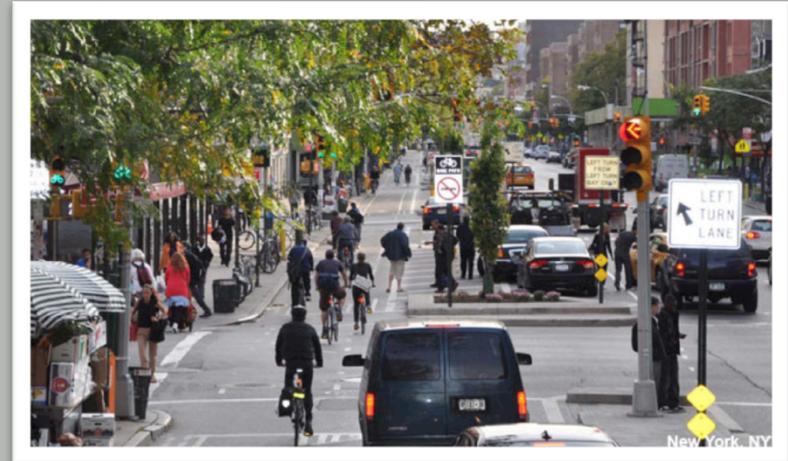
Source: capitalcoexist.org



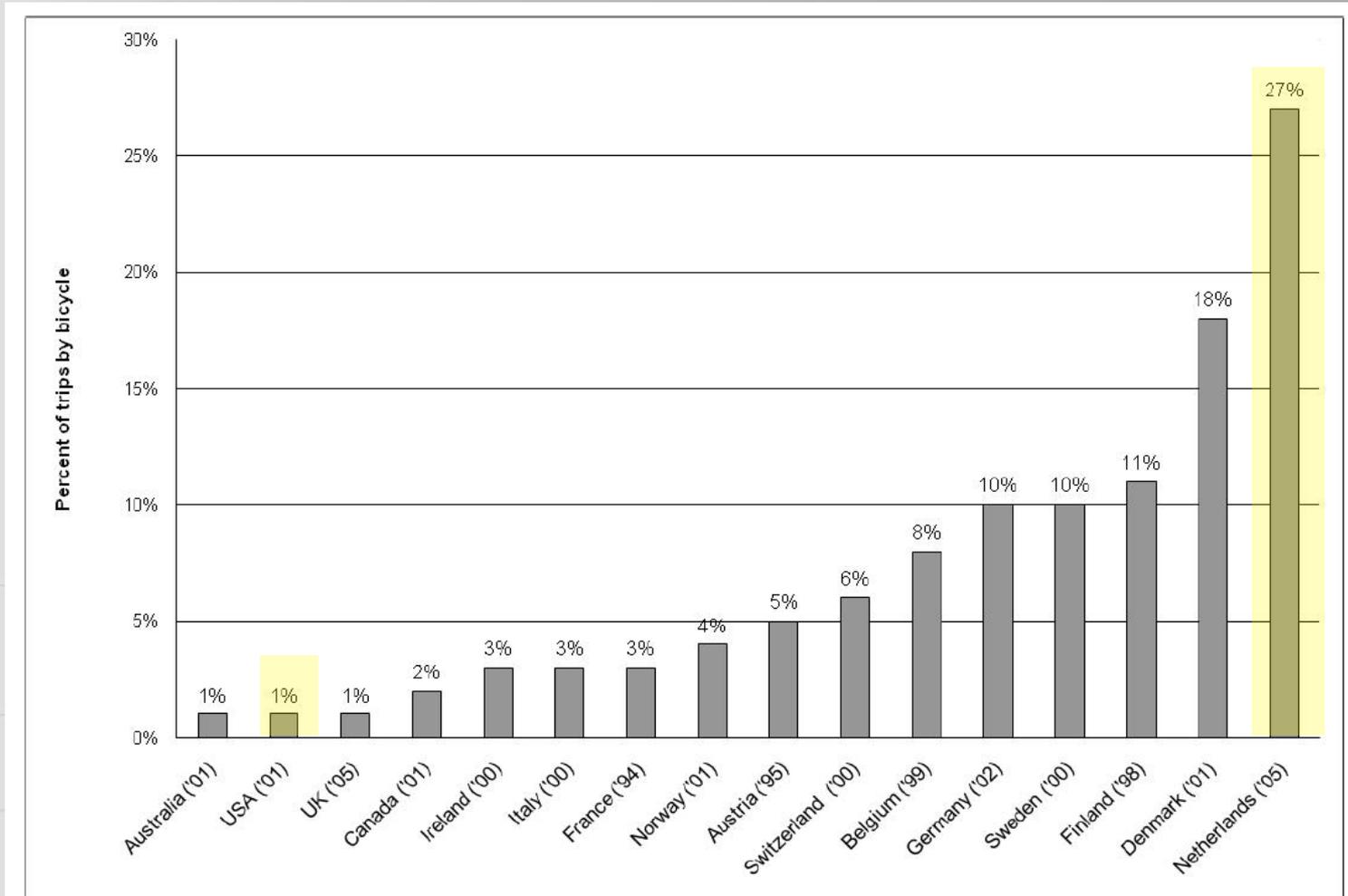
Source: townofcary.org

Innovative Bicycle Facilities

- Innovative (corridor)
 - Cycle tracks
 - Buffered bike lanes
 - Advisory bike lanes
 - Bike boulevards
- Innovative (intersection)
 - Bike signal heads
 - Enhanced pavement markings
 - Bike detection
 - Bike boxes



