BENCHMARKING BIKE NETWORKS

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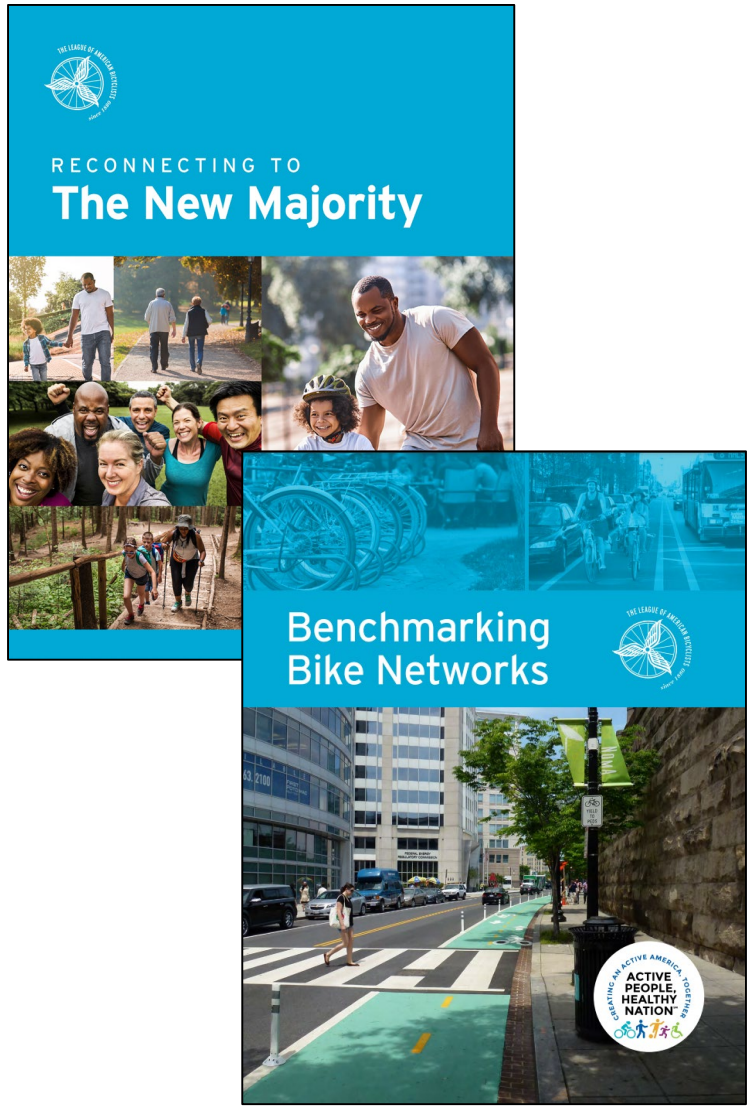
THE LEAGUE OF AMERICAN BICYCLISTS

- Since 1880
  - OUR MISSION is to lead the movement to create a Bicycle Friendly America for everyone.

- EVERYONE is incredibly important and cannot be achieved without equity



BENCHMARKING

CDC's Active People Healthy Nation Initiative

- Get 27 million people more physically active by 2027

Strategy:

- Create Activity-Friendly Routes to Everyday Destinations

More at data.bikeleague.org

THE LEAGUE OF AMERICAN BICYCLISTS

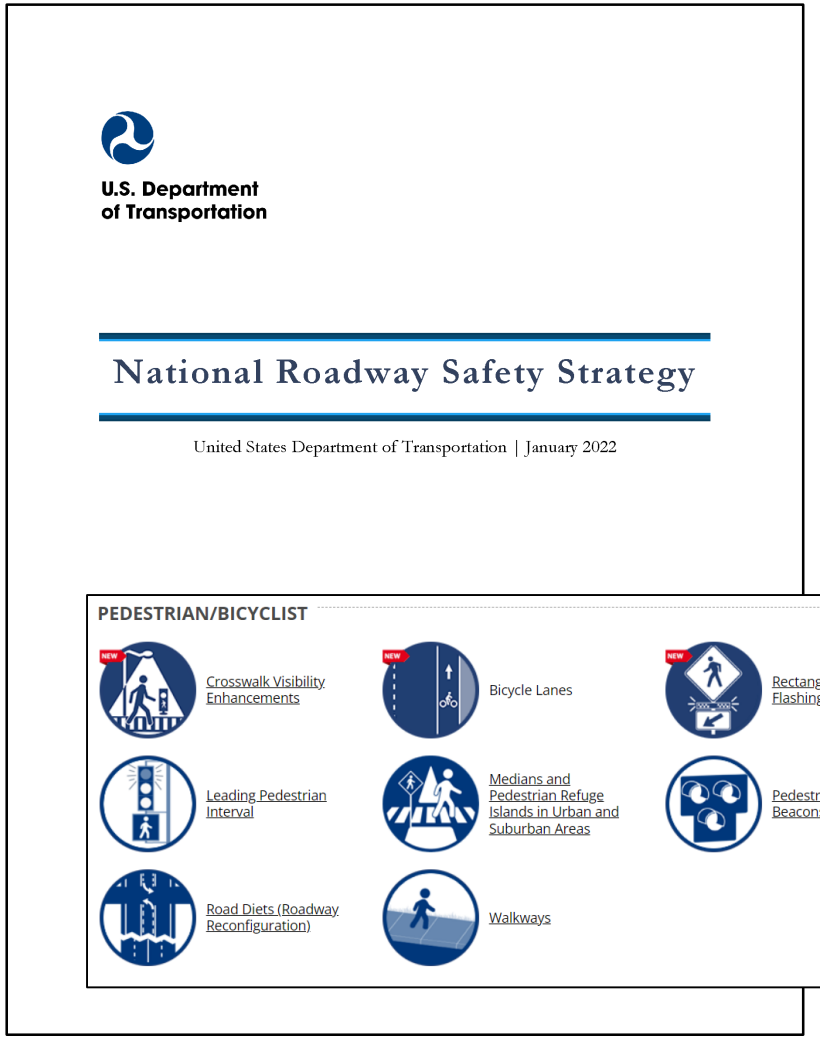
NOW IS A GREAT TIME TO BUILD NETWORKS

Transportation Alternatives
- $7.2 Billion in contract authority in next 5 years

Highway Safety Improvement Program
- $16.8 Billion in contract authority in next 5 years

Safe Streets and Roads for All Grants
- $1 Billion in next 5 years

RAISE Grants
- $7.5 Billion in next 5 years



THE LEAGUE OF AMERICAN BICYCLISTS

LOTS OF LITTLE CHANGES = BIG IMPACT

Sec. 11129 Standards

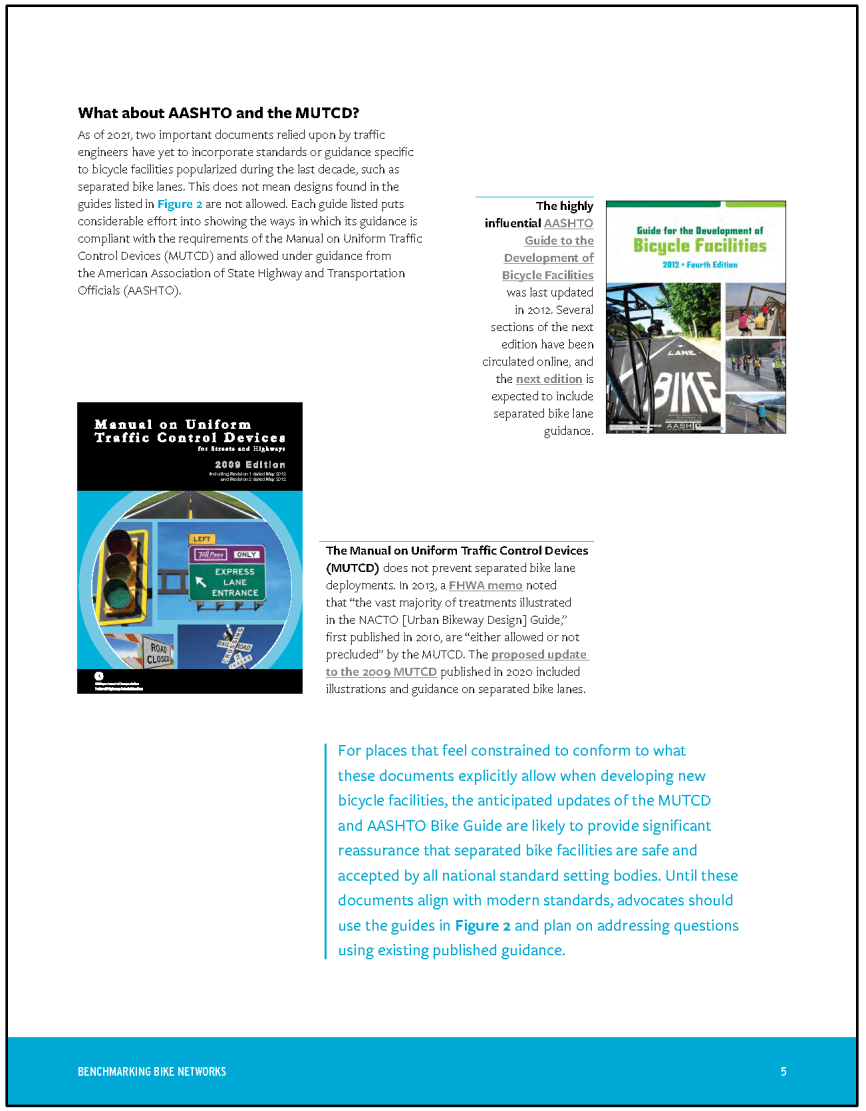
- Use your own design guide

Sec. 11111. Highway Safety Improvement Program

- Every state MUST do a VRU assessment
- Protected bike lanes are defined as "highway safety improvement projects"

Sec. 24012. Highway Safety Programs

- Strike "accident" and replace with "crash"



What about AASHTO and the MUTCD?

As of 2021, two important documents relied upon by traffic engineers have yet to incorporate standards or guidance specific to bicycle facilities popularized during the last decade, such as separated bike lanes. This does not mean designs found in the guides listed in **Figure 2** are not allowed. Each guide listed puts considerable effort into showing the ways in which its guidance is compliant with the requirements of the Manual on Uniform Traffic Control Devices (MUTCD) and allowed under guidance from the American Association of State Highway and Transportation Officials (AASHTO).

The highly influential AASHTO Guide to the Development of Bicycle Facilities was last updated in 2012. Several sections of the next edition have been circulated online, and the next edition is expected to include separated bike lane guidance.

The Manual on Uniform Traffic Control Devices (MUTCD) does not prevent separated bike lane deployments. In 2013, a FHWA memo noted that "the vast majority of treatments illustrated in the NACTO [Urban Bikeway Design] Guide," first published in 2010, are "either allowed or not precluded" by the MUTCD. The proposed update to the 2009 MUTCD published in 2020 included illustrations and guidance on separated bike lanes.

For places that feel constrained to conform to what these documents explicitly allow when developing new bicycle facilities, the anticipated updates of the MUTCD and AASHTO Bike Guide are likely to provide significant reassurance that separated bike facilities are safe and accepted by all national standard setting bodies. Until these documents align with modern standards, advocates should use the guides in **Figure 2** and plan on addressing questions using existing published guidance.

BENCHMARKING BIKE NETWORKS 5

THE LEAGUE OF AMERICAN BICYCLISTS

REPORT TAKEAWAYS

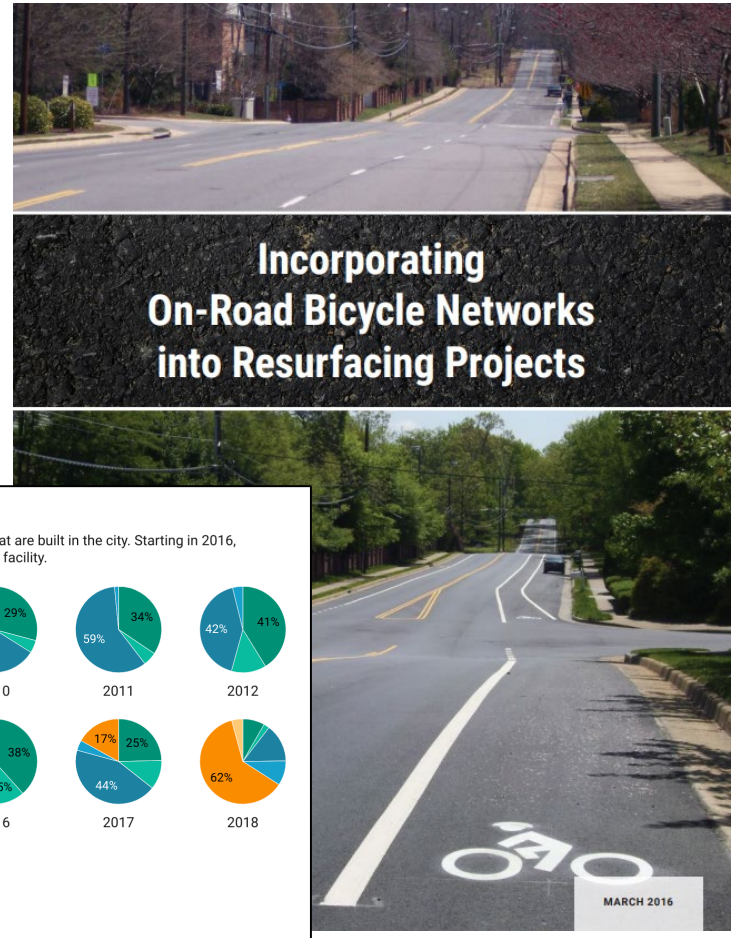
Plan

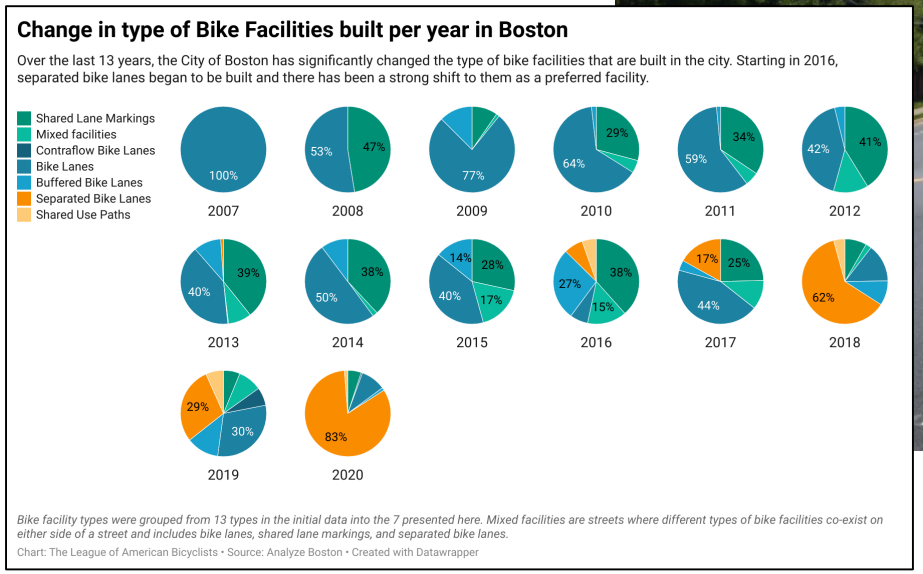
Maximize Repaving

Change Culture

Invest in Data

Know Your Why





THE LEAGUE OF AMERICAN BICYCLISTS

USING THE REPORT

Context Guide

Network Principles

Case Studies

CONTEXT GUIDE: WHAT BIKE FACILITIES APPLY?

