City of Fort Collins

Bicycle Plan Fort Collins
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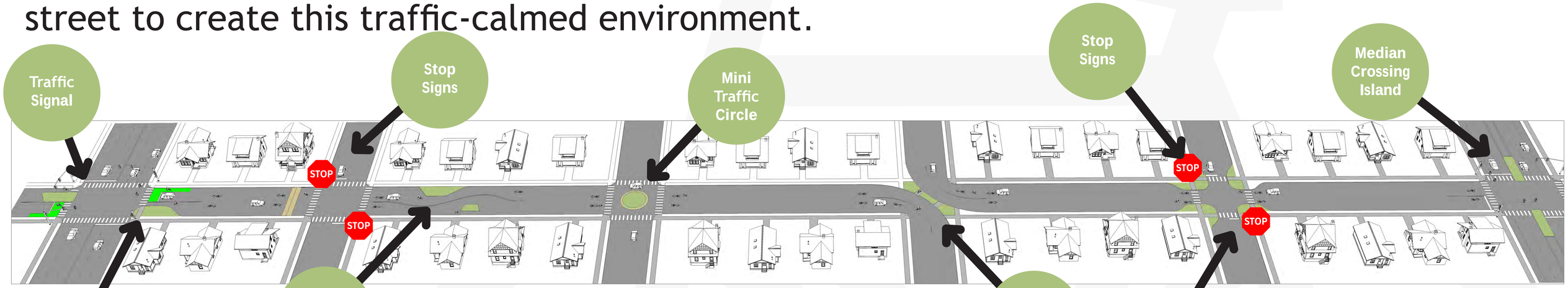
Neighborhood Greenways

These low speed and volume streets prioritize bicyclist and pedestrian travel and provide safe crossings of large arterial roads. A number of roadway elements combine along the street to create this traffic-calmed environment.



Comfort

- Low-stress LTS 1 facility
- Gives priority to bicyclists in mixed traffic
- Reduces stopping at local streets
- Reduces delay at arterial crossings
- Provides alternative to arterial routes

Pedestrian Risk From Vehicular Impact

VEHICLE IMPACT SPEED	SHARE OF REPORTED INCIDENTS[1]	PROBABILITY OF PEDESTRIAN DEATH OR SERIOUS INJURY [1]
20 MPH	37%	= 1% = 30%
30 MPH	27%	= 6% = 50%
40 MPH	19%	= 30% = 45%
50 MPH	10%	= 78% = 20%
60 MPH	7%	= 98% = 2%

[1] Based on "Relationship between Speed and Risk of Fatal Injury: Pedestrians and Car Occupants" by D. C. Richards published by UK Department of Transport, September 2010.

Death is fatality within 30 days. Serious Injury is a condition requiring hospitalization.

Legend: Probability of Death; Probability of Serious Injury

URBAN INDY

Credit: Urban Indy

Safety

- 2 to 8 times lower bicyclist crash rate than parallel arterials
- Safe arterial crossings provided
- Traffic speeds reduced to 20 mph or less

Equity

- Attracts ages 8 to 80
- Woman prefer 3 times over arterials
- Improves neighborhood livability
- Creates opportunities for green infrastructure

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Neighborhood Greenway Elements

Combing a selection of these choices creates a calm, low-traffic environment on a neighborhood greenway that is more comfortable for through bicycle traffic and for neighboring residents.

Low Volume

Full Traffic Diverter

Half Traffic Diverter

Skinny Streets

Slow Speeds

Neckdown and Speed Hump

Mini Traffic Circle

Neckdown Intersection

Green Street

Landscaped Chicanes

Rain Garden Neckdown

Commmunity Composting/Planting Strip Gardens

Arterial Crossings

Median Crossings

Pedestrian and Bicycle Only Signal

Raised Crosswalks

Branding

Branding and Wayfinding

Pavement Markings

Street Art

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Bike Lanes

Bike lanes provide a painted separation between bicyclists and other road users. Fort Collins already has many miles of bike lanes throughout the city. Nearly 50% of arterial roads have bike lanes today, ranging from five to eight feet wide.

Door zone bike lane

Some bike lanes are located next to automobile parking which can put bicyclists in the position of potentially hitting an open car door.