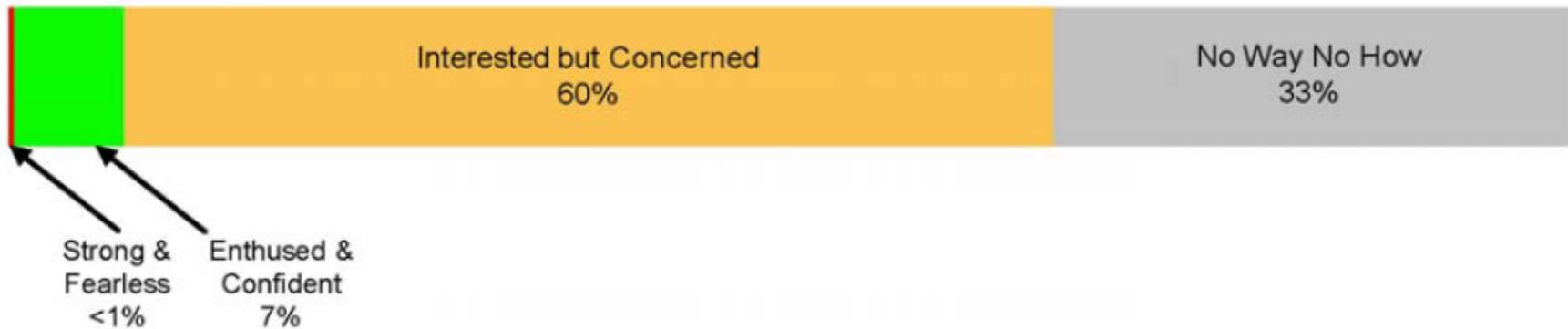
Bicycle Mode Share



Source:
Making Cycling Irresistible, Pucher & Buehler

Types of Bicyclists

Four Types of Transportation Cyclists in Portland By Proportion of Population



**Traditional
On-Street
Facilities**

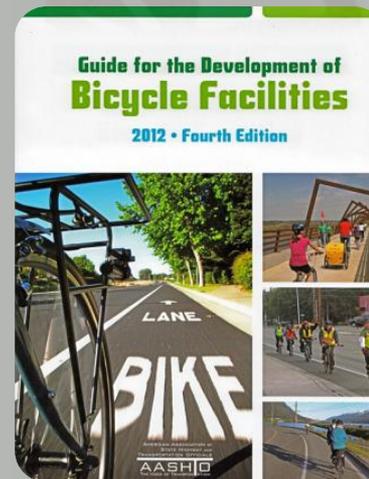
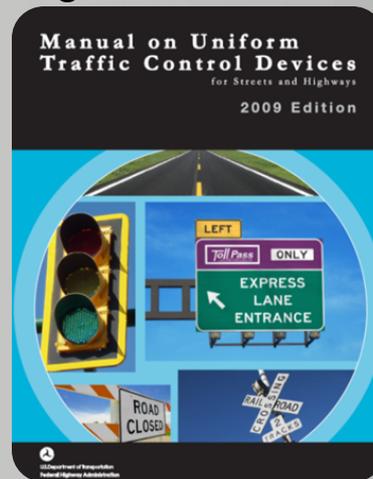
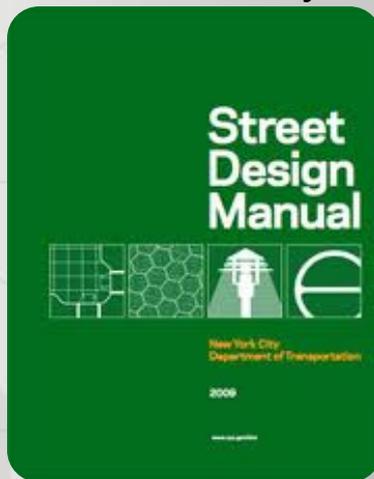
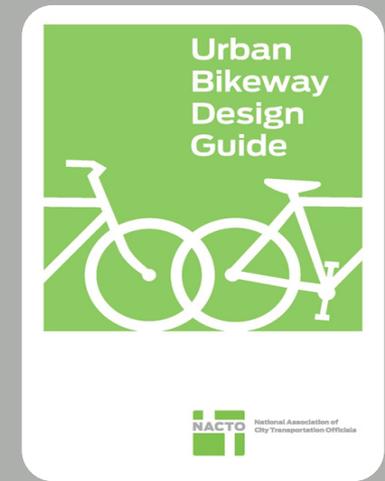
**Innovative
Facilities**

Source:

Geller, R. Four types of cyclists.

Innovative Design Guidance

- CROW – Design Manual for Bicycle Traffic (Dutch Guide – English version)