Low Speed / High Volume Streets

Posted speed limit 25 mph or less • Volume of 6K ADT or less

GOALS:

- Promote compliance with low speed limit through traffic calming
- Provide comfortable biking experience through facilities

Legend: Recommended > Not Recommended* > Discouraged

* Facilities "Not Recommended" may be allowable under local rules and regulations, but they are not recommended by the League as good bike facilities in this context.

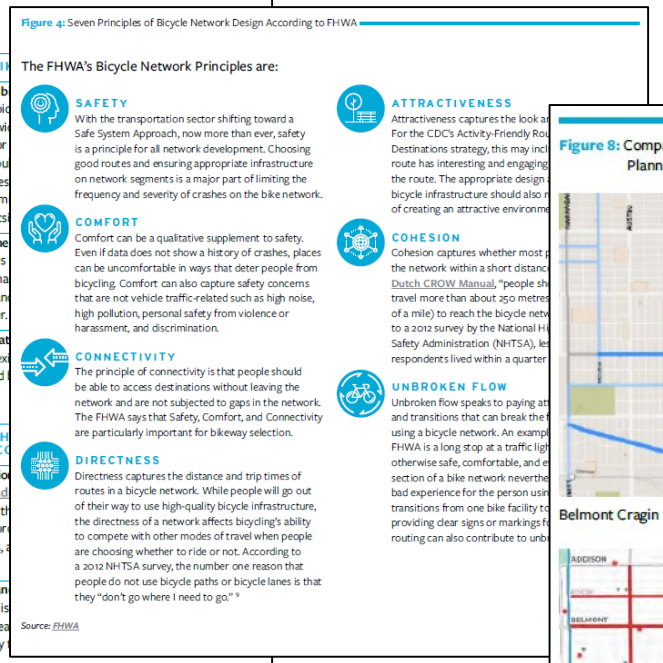


Figure 4: Seven Principles of Bicycle Network Design According to FHWA

The FHWA's Bicycle Network Principles are:

SAFETY
With the transportation sector shifting toward a Safe System Approach, now more than ever, safety is a principle for all network development. Choosing good routes and ensuring appropriate infrastructure on network segments is a major part of limiting the frequency and severity of crashes on the bike network.

COMFORT
Comfort can be a qualitative supplement to safety. Even if data does not show a history of crashes, places can be uncomfortable in ways that deter people from bicycling. Comfort can also capture safety concerns that are not vehicle traffic-related such as high noise, high pollution, personal safety from violence or harassment, and discrimination.

CONNECTIVITY
The principle of connectivity is that people should be able to access destinations without leaving the network and are not subjected to gaps in the network. The FHWA says that Safety, Comfort, and Connectivity are particularly important for bikeway selection.

DIRECTNESS
Directness captures the distance and trip times of routes in a bicycle network. While people will go out of their way to use high-quality bicycle infrastructure, the directness of a network affects bicycling's ability to compete with other modes of travel when people are choosing whether to ride or not. According to a 2012 NHTSA survey, the number one reason that people do not use bicycle paths or bicycle lanes is that they "don't go where I need to go." [1]

Source: FHWA

ATTRACTIVENESS
Attractiveness captures the look a
For the CDC's Activity-Friendly Ro
Destinations strategy, this may incl
route has interesting and engaging
the route. The appropriate design
bicycle infrastructure should also r
of creating an attractive environme

COHESION
Cohesion captures whether most p
the network within a short distanc
Dutch CROW Manual, "people sh
travel more than about 250 metres
of a mile) to reach the bicycle netw
to a 2012 survey by the National Hi
Safety Administration (NHTSA), les
respondents lived within a quarter

UNBROKEN FLOW
Unbroken flow speaks to paying att
and transitions that can break the f
using a bicycle network. An exampl
FHWA is a long stop at a traffic ligh
otherwise safe, comfortable, and e
section of a bike network neverthe
bad experience for the person usin
transitions from one bike facility to
providing clear signs or markings f
routing can also contribute to unbr

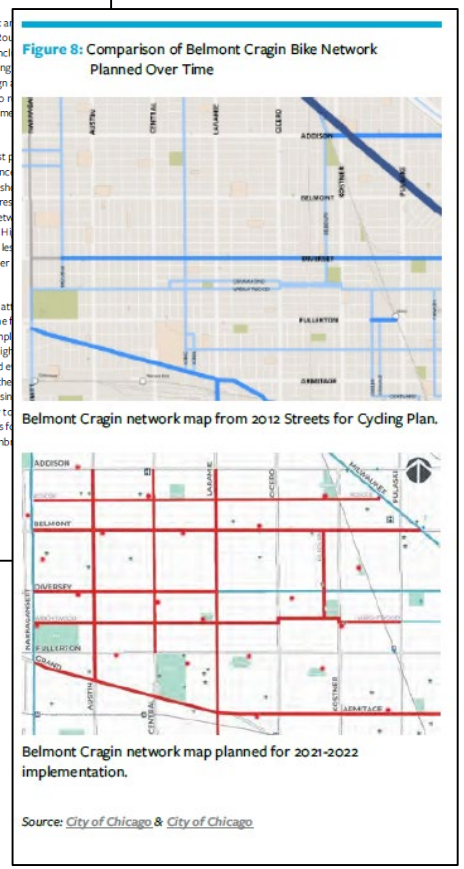


Figure 8: Comparison of Belmont Cragin Bike Network Planned Over Time

Belmont Cragin network map from 2012 Streets for Cycling Plan.

Belmont Cragin network map planned for 2021-2022 implementation.

Source: City of Chicago & City of Chicago

QUESTIONS

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BENCHMARKING BIKE NETWORKS AND THE SAFE SYSTEM APPROACH

TOOLE DESIGN

League of American Bicyclists

February 8, 2022

Our Current Reality

Traffic fatalities are a public health crisis *affecting all road users*.

1.3M

Lives lost globally each year from traffic crashes

Source: UN Decade of Action for Road Safety 2021-2030

31,720

Lives lost on US roads from January to September 2021

Source: NHTSA early estimate of traffic fatalities for the first nine months of 2021

↑21%

Increase in pedestrian fatality rate per VMT from 2019 to 2020

Source: GHSA Pedestrian Traffic Fatalities by State: 2020 Preliminary Data

TOOLE DESIGN

Adopters of the Safe System Approach

Sweden

Vision Zero

60-70%

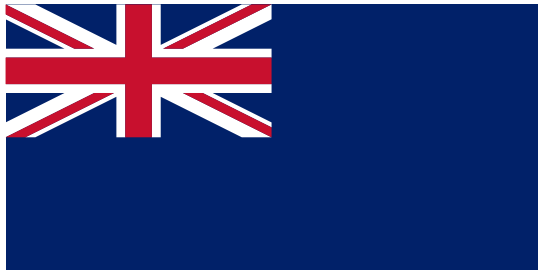
Reduction in fatalities
1994-2015

Netherlands

Sustainable Safety

50-60%

Reduction in fatalities
1994-2015

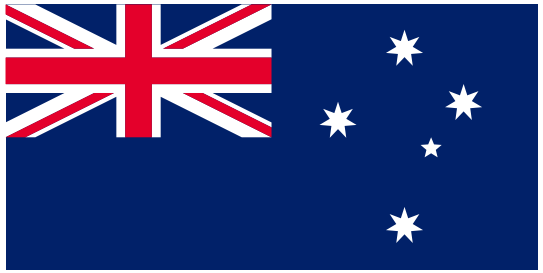


Australia

Safe System

50-60%

Reduction in fatalities
1994-2015



New Zealand

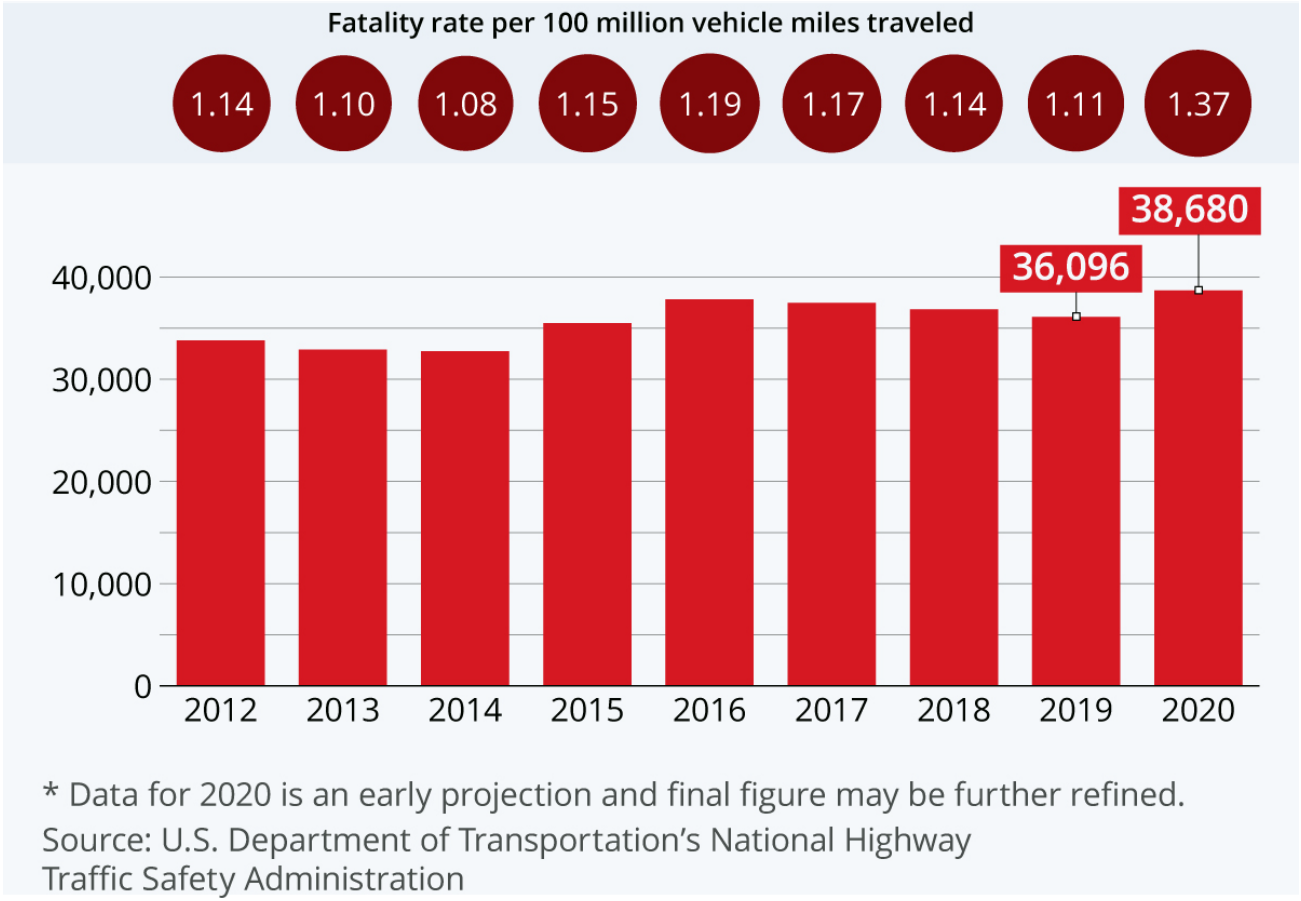
Safer Journeys

50-60%

Reduction in fatalities
1994-2015

TOOLE DESIGN

Thousands of Lives are Lost Each Year



U.S. Traffic Fatalities Climbed In 2020 Despite The Pandemic

Total U.S. traffic fatalities by year and fatality rate per 100 million vehicle miles traveled*

106 /day

3,223 /month

TOOLE DESIGN

statista

THE SAFE SYSTEM APPROACH

TOOLE DESIGN

The 6 Safe System Principles

Death/serious injury is unacceptable

Humans make mistakes

Humans are vulnerable

Responsibility is shared

Safety is proactive

Redundancy is crucial

TOOLE DESIGN

Where are You on the Safe System Journey?