Arterial bike lane

Bike lanes on high-speed, high-volume roads are more stressful than those on quiet streets and may deter many riders from taking that route.

Buffered bike lane

Painted buffers provide a horizontal barrier between bicyclists and adjacent traffic, lowering the stress level of these facilities.

Safety

- 50% fewer bicyclist injuries compared to streets without bike facilities
- Minimizes speed differential
- Shown to reduce sidewalk bicycling 57 - 84%

Comfort

- LTS rating of bike lanes varies with traffic speed and volume, bike lane width and the presence of parking
- Separates bicyclists from most traffic
- Can be blocked by double-parked cars

Equity

- Ridership varies with stress conditions
- “Interested but concerned” prefers continous lanes through intersections
- Women prefer bike lanes over shared lanes

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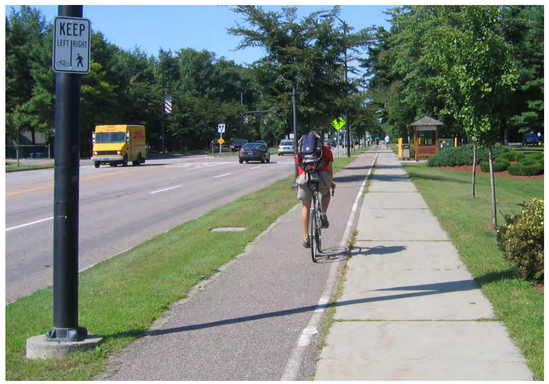
Protected Bike Lanes

These bike lanes are separated from both automobile and pedestrian traffic. They are also known as “cycle tracks” or “separated bike lanes.”

Midblock



Sidewalk Level, One-Way
Landscape separated with differentiating materials

Street Level, One-Way
Parking and flex post separated

Street Level, One-Way
Planter separated

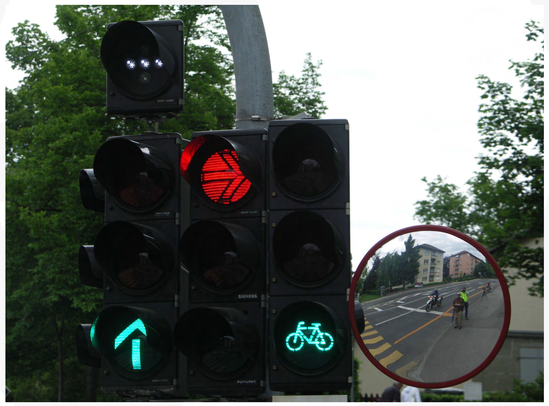
Street Level, One-Way
Parking separated

Intersections

Dutch Intersection
Manages conflicts between modes

Two-Stage Queue Box
Waiting space for left turns

Colored driveway crossing
Alerts users of conflicts



Bike signals
Separates conflicts

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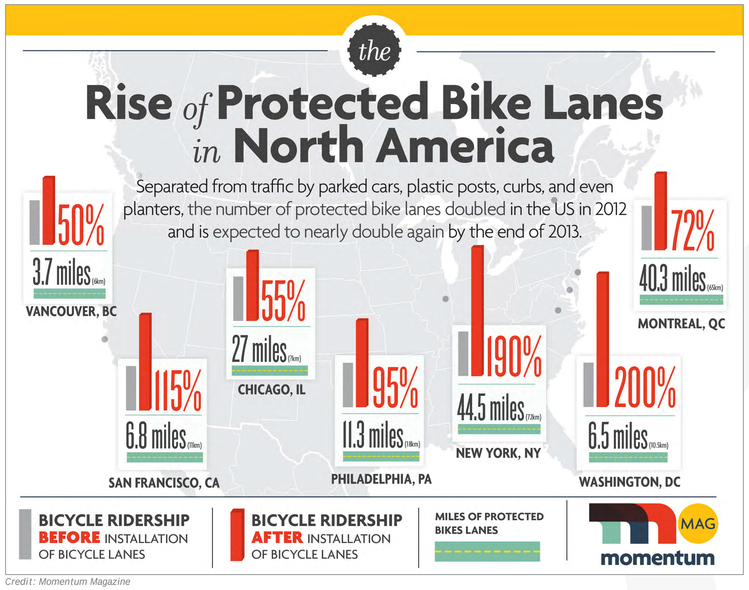
Why Protected Bike Lanes?