- NACTO – Urban Bikeway Design Guide
- AASHTO – Guide for the Development of Bicycle Facilities
- MUTCD – Manual on Uniform Traffic Control Devices
- City Street Design Manuals
- State DOT Bicycle Design Manuals



Innovative Bicycle Facilities

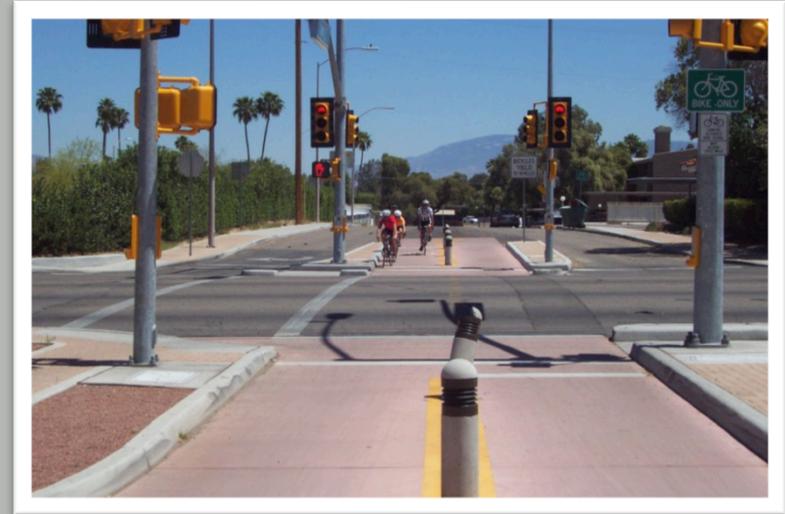
- Corridor facilities
 - Bike boulevards
 - Advisory bike lanes
 - Buffered bike lanes
 - Cycle tracks (protected bike lanes)

- Intersection treatments
 - Bike signal heads
 - Enhanced pavement markings
 - Bike detection
 - Bike boxes