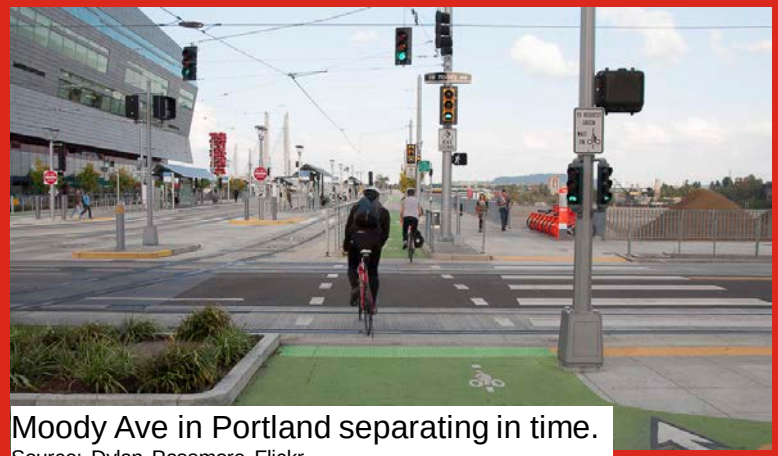
Traditional		The **Safe System** Approach
Prevent crashes	→	Prevent death and serious injuries
Improve human behavior	→	Design for human mistakes and limitations
Control speeding	→	Reduce system kinetic energy
Individuals are responsible	→	Share responsibility
React based on crash history	→	Proactively identify and address risks

TOOLE DESIGN

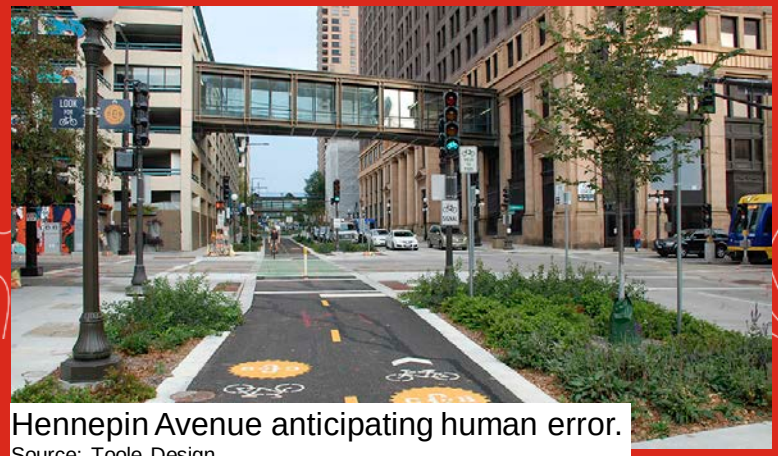
Anticipate Human Error

- **Separating Users in Space**
- **Separating Users in Time**
- **Increasing Attentiveness and Awareness**

Indianapolis Cultural Trail separating in space.
Source: Toole Design



Moody Ave in Portland separating in time.
Source: Dylan Passmore Flickr



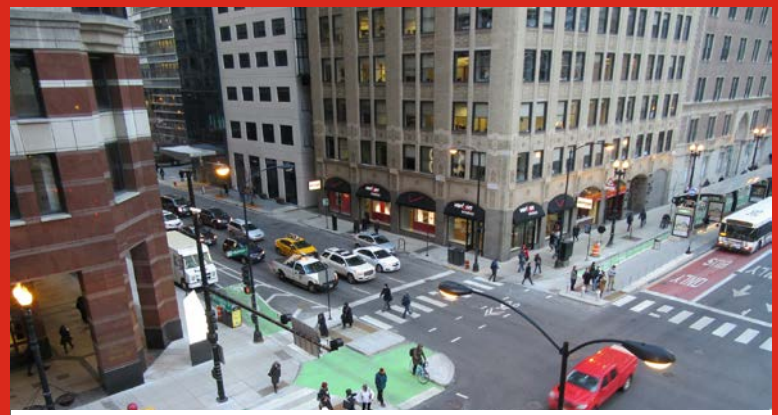
Hennepin Avenue anticipating human error.
Source: Toole Design

TOOLE DESIGN

Accommodate Human Injury Tolerances

- **Reducing Speeds**
- **Reducing Impact Forces**

Mini roundabout in California reduces speeds.
Source: Toole Design



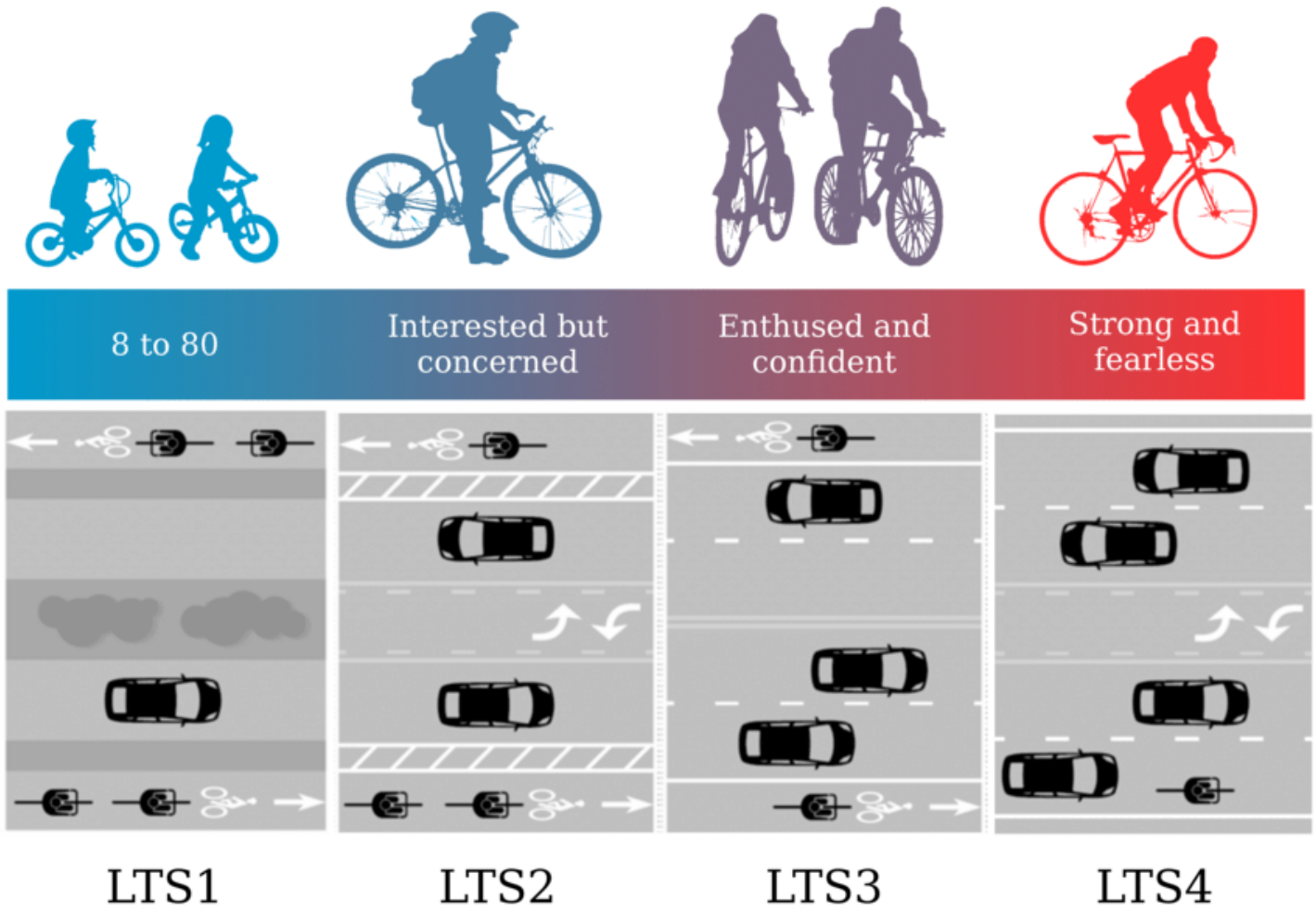
Dutch intersection in Chicago reduces impact forces.
Source: NACTO

Turn hardening accommodates kinetic energy forces.
Source: NACTO

TOOLE DESIGN

If you build it SAFELY, they will come

95% of community capable of riding



1% of community capable of riding

Source: Lorena Abad, Westfählische Wilhelms Universität Münster
% Dataset: US Census Bureau American Community Survey 2016

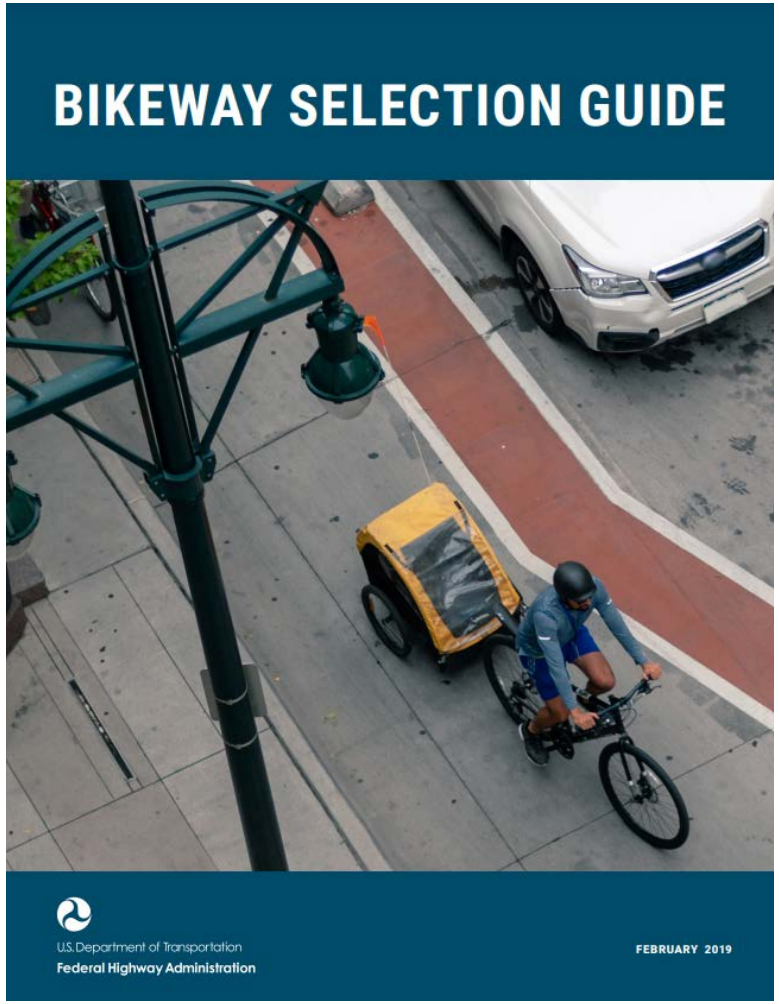
TOOLE DESIGN

Bike Networks and the Safe System Approach

- Think about ways to implement the Safe System Approach in your bike network planning.
- Overlay your high injury network, especially bike crashes, over you planned bike network.
- Be sure to separate users in space and time based on kinetic energy forces.
- Redundancy is critical and safety is proactive!

TOOLE DESIGN

Some Resources



November 2019

Safe Systems Framework

Rural road centerline and shoulder rumble strips are a low-cost Safe System approach to preventing lane departure crashes. Source: Michigan Department of Transportation.

The goal of a Safe Systems approach is to design and operate our vehicles and infrastructure in a manner that anticipates human error and accommodates human injury tolerances with a goal of reducing fatal and serious injuries. The following framework is intended to assist the vehicle and infrastructure communities in making decisions in alignment with safe system principles. Consistently selecting safe system designs will incrementally improve safety and over time result in the widespread implementation of safe system practices.

Minimum principles, core elements, and action areas of Safe Systems. Source: World Resources Institute, Sustainable and Safe Report.

Creating Safe Systems will involve both traditional and new approaches. We must embrace and expand the use of Safe Systems practices that we know work, while being willing to try and evaluate new or non-traditional approaches, particularly when it comes to protecting vulnerable users.

Adopting a Safe Systems approach necessarily means adopting a safety culture. Steady progress can be made by putting safety first and following Safe Systems principles in each of the large and small decisions that confront us every day.

Adopting a Safe Systems approach does not absolve users of responsibility. Programs such as education and enforcement will remain essential. Providing effective emergency response when crashes do occur is also a critical element of a safe system. However, safe system design choices recognize that road users make mistakes or bad decisions and seeks to reduce the opportunities to do so or mitigate the consequences.

Reducing speed is not a direct prerequisite of a safe system, but will sometimes be necessary to achieve alignment with Safe Systems principles. In locations where vehicles interact with vulnerable road users, speeds should be controlled to a level at which a collision is unlikely to result in a fatal or serious injury.

When we choose a Safe Systems approach, we must accept that doing so *may* result a decrease in vehicle throughput and *may* limit the range of behavioral choices for users. However, such decisions are part of responsible system stewardship. As transportation professionals we have a moral obligation to protect lives while creating a reliable transportation system.

