

Cycling in the 21st Century: Developing a Bike-Friendly Community in Hartford, CT



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Survey Results: Safety

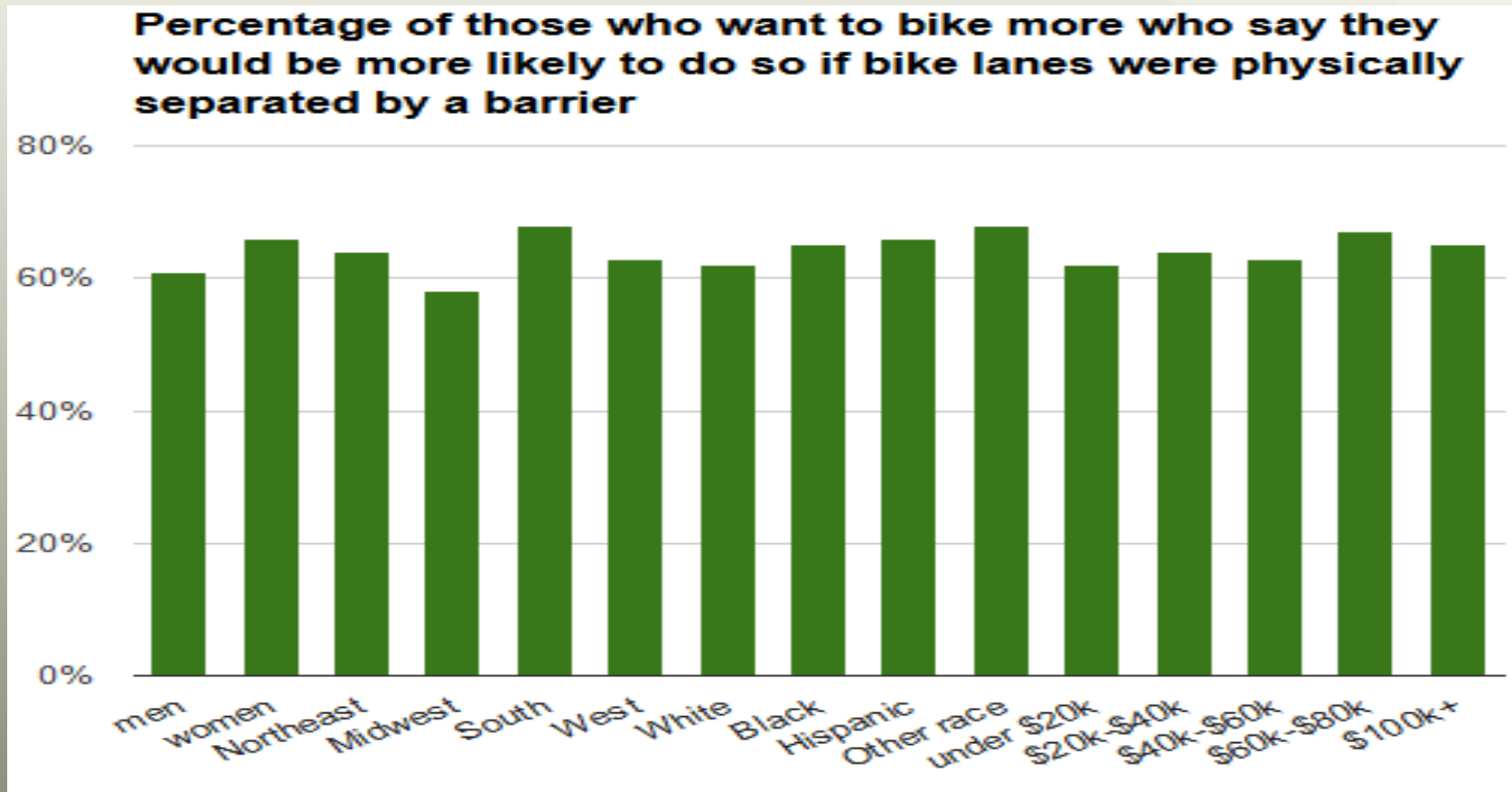
How safe do you generally feel riding a bicycle in Hartford?