These separated facilities provide a low-stress riding environment that attracts a wide variety of riders of all ages and abilities.



Credit: Momentum Magazine

Comfort

- Low-stress LTS 1 facility
- Path-like experience
- Separates bicyclists from other traffic

Safety

- 89% fewer bicyclist injuries compared to streets without bike facilities
- Shown to reduce sidewalk riding 57 to 84%
- Minimizes intersection exposure to traffic
- Eliminates obstructions in bike lane

Equity

- Attracts riders ages 8 to 80
- Women, children, and elderly prefer over bicycle lanes

Boulder

Washington, DC

New York City

Chicago

Toronto

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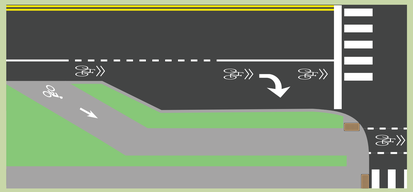
Bicycle Intersections

Design elements that manage interactions between bicycles and other vehicles can help make intersections more logical and comfortable for all modes.

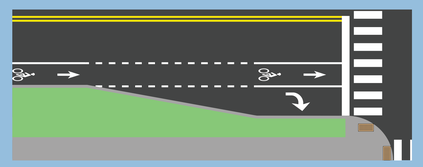
Level of Traffic Stress

1 Protected Bike Lane



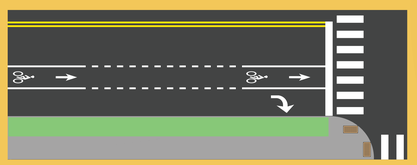
Eliminates bicyclists exposure to merging traffic maximizing comfort and safety. Conflicts are minimized by ensuring motorists turning speeds are < 15 mph, or eliminated with a bicycle signal. Through bicyclists' delay may be incurred.

2 Pocket Bike Lane with Short Right Turn Lane



Short right turn lane minimizes bicyclists' exposure to merging traffic and slows merging motorists. Ideally, turning motorists speeds are < 15 mph.

3 Pocket Bike Lane with Long Right Turn Lane

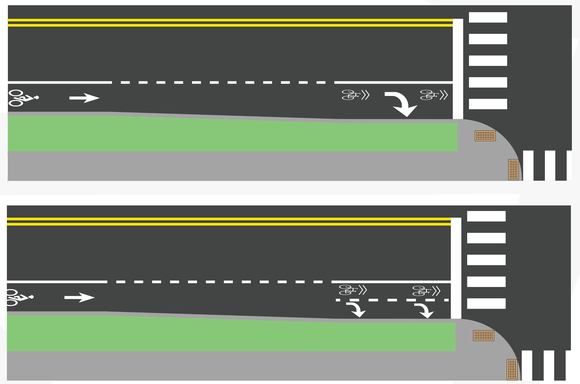


Long right turn lanes increase bicyclists' exposure to merging traffic which may cross the bike lane at speeds >15 mph.

4 Dropped Bike Lane

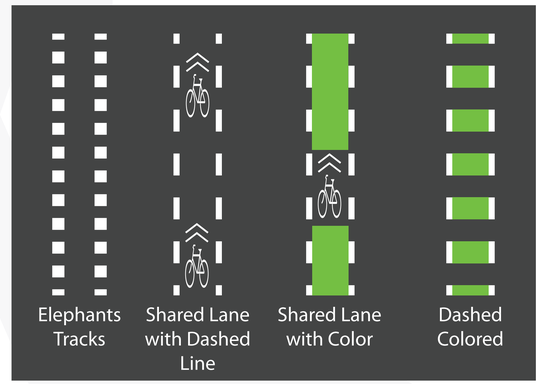
Dropping bike lanes to add right turn lanes maximizes bicyclists' exposure to merging traffic which may cross bike lane at speeds >15 mph.

Additional Options for Managing Conflicts



Shared Right Turn Lane

Alerts drivers to through bicycle movement



Conflict Zone Markings

Highlights bicyclist's space where vehicles merge

Bicycle Box

Gives bicyclists a head start

Two-Stage Turn Queue Box

Makes left turns across wide roads easier

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