I. Anticipating Human Error

Recognizing that humans are human and that they will continue to make errors when traveling, one way to implement a Safe Systems strategy is to reduce the opportunity for error by adhering to the following:

- ✔ **Separating Users in Space** - This approach segregates the physical space to provide travelers with a dedicated part of the right-of-way. Typically, travelers moving at different speeds – pedestrians, bicyclists, etc. (e.g., sidewalks, cycle tracks) – or different directions (e.g., turning vehicles in separate turn lanes) are separated in space to minimize conflicts with other users.
- ✔ **Separating Users in Time** - This approach assumes that users will need to occupy the same physical space on the roadway, but creates a safer environment by separating the users in time and reducing vehicle

1

TOOLE DESIGN

TOOLE DESIGN

Thank you

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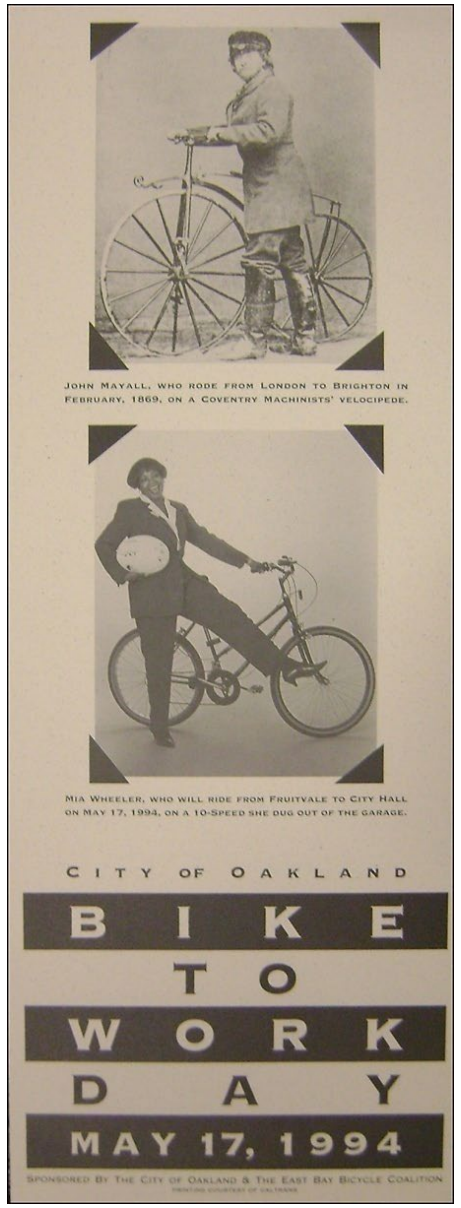
Oakland's Bikeway Network & Data Management

OakDOT
Oakland Department of Transportation

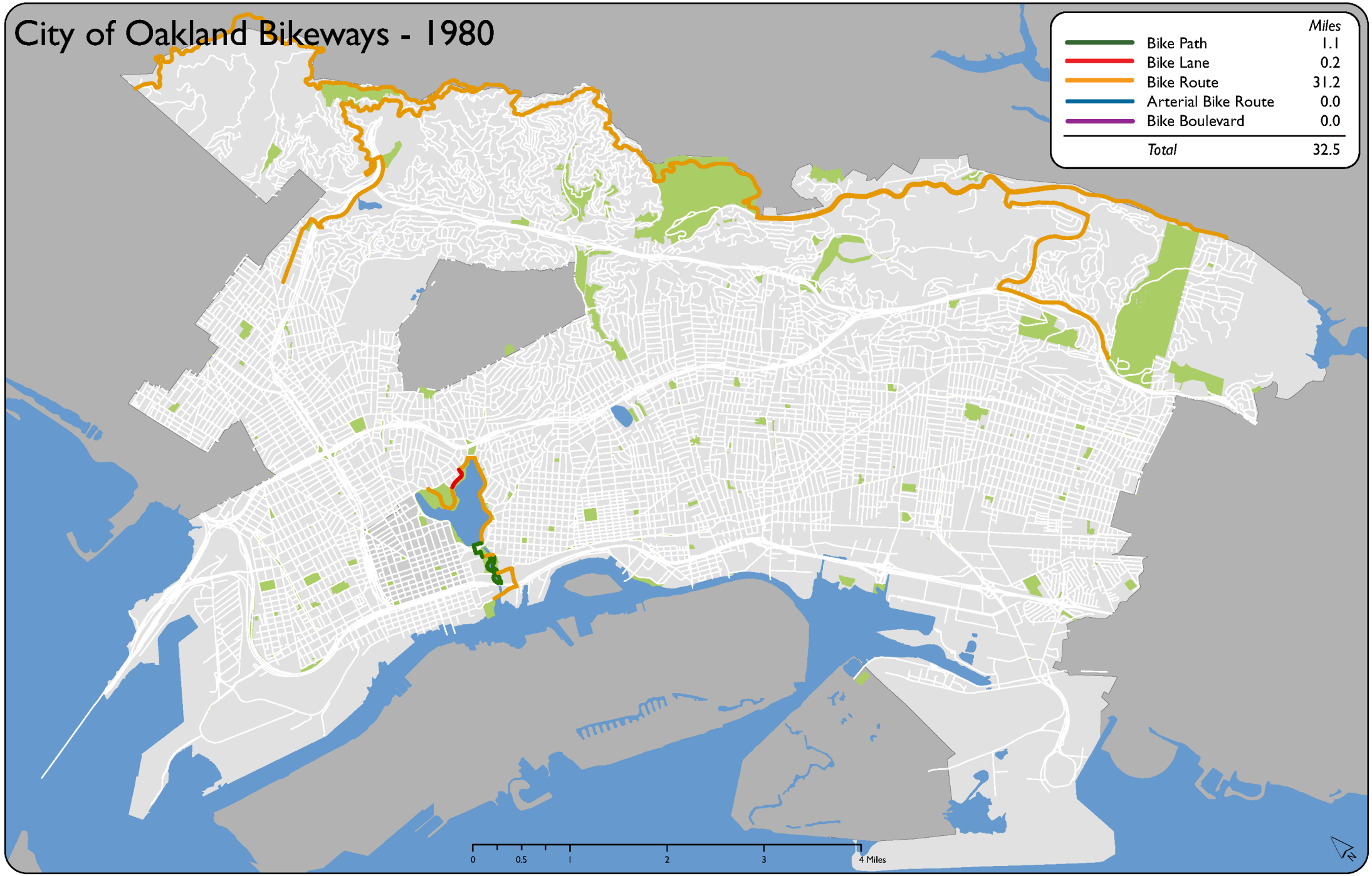
February 8, 2022

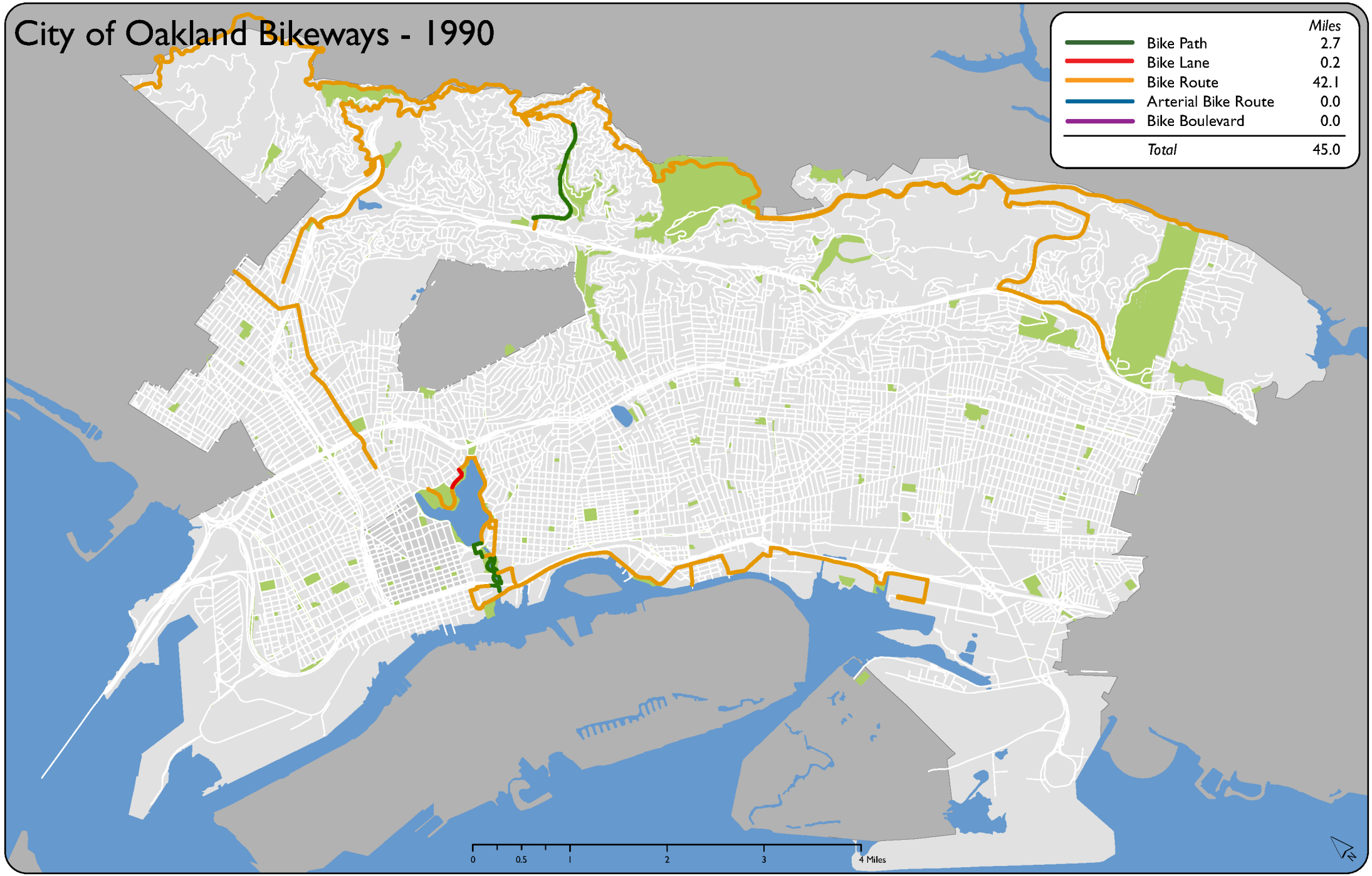
Building Momentum for a Bike Network

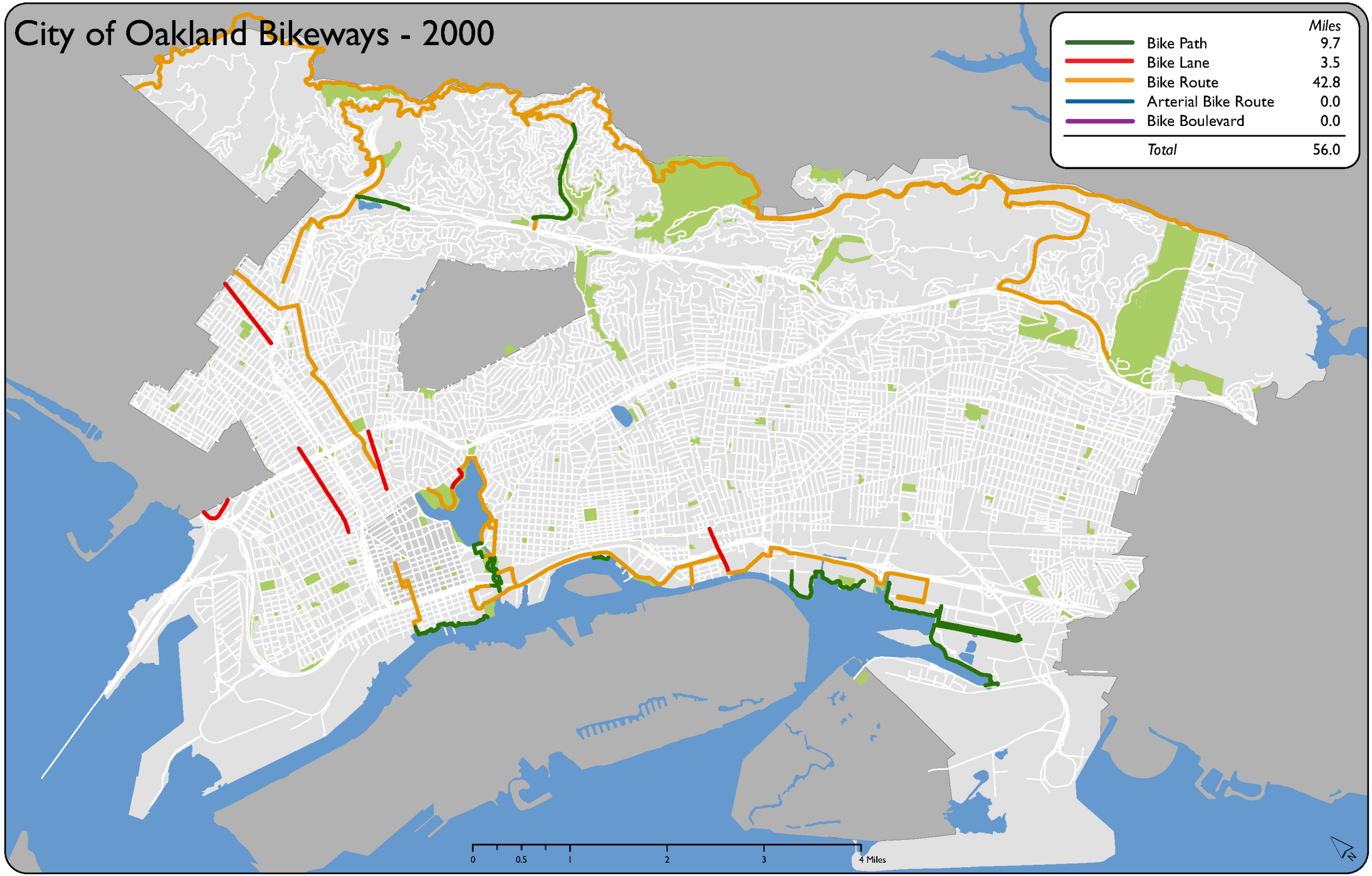
Bike Mode Share	Date	Milestone
	1972	East Bay Bicycle Coalition founded / bicycles allowed on BART
	1976	First bikeways installed
1.1%	1990	46 miles of bikeways (6% paths, lanes) / no known bicycle parking spaces
	1994	First annual Bike to Work Day
	1995	Bicycle & Pedestrian Advisory Committee formed
	1999	**First Bicycle Plan adopted**: proposed basic policies and a citywide network
1.2%	2000	56 miles of bikeways (23% paths, lanes) / 649 bicycle parking spaces
	2006	Walk Oakland Bike Oakland founded
	2007	**Second Bicycle Plan adopted**: refined the network through a data-driven process
1.9%	2010	117 miles of bikeways (49% paths, lanes) / 4,772 bicycle parking spaces
		LAB recognizes Oakland as a *Bronze Bicycle Friendly Community*
	2011	First annual PedalFest – bike-themed family festival attracting 20,000 attendees
	2014	LAB recognizes Oakland as a *Silver Bicycle Friendly Community*
	2016	Oakland voters pass 10-year bond with $350 million for paving & transportation
	2017	Oakland establishes a Department of Transportation
	2018	LAB recognizes Oakland as a *Gold Bicycle Friendly Community*
3.1%	2019	**Third Bicycle Plan adopted**: commits to equity + all ages & abilities
	2021	192 miles of bikeways (73% paths, lanes, blvds) / 11,719 bicycle parking spaces