#	Answer	Response	%
1	<u>Unsafe</u>	17	40%
2	<u>Somewhat safe</u>	23	53%
3	<u>Safe</u>	3	7%
	Total	43	100%

Building a Community

- Bikes bring something less tangible but equally valuable back to the city: humanity.
- Every person that passes by on a bike is an opportunity to recognize a neighbor, friend or co-worker; a chance for spontaneous social exchanges that make a small city feel like a home.

People's Interest in Wanting to Bike More



Andersen, Michael. *The First National Survey of People 'Interested But Concerned' About Biking*. StreetsBlog USA. 2015.

Cycling Growth in other U.S Cities

- Hartford, CT is a small sized city with about 125,000 residents and 9 neighborhoods. Smaller cities may offer some advantages for cycling because their short trip distances are more easily covered by bike, and because lower volumes of motor vehicle traffic makes cycling less stressful.

CITY	POPULATION	% OF BIKE COMMUTERS	% OF BIKE COMMUTERS IN 1990	GROWTH FROM 1990 TO 2012
DETROIT, MI	701,524	0.6%	0.1%	464.4%
CHICAGO, IL	2,714,844	1.6%	0.3%	459.7%
WASHINGTON, DC	632,323	4.1%	0.8%	445.4%
PORTLAND, OR	603,650	6.1%	1.2%	430.3%
CLEVELAND, OH	390,923	0.6%	0.1%	385.0%
BUFFALO, NY	259,386	1.6%	0.3%	361.9%
ST. LOUIS, MO	318,172	1.2%	0.3%	332.8%
BALTIMORE, MD	621,342	1.0%	0.2%	320.8%
PHILADELPHIA, PA	1,547,607	2.3%	0.6%	300.6%
SAN FRANCISCO, CA	825,863	3.8%	1.0%	292.2%

Cities with the most growth in bike commuting, per the U.S. Census. Table: League of American Bicyclists

CITY	% OF BIKE COMMUTERS	POPULATION
DAVIS, CA	19.1%	66,009
BOULDER, CO	12.1%	101,812
PALO ALTO, CA	9.5%	66,359
EUGENE, OR	8.7%	157,984
CAMBRIDGE, MA	8.5%	106,456
FORT COLLINS, CO	7.9%	148,634
BERKELEY, CA	7.6%	115,417
SANTA BARBARA, CA	6.9%	89,638
MADISON, WI	6.3%	240,315
MISSOULA, MT	6.2%	68,386

Davis, California

- The League of American Bicyclists says that Davis budgets \$100,000 a year for the bike path maintenance and has spent \$14 million dollars on bike projects in the last 10 years. Davis' budget is not huge, but they work effectively with what they have.
- Since then, the city has implemented a series of bike friendly innovations that other cities should look to for inspiration. It's built bike-only roundabouts, bike signal heads to improve traffic flow and detection technology that increases efficiency and safety.
- Davis has more bikes than cars, operates two bicycle advisory committees and employs two full-time bike coordinators.
- Has bike lanes on 95-percent of its major streets.

Hartford's Bike Lane System

- Hartford has gaps in between the current bike lanes and stitching a network together is very important for cycling infrastructure improvements and enhancing the safety of cyclists.



Survey Results: Cycling In Hartford

When riding in Hartford, what part of the streets do you use?