Bike Boulevards

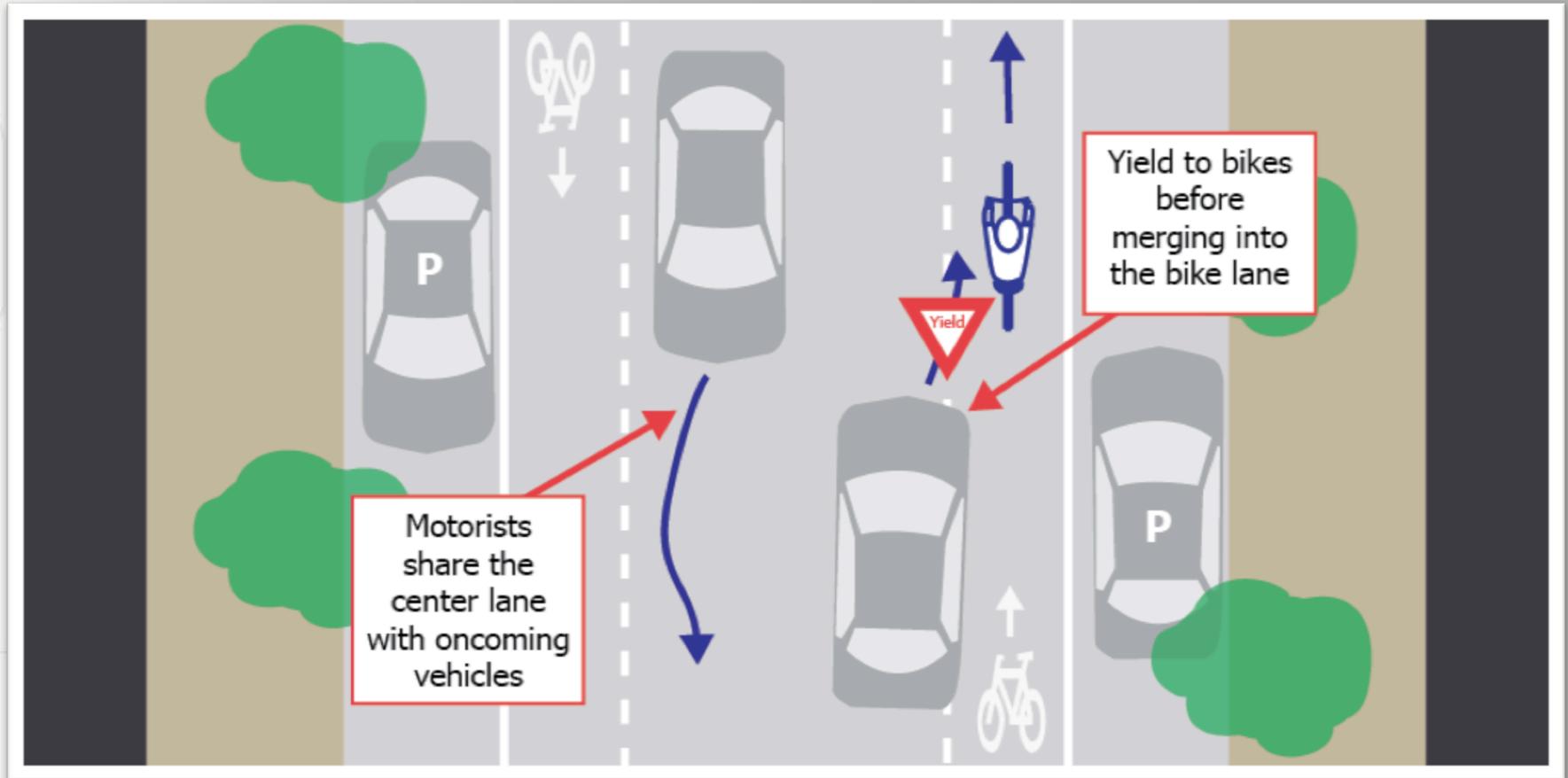
- Collection of treatments
 - Wayfinding
 - Traffic calming
 - Volume management
 - Crossing treatments
 - Traffic control adjustments
 - Route planning