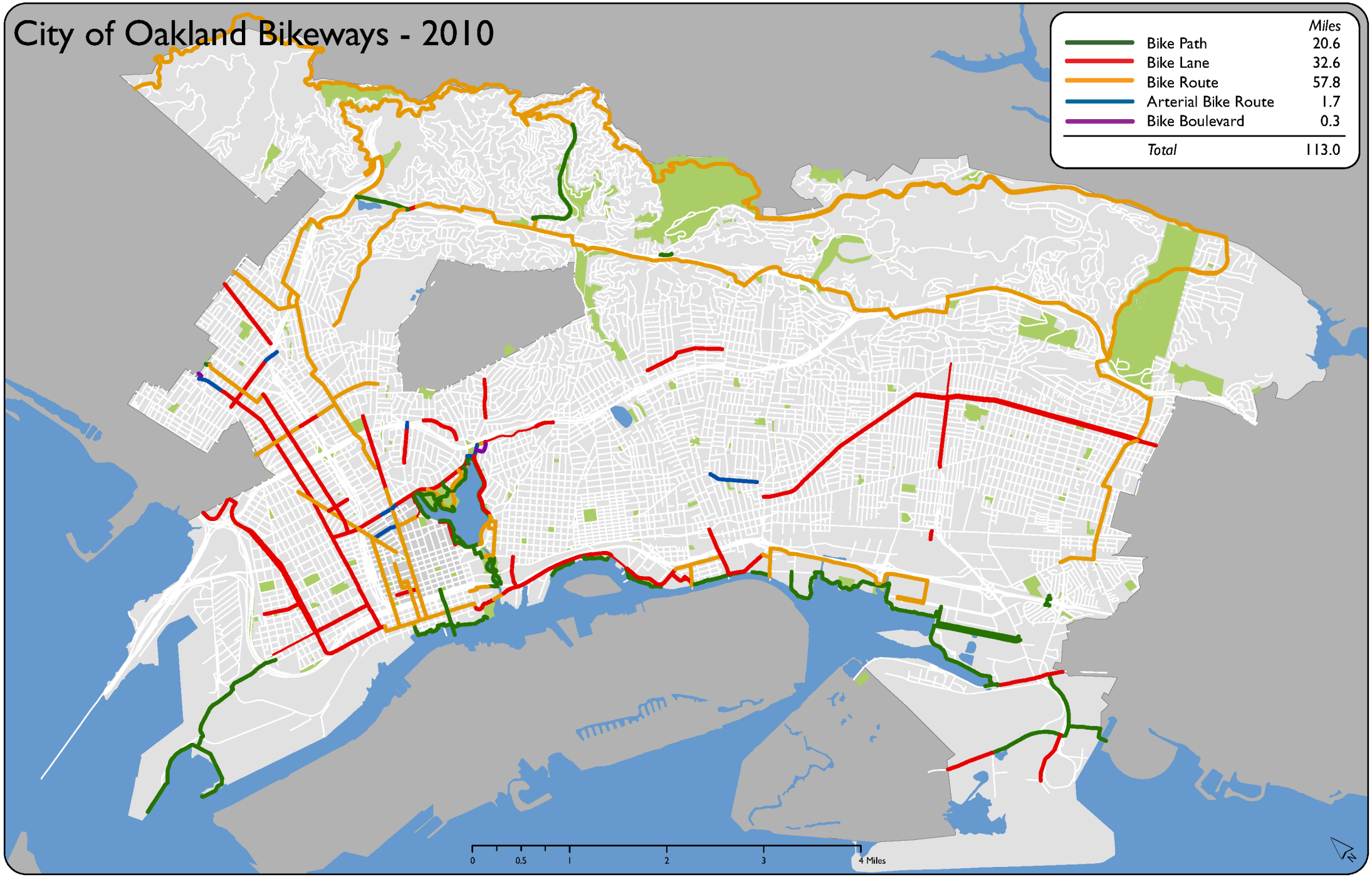


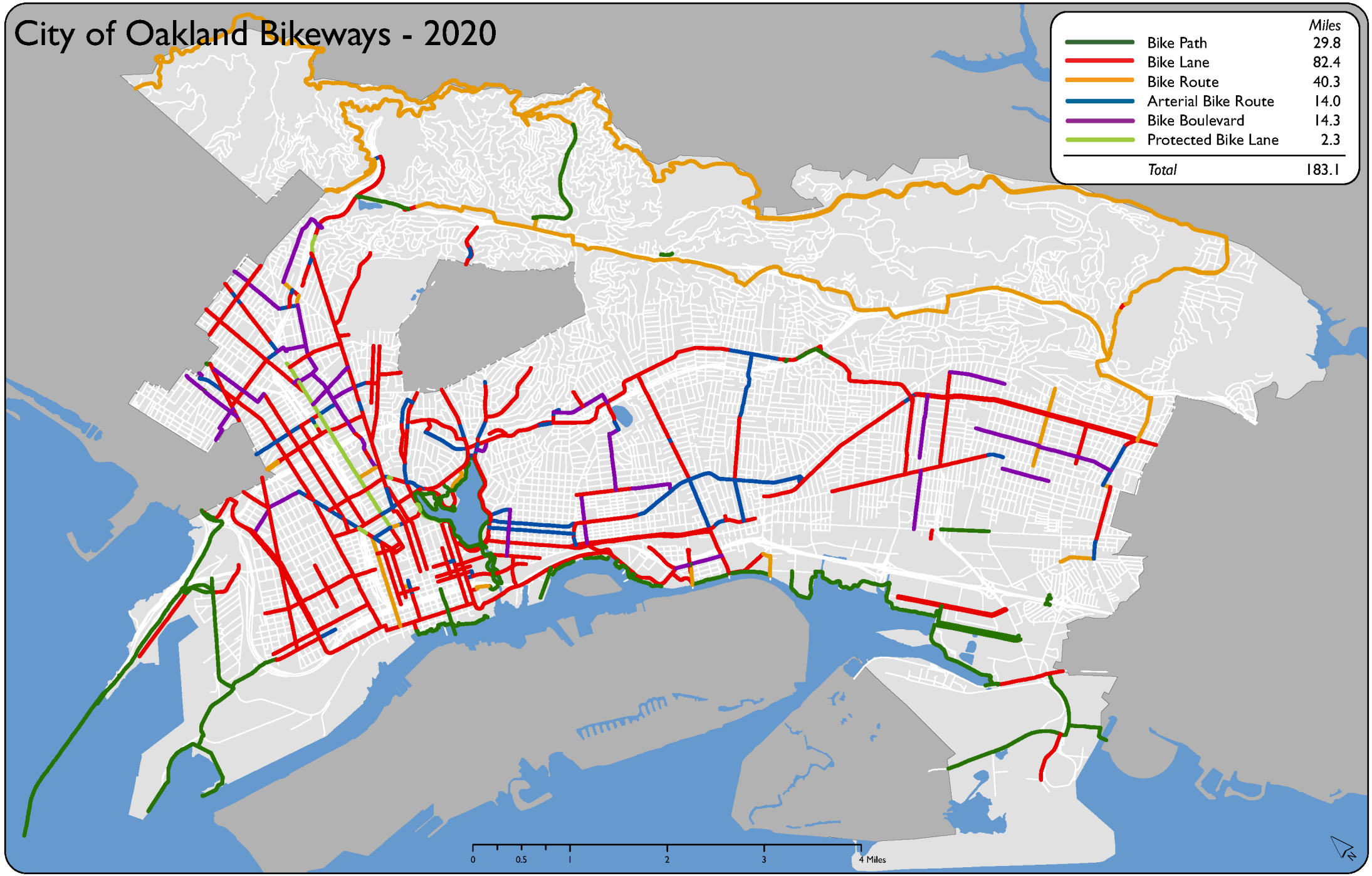
City of Oakland Bikeways - 1980



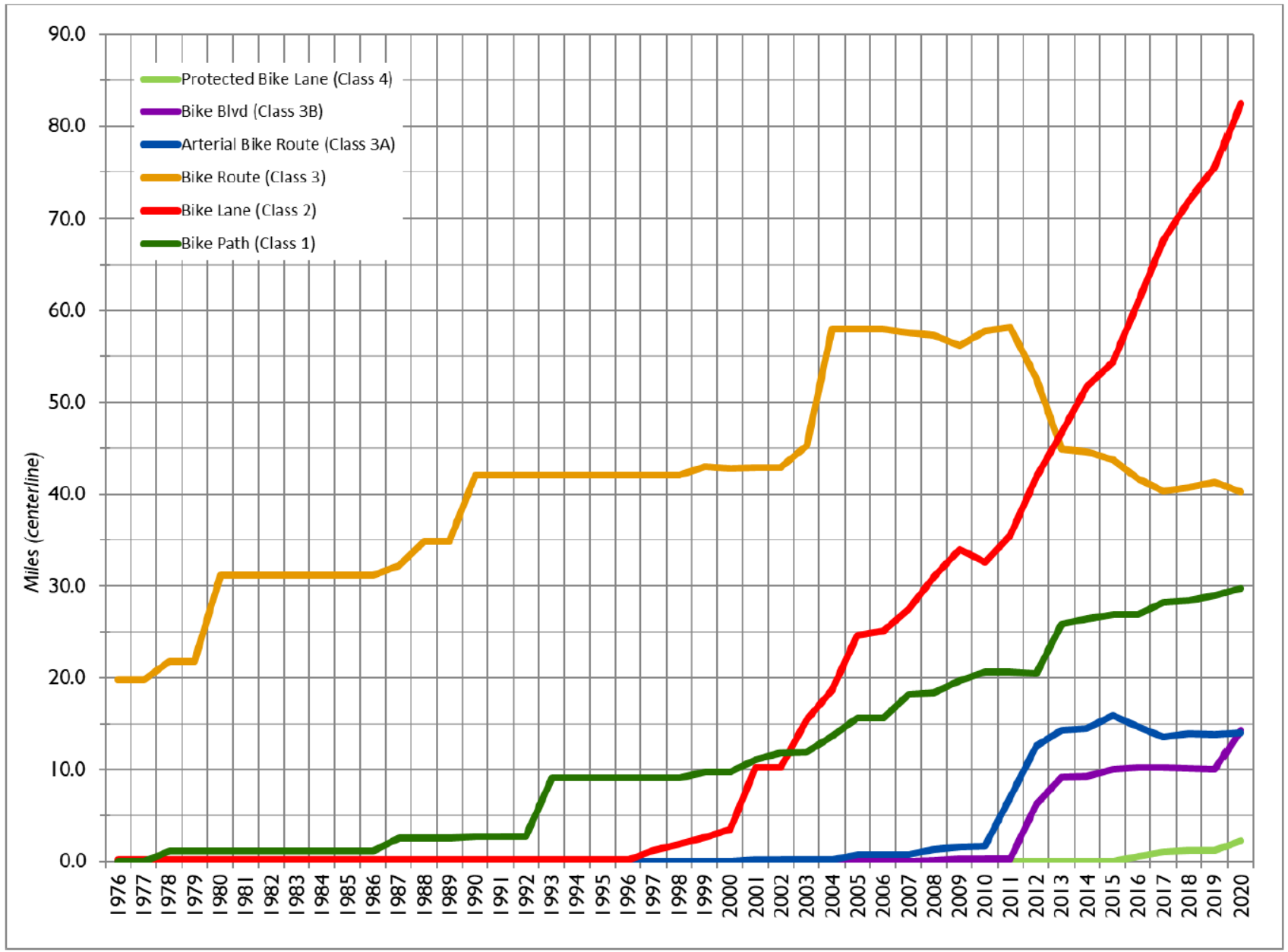

City of Oakland Bikeways - 1990
Miles
Bike Path 2.7
Bike Lane 0.2
Bike Route 42.1
Arterial Bike Route 0.0
Bike Boulevard 0.0
Total 45.0
0
0.5
1
2
3
4 Miles
N


City of Oakland Bikeways - 2000
Miles
Bike Path 9.7
Bike Lane 3.5
Bike Route 42.8
Arterial Bike Route 0.0
Bike Boulevard 0.0
Total 56.0
0
0.5
1
2
3
4 Miles
N


City of Oakland Bikeways - 2010
Miles
Bike Path 20.6
Bike Lane 32.6
Bike Route 57.8
Arterial Bike Route 1.7
Bike Boulevard 0.3
Total 113.0
0
0.5
1
2
3
4 Miles


City of Oakland Bikeways - 2020
Miles
Bike Path 29.8
Bike Lane 82.4
Bike Route 40.3
Arterial Bike Route 14.0
Bike Boulevard 14.3
Protected Bike Lane 2.3
Total 183.1
0
0.5
1
2
3
4 Miles
N