#	Answer	Response	%
1	I ride on the sidewalks	6	16%
2	Main part of the streets (with cars)	14	38%
3	Parking lanes or right shoulder towards the sidewalk	12	32%
4	Marked bike lanes on the street	5	14%
	Total	37	100%

Survey Results: Improving Cycling infrastructure

Rank the following infrastructure improvements in the order of how much safer they would make you feel. (1 being very unsafe and 4 being very safe)

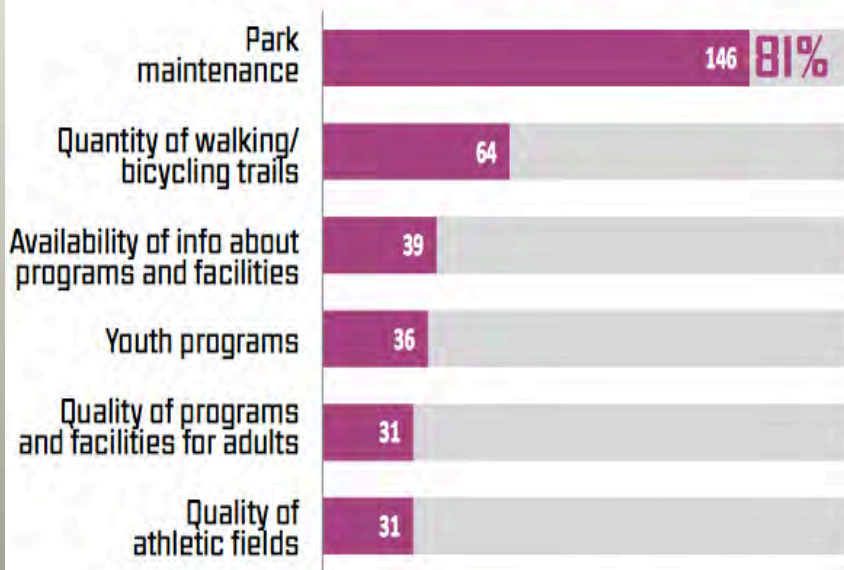
#	Answer	1	2	3	4	Total Responses
1	Better street lighting	<u>17</u>	<u>12</u>	<u>5</u>	<u>3</u>	37
2	More visible and consistent signage for bike routes	<u>11</u>	<u>18</u>	<u>5</u>	<u>2</u>	36
3	Marked (striped) bike lanes on more streets	<u>3</u>	<u>4</u>	<u>22</u>	<u>9</u>	38
4	High visibility bike lanes (think of the new one on Broad St. between Capitol and Farmington Aves.)	<u>1</u>	<u>5</u>	<u>8</u>	<u>29</u>	43
	Total	32	39	40	43	-

High Visibility Bike Lane between Capital and Farmington Aves



Connecting Cycling with Park System

Top 6 Priorities for Park System




Improving maintenance, increasing trails/paths, and expanding marketing are high priorities.

Which of the following City of Hartford's Parks and Recreation services do you believe require the most support in the next three to five years?

Increasing Connectivity

MyHartford Connectivity Results (preliminary)