Advisory Bike Lanes



Advisory Bike Lanes



Contra-Flow Bike Lanes



Portland, OR

Source: NACTO

Left-Side Bike Lanes



Enhanced Shared Lane Markings



Buffered Bike Lanes



One-Way Cycle Tracks



New York, NY



Parking

Travel
Lane

Parking

Buffer/Bike
Lane

Source: NACTO

Two-Way Cycle Track



Intersection/Conflict Area Treatments



Brooklyn, NY

Source: NACTO

Intersection/Conflict Area Treatments



Intersection/Conflict Area Treatments



Intersection/Conflict Area Treatments



Intersection/Conflict Area Treatments



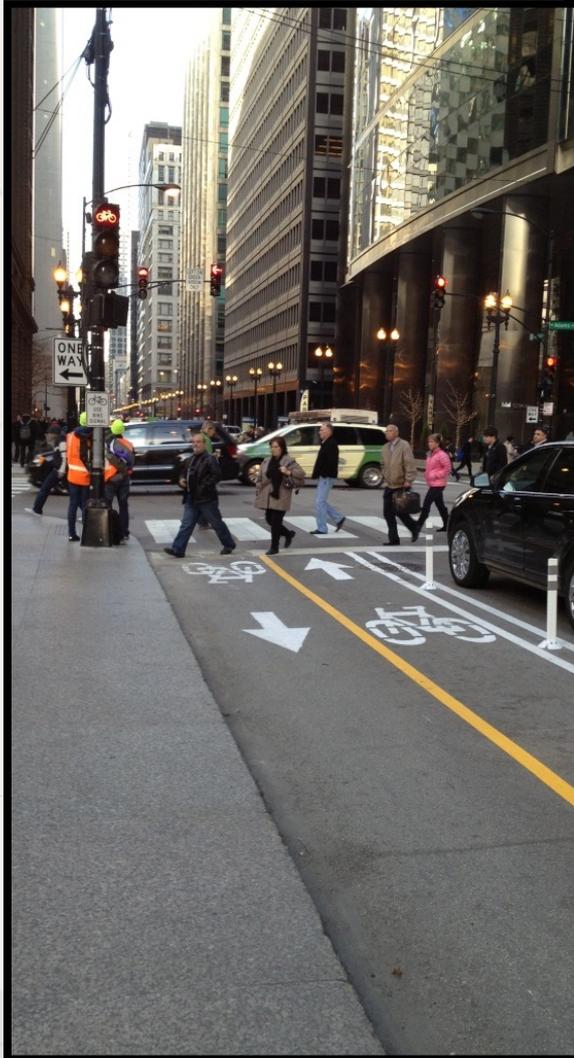
Intersection/Conflict Area Treatments



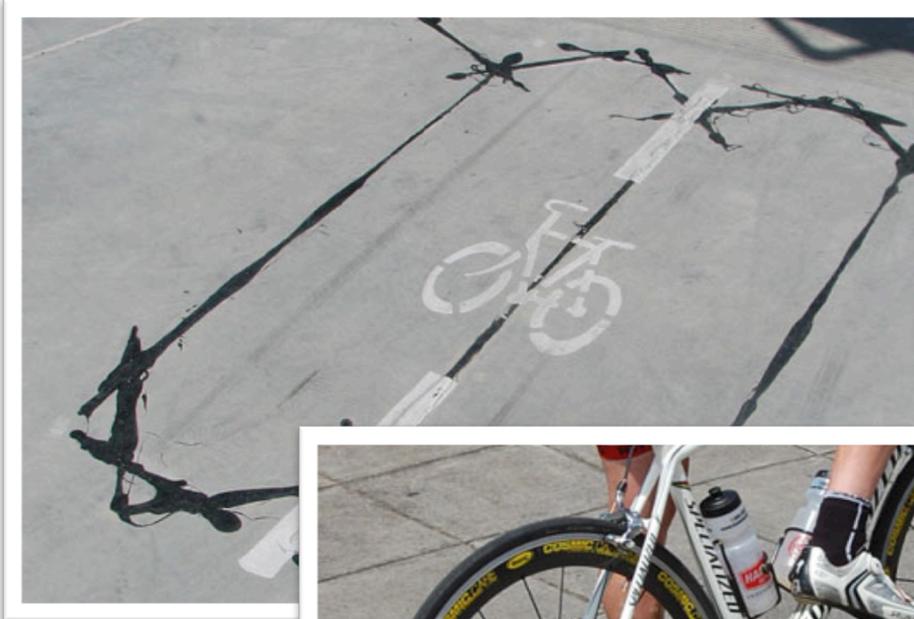
Two-Stage Turn Lane Markings



Signalized Control



Signalized Detection



Thank You

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