Bikeway Type by Year



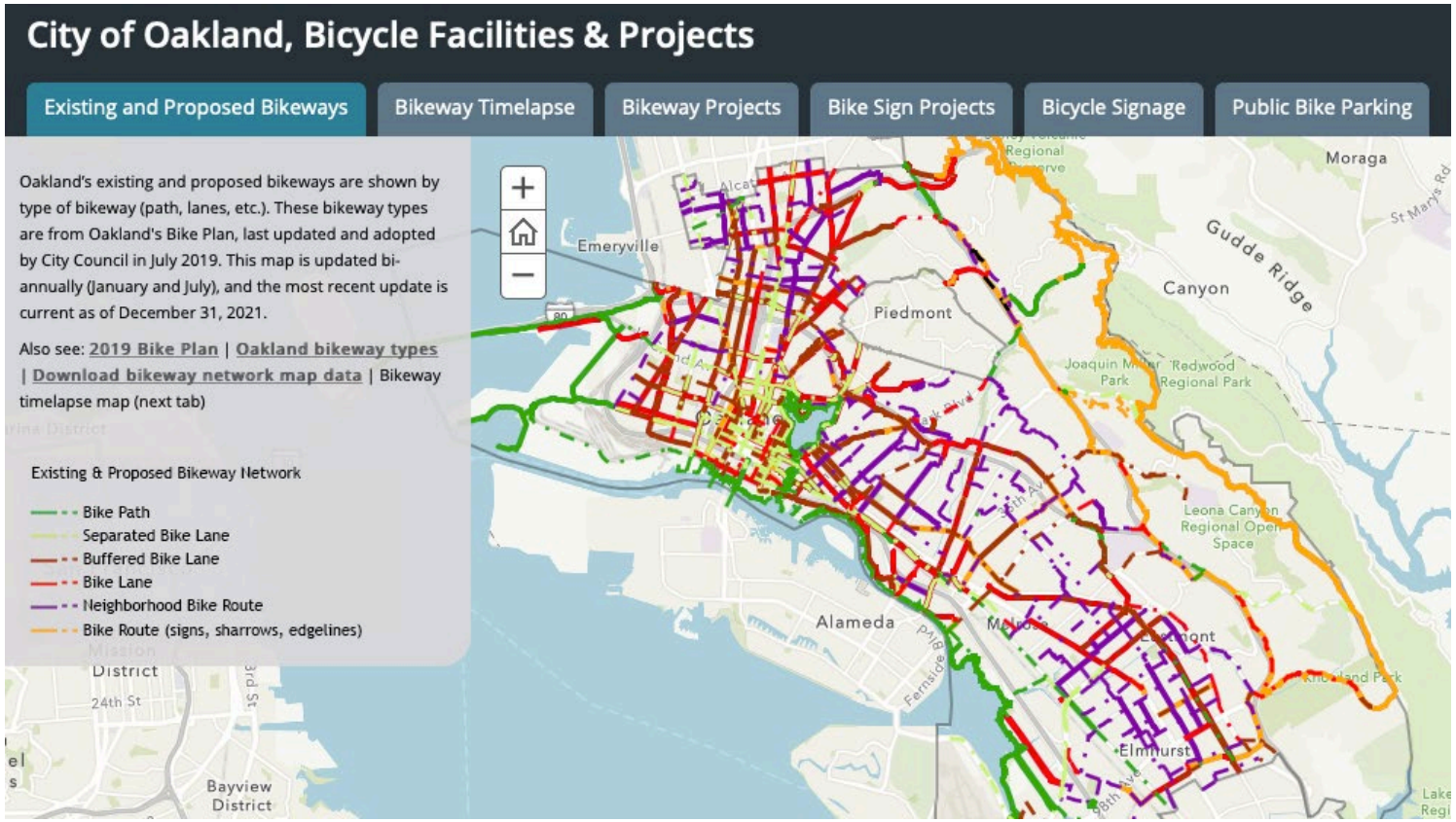
Managing the Data & Telling the Story

Asset Management

- Access databases: bikeway segments, bikeway projects, bikeways timelapse
- GIS feature classes: bikeway segments, bikeway projects, bikeways timelapse (geodatabase)
- Line segments based on the City of Oakland's streets feature class

Workflow

- Split segments as needed to capture changes to the existing bikeways
- Add or revise projects linework
- Twice yearly data updates of segments and projects data
- annual updates to timelapse data



Communications

- Shared publicly on web map (http://arcg.is./1PvC1) and with links to raw data on Open Data Platform
- Twice yearly newsletter on Bike Plan Implementation
- Annual "By the Numbers" reporting on bikeway mileage bike parking spaces, and guide signs

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NEIGHBORHOOD BIKE NETWORK PROCESS

League of American Bicyclists
February 8, 2022

David Smith, AICP – CDOT
Jeremy Cuebas – NW Center

CDOT
Chicago Department of Transportation

Stages of Bike Network Development

1. GROWING INTEREST

INTEREST

There is a growing interest in biking in neighborhoods not well served by bikeways

INTRODUCTION

Implement quick wins to create a network backbone

2. EMERGING NETWORK

SOCIALIZATION

Biking becomes more visible as facilities are built and more people try biking

SATURATION

Expand the network to meet growing demand

3. ESTABLISHED NETWORK

ENTHUSIASM

Biking grows in popularity & utility as the network expands.

STRENGTHEN

Continue to enhance the bikeway network

CDOT

Goals of the Neighborhood Bike Network Process

- Better understand the role of biking in ongoing community efforts
- Empower community members to lead the planning & implementation process
- Identify network projects that can be implemented in Year One
- Identify mid/long-term needs

This is not just another Planning Process, it's about Implementation!

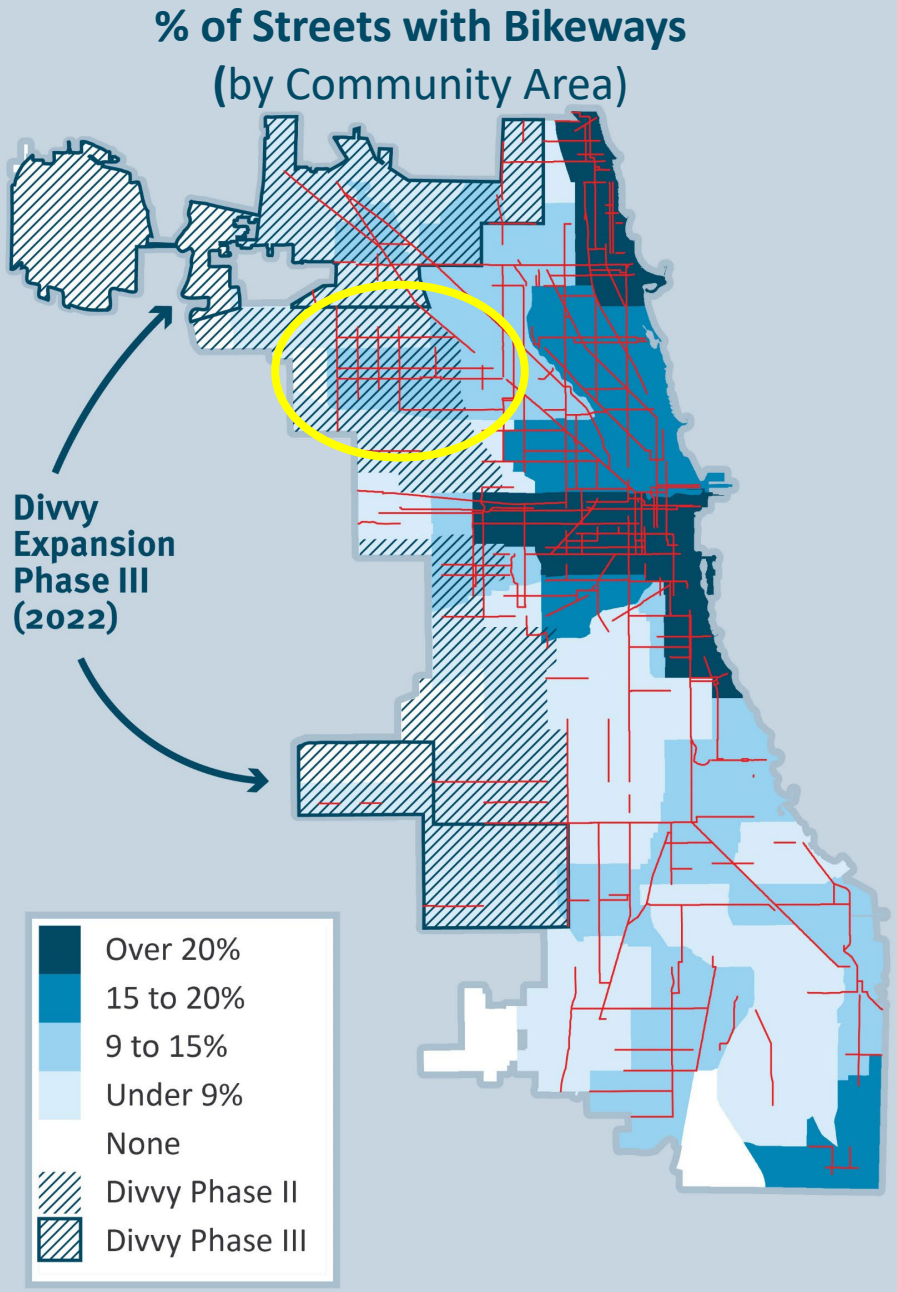
CDOT

EXPANDING THE NETWORK

- Divvy bikeshare is expanding citywide and experienced record breaking ridership in 2021
- There is a growing interest and need for bikeways in several neighborhoods not well served by the bikeway network
- Biking won't be a useful transportation option until it provides convenient access to all the places people want and need to go.

Belmont Cragin

- Low density of bikeways
- High population under the age of 18 years old
- Growing enthusiasm for biking
- Divvy introduced in 2021



CDOT

NEIGHBORHOOD BIKE NETWORK TASK FORCE

Phase 1
Partner & Data Collection

- Aldermanic Coordination
- Identify Neighborhood Taskforce
- **Taskforce Meeting #1**
  - Bikeways 101 & tradeoffs
  - Perceptions of biking
  - Destinations & barriers

Phase 2
Listen & Learn

- Online Survey
- **Taskforce Meeting #2**
  - Review survey results
  - Discuss draft network
- Map of Draft Network

Phase 3
Quick Build Network

- Review comments from online map and finalize network
- **Taskforce Meeting #3**
  - Finalize network
  - Discuss individual routes
- Potential Community Meeting
- Install Quick-Build Network

CDOT

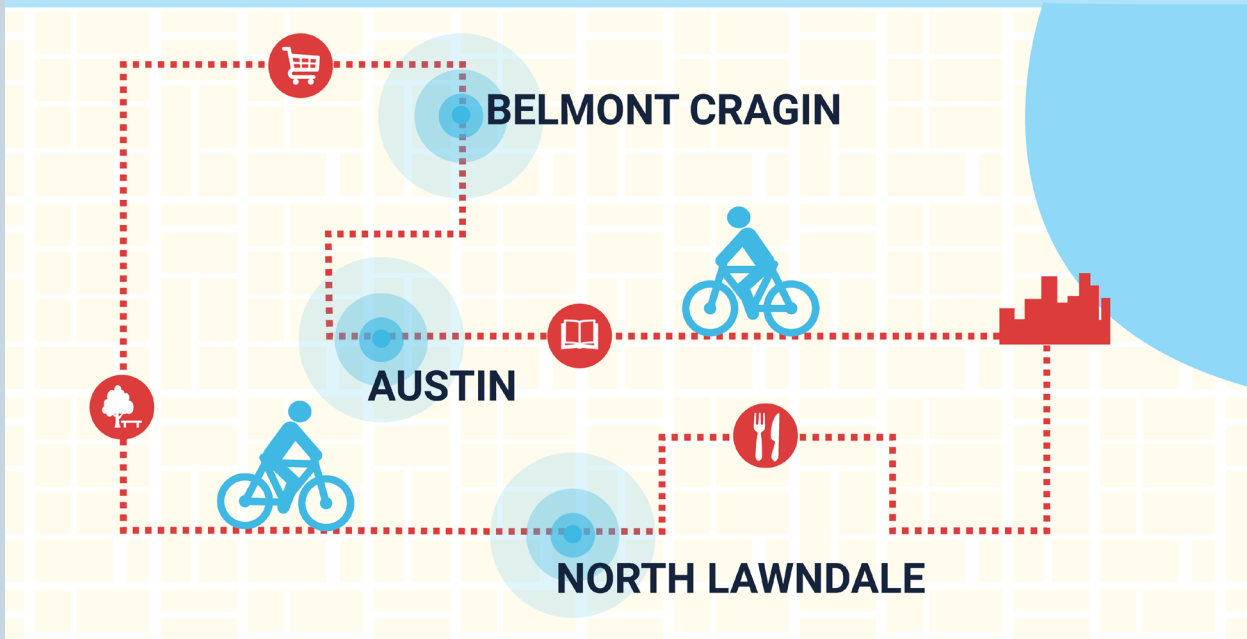
- What are the perceptions of biking?
- What are challenges/opportunities?
- How would you benefit from a connected network?
- Where should a network connect you to?

Destinations First, Streets Second

CDOT

CDOT

NEIGHBORHOOD BIKE NETWORKS



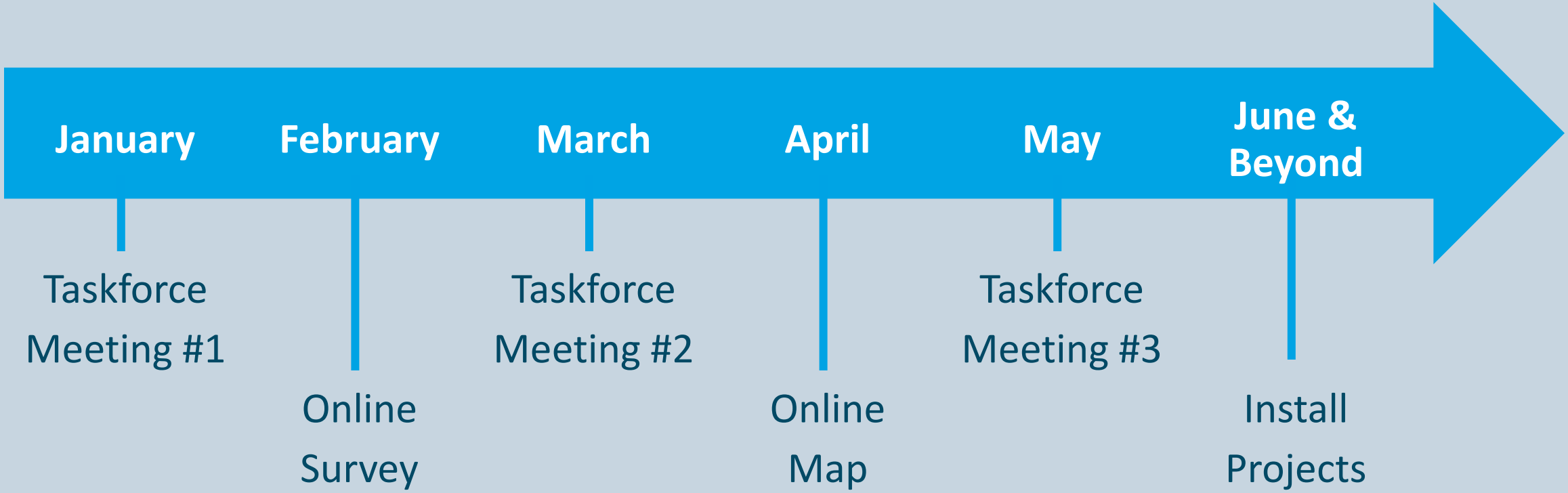
WE WANT TO HEAR FROM YOU!