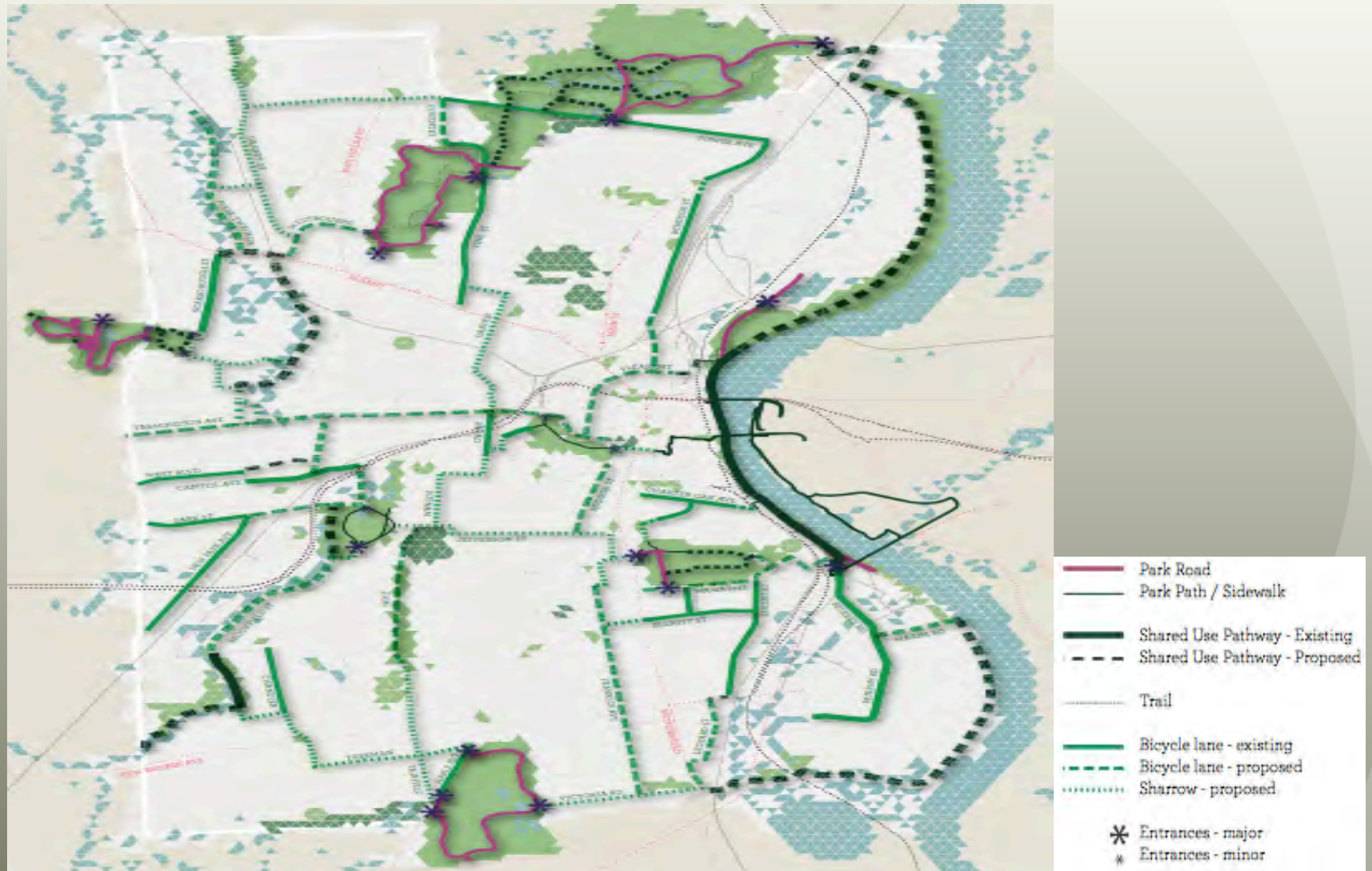
 **Bicycling**



 **Walking**

- Need well-maintained paths with welcoming entrances
- Improve signage and create trail maps
- Reopen closed roads, especially in Keney
- Increase bicycle and public transit connections between parks
- Increase connectivity along the Connecticut and Park Rivers

Proposed Bike Lanes



Connecting the Bike Lane Network



Types of Bike Lanes

3 Buffer Protected Bike Lanes

Benefits:

1. Improve the perception of safety by providing extra separation space for bicyclists and help all roadway users share the road.
2. Encourage cyclists to ride outside of the door zone when used next to a parking lane. The door zone is the space where the door of a parked vehicle can open unexpectedly into the path of a bicyclist.
3. Reduce the risk of over-taking and dooring crashes.

What **MOTORISTS** should know:

Use caution when turning across the buffer protected bike lane to reach or leave the parking lane.

What **BICYCLISTS** should know:

Ride in the center of the buffer protected lane. If a travel lane side buffer is present, it can be used to pass slower bicyclists in the bike lane. Announce your presence to the slower bicyclist and check over your shoulder for approaching vehicular traffic. Never pass on the right of a slower bicyclist (unless the buffer protected bike lane is on the left side of a one-way street).