The Chicago Department of Transportation (CDOT) is partnering with community members to identify and build a connected bicycle network in 2021 in the Austin, Belmont Cragin, and North Lawndale neighborhoods. Take a short online survey to help us understand how you choose to get around in your neighborhood, how bicycling is perceived in the community, and how a network of bike routes may impact you. This survey is your first opportunity to get involved in this exciting effort.

The survey will be available in English and Spanish and will remain open until May 31, 2021.

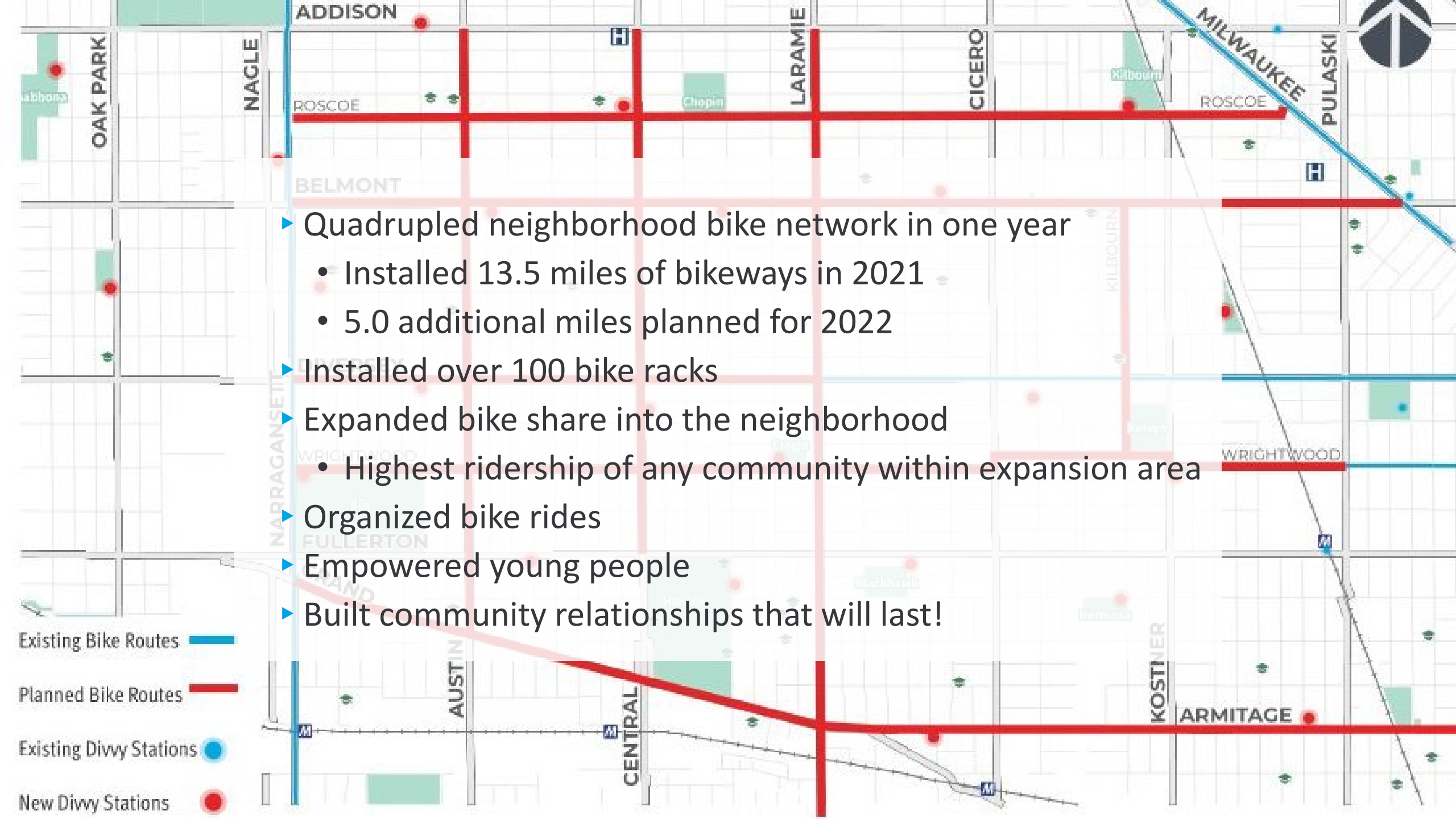
For questions related to the project or online survey, visit the project website chicagocompletestreets.org/projects/active-projects/ or email CDOTbikes@cityofchicago.org.

TIMELINE



CDOT


ADDISON
OAK PARK
NAGLE
ROSCOE
LARAMIE
CICERO
MILWAUKEE
PULASKI
Kilbourn
ROSCOE
Chopin
BELMONT
KILBOURN
DIVERSEY
NARRAGANSETT
Kelvyn
WRIGHTWOOD
Cragin
WRIGHTWOOD
Riis
FULLERTON
GRAND
Blackhawk
Hermosa
Hanson
AUSTIN
CENTRAL
KOSTNER
ARMITAGE
Existing Bike Routes
Planned Bike Routes
Existing Divvy Stations
New Divvy Stations



- Quadrupled neighborhood bike network in one year
  - Installed 13.5 miles of bikeways in 2021
  - 5.0 additional miles planned for 2022
- Installed over 100 bike racks
- Expanded bike share into the neighborhood
  - Highest ridership of any community within expansion area
- Organized bike rides
- Empowered young people
- Built community relationships that will last!

MAY 15

5233 W DIVERSEY
11AM-2PM

SNACKS • RAFFLE • GIVEAWAYS

BIKES 4 BELMONT CRAGIN

RIDE

JOIN US

for a community bike ride & celebrate our biking campaign victories– like Divvy and new bike lanes coming to Belmont Cragin

Bikes available to borrow for ride

REGISTER

nwshc.org/events

CONTACT

jcuebas@nwshc.org
773-580-2553

northwestside housingcenter

BETTER BIKE SHARE PARTNERSHIP

CDOT Chicago Department of Transportation

DIVVY

lyft

ACTIVE TRANSPORTATION ALLIANCE

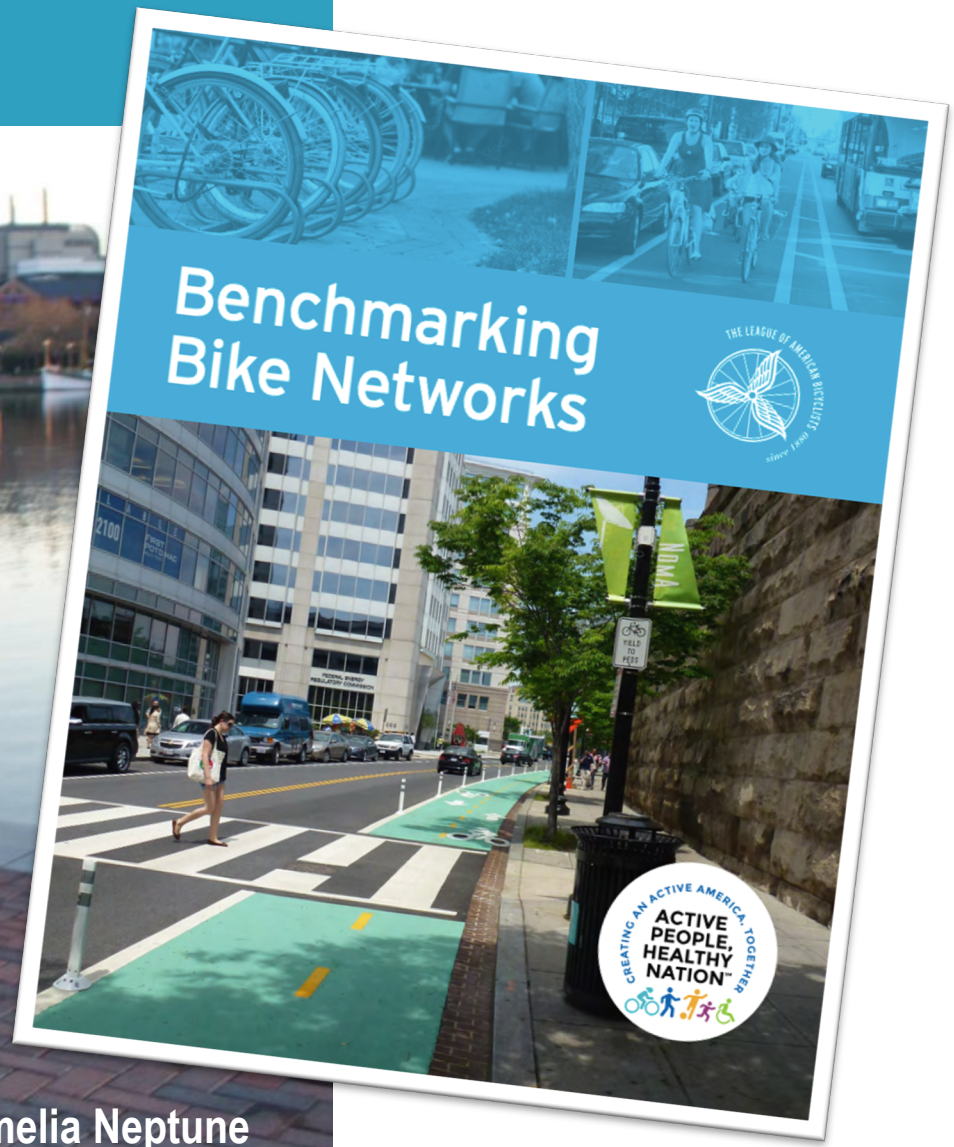
Bikes for Belmont Cragin, May 2021
Belmont Cragin

Photo: Sun Times

THANK YOU!

CDOT
Chicago Department
of Transportation

BICYCLE FRIENDLY COMMUNITY



Amelia Neptune
Bicycle Friendly America Program Director
League of American Bicyclists

BICYCLE FRIENDLY COMMUNITY

Bicycle Friendly Communities BY RANK

As of Fall 2021, 496 communities are currently recognized as a Bronze, Silver, Gold, or Platinum Bicycle Friendly Community. See the full list of BFCs at bikeleague.org/community.

347 *Bronze*

109 *Silver*

35 *Gold*

5 *Platinum*

RECOGNITION & FEEDBACK

PORTLAND, OR

BICYCLE FRIENDLY COMMUNITY Fall 2017 — PLATINUM — THE LEAGUE OF AMERICAN BICYCLISTS

TOTAL POPULATION	POPULATION DENSITY	# OF LOCAL BICYCLE FRIENDLY BUSINESSES	# OF LOCAL BICYCLE FRIENDLY UNIVERSITIES
639,863	4,811	31	2
TOTAL AREA (sq. miles) 133			

10 BUILDING BLOCKS OF A BICYCLE FRIENDLY COMMUNITY

	Diamond	Portland
High Speed Roads with Bike Facilities	90%	22%
Total Bicycle Network Mileage to Total Road Network Mileage	70%	16%
Bicycle Education in Schools	EXCELLENT	AVERAGE
Share of Transportation Budget Spent on Bicycling	INSUFFICIENT DATA	UNKNOWN
Bike Month and Bike to Work Events	EXCELLENT	EXCELLENT
Active Bicycle Advocacy Group	YES	YES
Active Bicycle Advisory Committee	YES	AT LEAST MONTHLY
Bicycle–Friendly Laws & Ordinances	EXCELLENT	EXCELLENT
Bike Plan is Current and is Being Implemented	YES	SOMEWHAT
Bike Program Staff to Population	PER 10K	PER 32K

CATEGORY SCORES

ENGINEERING *Bicycle network and connectivity*	6.5/10
EDUCATION *Motorist awareness and bicycling skills*	5.3/10
ENCOURAGEMENT *Mainstreaming bicycling culture*	7.2/10
ENFORCEMENT *Promoting safety and protecting bicyclists' rights*	6.0/10
EVALUATION & PLANNING *Setting targets and having a plan*	6.8/10

KEY OUTCOMES

	Diamond	Portland
RIDERSHIP *Percentage of commuters who bike*	20%	6.4%
SAFETY MEASURES CRASHES *Crashes per 10k bicycle commuters*	50	159
SAFETY MEASURES FATALITIES *Fatalities per 10k bicycle commuters*	0.2	0.7

KEY STEPS TO DIAMOND

» Develop a stronger funding mechanism to support bicycle infrastructure and programming. Establish a dedicated budget for the implementation of your Bike Plan, in addition to the ongoing development and maintenance of Portland's growing bikeway network.

» As you near the midpoint of your 2010-adopted "Portland Bicycle Plan for 2030" consider conducting an update to the plan. Updated technologies, new issues like distracted driving, and new best practices and national guidelines/standards suggest that a strong bike plan be updated every 5-10 years. An update to your plan will also allow you to revisit and ensure that the stated goals of the plan still reflect the community's bicycling priorities.

» Bicycle safety education should be a routine part of education for students of all ages. Work with your Safe Routes to School Coordinator, local bicycle groups, and interested parents to expand and improve in-school bicycle education for all K-12 schools in Portland.

» Expand bicycle education opportunities for adults, including for motorists. Host a League Cycling Instructor (LCI) seminar to increase the number of active LCIs in Portland. Having several active instructors in the area will enable you to expand bicycling education, deliver Bicycle Friendly Driver education to motorists, and have more experts available to assist in encouragement programs.