When **BUFFER PROTECTED BIKE LANES** can be installed:

Buffer protected bike lanes can be installed on streets that are at least 48' wide. This allows for a 2' buffer between the parking lane and the bike lane to encourage cyclists to ride outside of the door zone of parked cars. The **preferred minimum roadway width** for buffer protected bike lanes is 50'. This allows for a 2' buffer between the parking lane and the bike lane to encourage cyclists to ride outside of the door zone of parked cars and a 2" buffer between the motor vehicle travel lane and the bike lane to provide greater separation between cyclists and motorists. They are an alternative to barrier protected bike lanes on streets that have a lot of driveways, alleys, and cross streets.



Jackson Boulevard

Other Type of Bike Lanes



Description: A barrier protected bike lane combines the experience of an off-street path with the convenience and accessibility of an on-street bike lane. Barrier protected bike lanes physically separate bicyclists from motor vehicle traffic through the use of on-street parking, bollards, and/or raised curbs. Special attention is required at intersections, driveways, and alley crossings to clarify right-of-way, increase visibility and maximize safety. Where one-way barrier protected bike lanes have been installed in New York City along 8th and 9th Avenues, injuries to all road users have decreased by 20% and 58% respectively.

Bicyclists

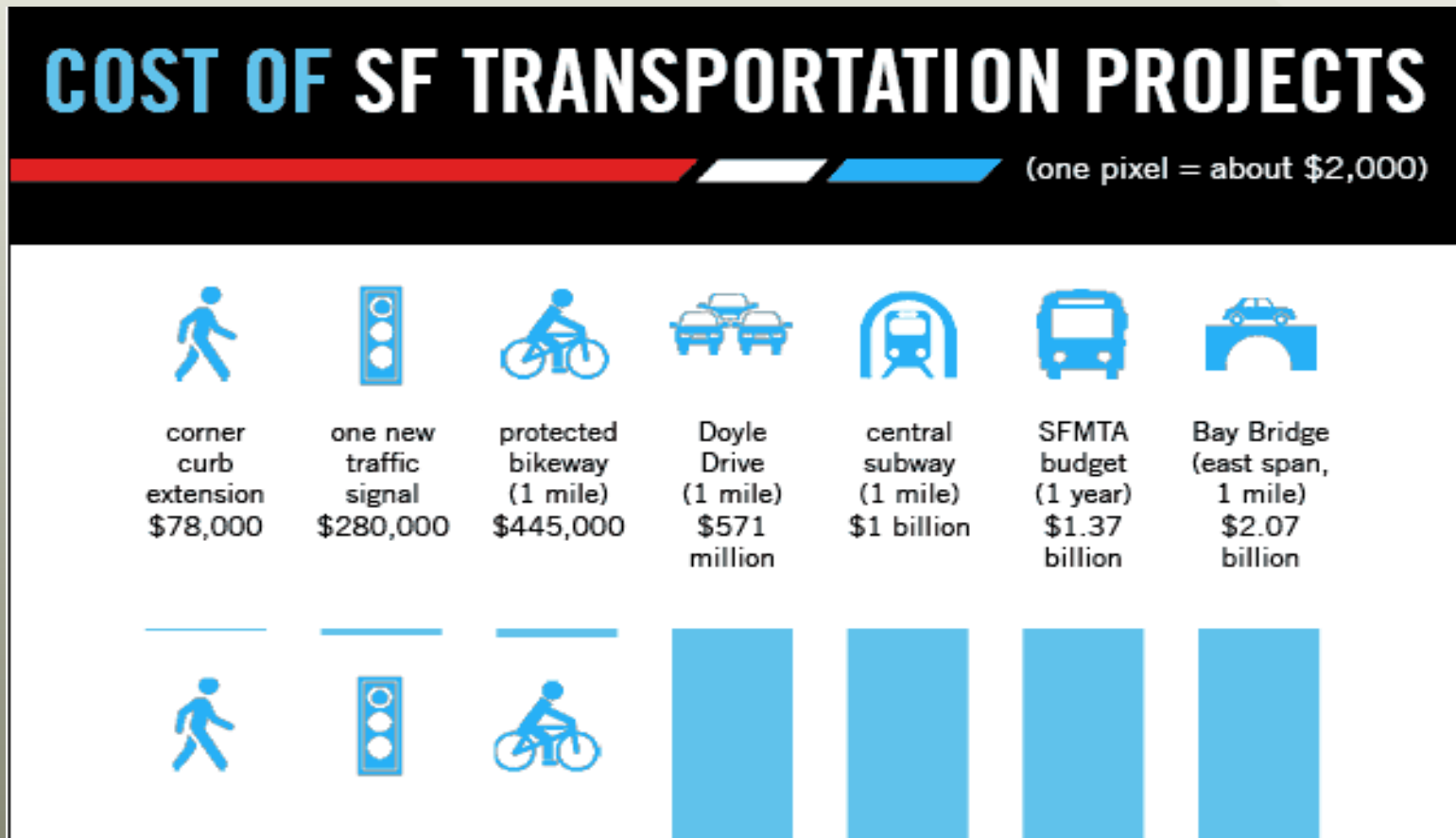
- A** Watch for turning vehicles when approaching intersections, driveways and alleys.
- B** Be alert for passing bicyclists within the bike lane and for pedestrians crossing the bike lane to legally access parked motor vehicles.
- C** Watch for pedestrians when approaching crosswalks.

Motorists

- D** Park in the marked parking lane between the travel lane and the bike lane.
- E** Expect to see a greater number of bicyclists on streets with barrier protected bike lanes. Be cautious when turning across the bike lane at intersections, driveways, and alleys.
- F** Watch for oncoming bicyclists when accessing your parked vehicle. If using a loading zone, do not block the bike lane or use it as a staging area.

Cost of Transportation Projects

- A mile's worth of urban highway can cost \$20–80 million and often more, compared to a few thousand dollars or up to a million dollars for biking infrastructure.



Economic Benefits

- People who ride bikes buy bikes. This puts people to work in bicycle shops and apparel stores.

A NEW BIKE LANE FOR A NEW ECONOMY

U.S. cities have discovered an unexpected tool to create new opportunities in urban economies: the protected bike lane.

The conventional bike lane is getting a makeover in American cities. No longer relying on just a few inches of white paint to give people on bikes a feeling of security and comfort on busy streets, modern protected bike lanes use curbs, planters, parked cars or simple posts to clearly separate bikes from auto traffic and sidewalks. They are proving effective in creating appealing places for everyone, but are especially inviting to new riders.

To show how these trends work, this report compiles the latest hard data and showcases interviews with 15 businesspeople in five U.S. cities where protected bike lane networks are expanding quickly: Austin, Texas; San Francisco, California; Portland, Oregon; Chicago, Illinois; and Washington, DC.

Of course, better bike lanes can't singlehandedly solve every problem. They're one of many tools cities are deploying to help boost business, and they aren't magic. And, like all good transportation systems, they require smart investments and careful planning to thrive.

But as these stories and studies show, there's a developing consensus in many American cities that great bike networks are worth the effort.



WHY BUILD PROTECTED BIKE LANES?

WHAT ARE THEY?

Protected bike lanes put a barrier between drivers and bike riders. The barrier can be parked cars, plastic posts, or planters. They are popular in cities with high amounts of bike riders for everyday use.

GOOD FOR BUSINESS

9th Ave in New York City saw a 49% increase in business after protected bike lanes were installed.¹ Nearby streets only saw a 2% increase.

55% More bike traffic on Kinzie St in Chicago after a protected bike lane was installed.²

A Portland study found bike riders will go out of their way to a street with good bike infrastructure. That's more business exposure.³

$$\text{Pedestrian} + \text{Bike} = \text{Dollar Sign}$$

Pedestrians and bike riders in Toronto SPENT THE MOST MONEY and visited stores more often. Maybe because it costs less to walk or bike?⁴



GOOD FOR SAFETY

89% fewer injuries among bike riders on streets with protected bike lanes.⁵

Bike- and pedestrian-friendly street design leads to less collisions, even when there are more people out!⁶

DRIVERS don't have to worry about unexpected bike maneuvers. PEDESTRIANS don't have to worry about bike riders on the sidewalks.

GOOD FOR LAWFULNESS

In Chicago, protected bike lanes have resulted in a 161% increase in the number of bike riders obeying the stoplight.⁷

GOOD FOR EVERYONE

71% of Americans have expressed interest in riding a bike more often, but find it unsafe.⁸ Are you one of them?

LESS Each bike on the road is one less car in traffic, causes less pollution, less wear on the road (and therefore less taxpayer-funded maintenance), and creates a healthier population.

LIKE PROTECTED BIKE LANES? TELL YOUR LOCAL ELECTED OFFICIALS!

Transitized.com

1. New York City, Planning for the Future: New York City's 21st Century Streets
2. CMAP, Chicago's Comprehensive Regional Growth Strategy
3. Portland, Oregon, Planning for the Future: Portland's 21st Century Streets
4. Toronto, Ontario, Toronto's 21st Century Streets
5. The Urban Land Institute, Safe Streets for All: Design Principles for Safe and Healthy Urban Streets
6. The Urban Land Institute, Safe Streets for All: Design Principles for Safe and Healthy Urban Streets
7. Chicago, Illinois, Chicago's 21st Century Streets
8. The Urban Land Institute, Safe Streets for All: Design Principles for Safe and Healthy Urban Streets

Environmental/Sustainable Benefits

- Bicycles are a very cheap and sustainable transportation alternative.
- Cyclists do not burn non-renewable fossil fuels.
- Bicycles do not produce air pollution, carbon dioxide, or other harmful emissions.
- American cars emit nearly a pound of CO₂ per mile driven (282 grams per kilometer).
- A bicycle commuter who rides four miles to work, five days a week, avoids 2,000 miles of driving and (in the United States) about 2,000 pounds of CO₂ emissions, each year.

Health Benefits

Protects you from certain cancers

CANCER

Helps manage depression and anxiety

Lowers risk of coronary heart disease

Strengthens your immune system

Tones and builds muscles in your calves, thighs and buttocks

Great exercise for people with joint conditions, leg injuries & hip injuries

Improves coordination

12mph
30min

Burns
298
Calories
Great for weight loss

THE HEALTH BENEFITS OF **CYCLING**

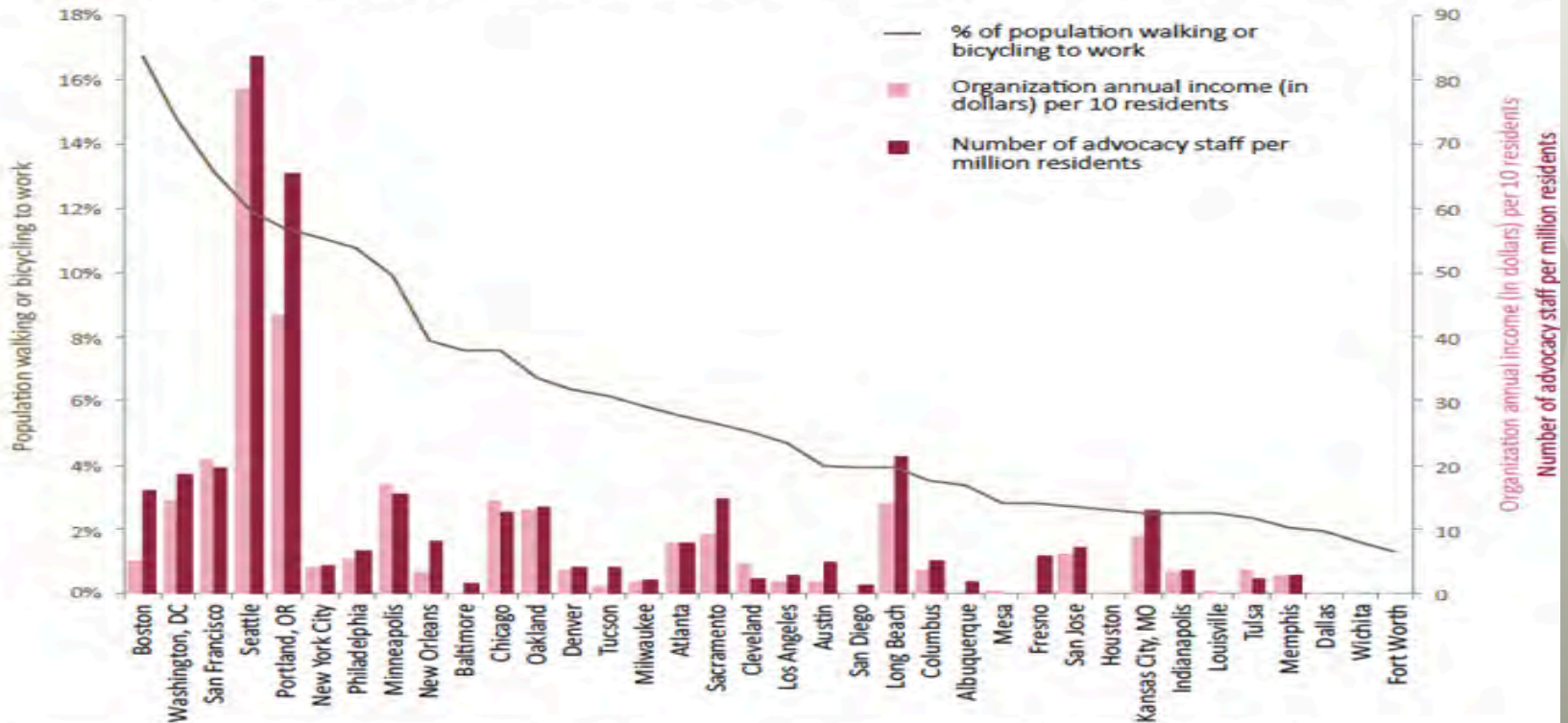
Club New You

The infographic features a central illustration of a woman with long blonde hair, wearing a pink tank top, teal leggings, and a white helmet, riding a grey and black bicycle. A red heart is positioned over her chest. Several purple arrows point away from her head, with one labeled 'CANCER'. A yellow sad face icon is to the right. A teal arrow points from the bottom of the bike towards the bottom right. The background is white with various text boxes and icons.

Advocacy

- More people tend to bike or walk to work when a city has strong biking and walking advocacy. Strong advocacy means strong active commuting! (Alliance for Biking and Walking. 2014 *Benchmarking Report*. 2014. <http://www.bikewalkalliance.org/resources/benchmarking>)

Comparing Advocacy Capacity with Levels of Bicycling and Walking to Work



Sources: ACS 2009–2011, Alliance Member Organization Survey 2013. Notes: $r = 0.51$ (organization annual income per 10 residents / % population walking or bicycling to work), $r = 0.49$ (organization staffing per million residents / % population walking or bicycling to work)

Overall Benefits

- Traffic congestion reduction
- Roadway cost savings
- Air/Noise pollution reduction
- Energy conservation
- Traffic safety improvements
- Bike-transit integration
- Increase mobility to low-income earners, unemployed people, seniors and those under 18 years of age.

Promoting Cycling: Open Street Events

Critical Mass Chicago

Bike to School NYC



Bringing Cycling to Hartford

- What streets should be prioritized with bike lanes?
- How will the streets be prioritized?
- How to get the community involved?
- What type of bike lanes?