Fall 2019

PEORIA, AZ

THE LEAGUE OF AMERICAN BICYCLISTS since 1880

TOTAL POPULATION	POPULATION DENSITY	# OF LOCAL BICYCLE FRIENDLY BUSINESSES	# OF LOCAL BICYCLE FRIENDLY UNIVERSITIES
171,000	957	0	0
TOTAL AREA (sq. miles) 176			

10 BUILDING BLOCKS OF A BICYCLE FRIENDLY COMMUNITY

	Average Bronze	Peoria
High Speed Roads with Bike Facilities	20%	61%
Total Bicycle Network Mileage to Total Road Network Mileage	25%	23%
Bicycle Education in Schools	AVERAGE	NEEDS IMPROVEMENT
Share of Transportation Budget Spent on Bicycling	7%	1%
Bike Month and Bike to Work Events	AVERAGE	NEEDS IMPROVEMENT
Active Bicycle Advocacy Group	YES	STATEWIDE ONLY
Active Bicycle Advisory Committee	MEETS QUARTERLY	NONE
Bicycle–Friendly Laws & Ordinances	AVERAGE	AVERAGE
Bike Plan is Current and is Being Implemented	YES	YES
Bike Program Staff to Population	1 PER 154K	1 PER 342K

CATEGORY SCORES

ENGINEERING *Bicycle network and connectivity*	3.3/10
EDUCATION *Motorist awareness and bicycling skills*	2.0/10
ENCOURAGEMENT *Mainstreaming bicycling culture*	3.0/10
ENFORCEMENT *Promoting safety and protecting bicyclists' rights*	2.6/10
EVALUATION & PLANNING *Setting targets and having a plan*	3.9/10

KEY OUTCOMES

	Average Bronze	Peoria
RIDERSHIP *Percentage of commuters who bike*	1.3%	0.28%
SAFETY MEASURES CRASHES *Crashes per 10k bicycle commuters*	1,093	1,805
SAFETY MEASURES FATALITIES *Fatalities per 10k bicycle commuters*	20	9.76

KEY STEPS TO BRONZE

» Continue to expand the bike network and ensure that your community follows a bicycle facility selection criteria that increases separation and protection of bicyclists based on levels of motor vehicle speed and volume. On roads where automobile speeds regularly exceed 35 mph, it is recommended to provide protected bicycle infrastructure such as protected bike lanes/cycle tracks, buffered bike lanes or parallel 10ft wide shared-use paths (in low density areas). In slower speed areas such as quiet neighborhood streets, develop a system of bicycle boulevards that create an attractive, convenient, and comfortable cycling environment welcoming to cyclists of all ages and skill levels.

» Continue to increase the amount of high quality bicycle parking throughout Peoria. Develop community-wide Bicycle Parking Standards to ensure that APBP-compliant bicycle parking is available in areas near popular destinations, transit stops, and urban activity centers. Consider the use of bike corrals, bike valets, and incentives or requirements for bike parking in buildings.

» Bicycle safety education should be a routine part of education for students of all ages, and schools and the surrounding neighborhoods should be particularly safe and convenient for biking and walking. Work with local bicycle groups and interested parents to create Safe Routes to School programming for all schools.

KEY STEPS CONTINUED ON PAGE 2...

BFC AWARDS CRITERIA

The Five E's:

- **Engineering**
- **Encouragement**
- **Education**
- **Evaluation & Planning**
- **Equity, Diversity & Inclusion** *(EDI)*

August 9, 2021

UPDATING WHAT IT TAKES TO BE A BICYCLE FRIENDLY COMMUNITY

BICYCLE FRIENDLY AMERICA
BICYCLE FRIENDLY COMMUNITY

by Amelia Neptune

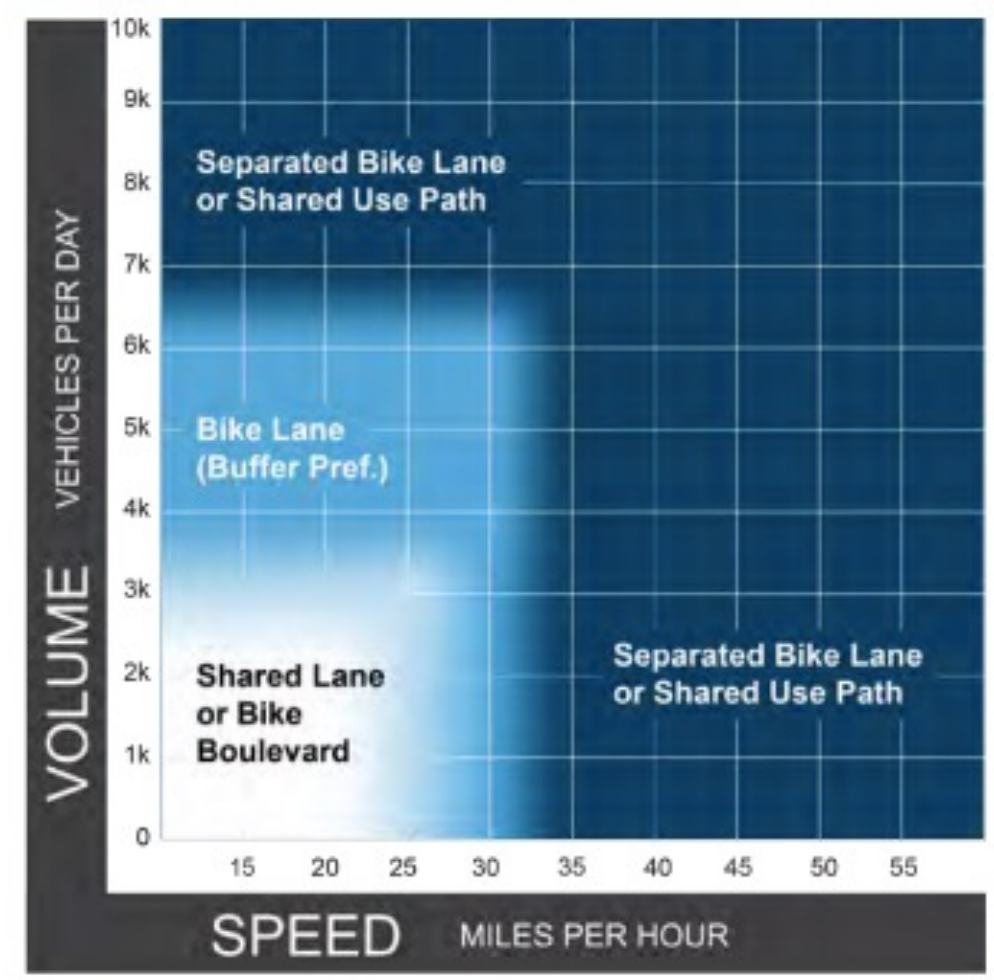
Since the Bicycle Friendly Community program originally launched in 1995 and then relaunched in 2003, our application has consistently evolved to reflect our collective understanding of what makes streets safer and more comfortable and accessible to more people who bike. Many communities use the program application itself as a guide to building a Bicycle Friendly Community inclusive of the 5 Es of engineering, encouragement, education, evaluation, and equity.

Over time, as national standards and guidelines have been revised to reflect latest best practices, or as technology has opened up new possibilities on topics like online bike education or automated bike counts, the BFC application has grown and evolved to reflect these incremental changes.

Amenities like bike share programs and protected bike lanes were barely a concept when the BFC program started but have become standard in many U.S. cities today. This is part of why awarded BFCs are required to renew their designation every four years — the program criteria are evolutionary by design, and communities must keep up with the program to maintain their designations.

Similarly, we recognize that every so often the program itself is in need of deeper re-evaluation, and so, over the next year the League will be taking some time to do just that.

RETHINKING HOW WE EVALUATE NETWORKS



B2. Does your community have bicycle facility selection criteria that increases separation and protection of bicyclists based of levels of motor vehicle speed and volume?

- ❑ Yes*
- ❑ No

***B2a. Please describe.**

B4. Does your community currently have any of the following street design policies in place that promote a more comfortable cycling environment? *Check all that apply.*

- ❑ Design manual that incorporates the AASHTO Guide for the Development of Bicycle Facilities, 4th Edition
- ❑ Design manual that incorporates the NACTO Urban Bikeway Design Guide
- ❑ Design manual that incorporates the NACTO Urban Street Design Guide
- ❑ Design manual that incorporates the FHWA's Small Town and Rural Multimodal Network Guide
- ❑ Streetscape design guidelines
- ❑ None of the above

RETHINKING HOW WE EVALUATE NETWORKS

***B13a. How many miles of the following off-street accommodations that can be legally used by bicyclists are within your community's boundaries?** *(in miles)*

- Paved shared use paths (≥10 feet) _____
- Paved shared use paths (≥ 8 and <10 feet) _____
- Natural surface shared use paths (≥10 feet) _____
- Natural surface shared use paths (≥ 8 and <10 feet) _____
- Singletrack _____

B15. How many miles of road network fall within the following posted speed limits?
(in centerline miles)

- ≤ 25mph _____
- >25mph and ≤35mph _____
- >35mph _____
- Unknown _____

B16a1. On streets with posted speeds of ≤ 25mph, how many miles of each of the following bicycle facilities are there that meet or exceed current AASHTO or NACTO standards?

(in centerline miles)

- Bike boulevards _____
- Shared lane markings (not counted under Bicycle Boulevards) _____
- Wide paved shoulders (ridable surface ≥4 feet, and minimum clear path of ≥4 feet between rumble strips) _____
- Bike lanes (incl. standard, contra-flow, left-side) (ridable surface ≥4 feet) _____
- Buffered bike lanes _____
- Protected bike lanes or cycle tracks (one-way or two-way) _____
- Raised cycle tracks (one-way or two-way) _____

B16b1. On streets with posted speeds of > 25mph and ≤ 35mph, how many miles of each of the following bicycle facilities are there that meet or exceed current AASHTO or NACTO standards?

(in centerline miles)

- Shared lane markings _____
- Wide paved shoulders (ridable surface ≥4 feet, and minimum clear path of ≥4 feet between rumble strips) _____
- Bike lanes (incl. standard, contra-flow, left-side) (ridable surface ≥4 feet) _____
- Buffered bike lanes _____
- Protected bike lanes or cycle tracks (one-way or two-way) _____
- Raised cycle tracks (one-way or two-way) _____

B16c1. On streets with posted speeds of > 35mph, how many miles of each of the following bicycle facilities are there that meet or exceed current AASHTO or NACTO standards?

(in centerline miles)

- Wide paved shoulders (ridable surface ≥4 feet, and minimum clear path of ≥4 feet between rumble strips) _____
- Bike lanes (incl. standard, contra-flow, left-side) (ridable surface ≥4 feet) _____
- Buffered bike lanes _____
- Protected bike lanes or cycle tracks (one-way or two-way) _____
- Raised cycle tracks (one-way or two-way) _____

RETHINKING HOW WE EVALUATE NETWORKS

***B13a. How many miles of the following off-street accommodations that can be legally used by bicyclists are within your community's boundaries?** *(in miles)*

- Paved shared use paths (≥10 feet) __20___
- Paved shared use paths (≥ 8 and <10 feet) __8____
- Natural surface shared use paths (≥10 feet) __0____
- Natural surface shared use paths (≥ 8 and <10 feet) __19___
- Singletrack _25____

B15. How many miles of road network fall within the following posted speed limits?
(in centerline miles)

- ≤ 25mph __760__
- >25mph and ≤35mph _154___
- >35mph _5_____
- Unknown _____

B16a1. On streets with posted speeds of ≤ 25mph, how many miles of each of the following bicycle facilities are there that meet or exceed current AASHTO or NACTO standards?

(in centerline miles)

- Bike boulevards __9.2___
- Shared lane markings (not counted under Bicycle Boulevards) _12.4_____
- Wide paved shoulders (ridable surface ≥4 feet, and minimum clear path of ≥4 feet between rumble strips) __0____
- Bike lanes (incl. standard, contra-flow, left-side) (ridable surface ≥4 feet) __37___
- Buffered bike lanes __16.4_____
- Protected bike lanes or cycle tracks (one-way or two-way) __0.7_____
- Raised cycle tracks (one-way or two-way) __0____

B16b1. On streets with posted speeds of > 25mph and ≤ 35mph, how many miles of each of the following bicycle facilities are there that meet or exceed current AASHTO or NACTO standards?

(in centerline miles)

- Shared lane markings __2.2___
- Wide paved shoulders (ridable surface ≥4 feet, and minimum clear path of ≥4 feet between rumble strips) __0____
- Bike lanes (incl. standard, contra-flow, left-side) (ridable surface ≥4 feet) __8.6____
- Buffered bike lanes __2.8___
- Protected bike lanes or cycle tracks (one-way or two-way) __0.3____
- Raised cycle tracks (one-way or two-way) __0____

B16c1. On streets with posted speeds of > 35mph, how many miles of each of the following bicycle facilities are there that meet or exceed current AASHTO or NACTO standards?

(in centerline miles)

- Wide paved shoulders (ridable surface ≥4 feet, and minimum clear path of ≥4 feet between rumble strips) __0____
- Bike lanes (incl. standard, contra-flow, left-side) (ridable surface ≥4 feet) _3.8_____
- Buffered bike lanes _0_____
- Protected bike lanes or cycle tracks (one-way or two-way) _0_____
- Raised cycle tracks (one-way or two-way) _0_____

RETHINKING HOW WE EVALUATE NETWORKS

OAKLAND, CA

BICYCLE FRIENDLY COMMUNITY Fall 2018 GOLD THE LEAGUE OF AMERICAN BICYCLISTS

TOTAL POPULATION	POPULATION DENSITY	# OF LOCAL BICYCLE FRIENDLY BUSINESSES	# OF LOCAL BICYCLE FRIENDLY UNIVERSITIES
412,040	7384	3	0

TOTAL AREA (sq. miles): 55.8

10 BUILDING BLOCKS OF A BICYCLE FRIENDLY COMMUNITY

	Average Platinum	Oakland
High Speed Roads with Bike Facilities	36%	76%
Total Bicycle Network Mileage to Total Road Network Mileage	80%	18%
Bicycle Education in Schools	GOOD	GOOD
Share of Transportation Budget Spent on Bicycling	14%	12%
Bike Month and Bike to Work Events	VERY GOOD	VERY GOOD
Active Bicycle Advocacy Group	YES	YES
Active Bicycle Advisory Committee	MEETS AT LEAST ONCE A MONTH	MEETS AT LEAST ONCE A MONTH
Bicycle–Friendly Laws & Ordinances	VERY GOOD	VERY GOOD
Bike Plan is Current and is Being Implemented	YES	YES
Bike Program Staff to Population	1 PER 21K	1 PER 79K

CATEGORY SCORES

ENGINEERING *Bicycle network and connectivity*	5.1/10
EDUCATION *Motorist awareness and bicycling skills*	4.9/10
ENCOURAGEMENT *Mainstreaming bicycling culture*	5.5/10
ENFORCEMENT *Promoting safety and protecting bicyclists' rights*	2.8/10
EVALUATION & PLANNING *Setting targets and having a plan*	6.0/10

KEY OUTCOMES

	Average Platinum	Oakland
RIDERSHIP *Percentage of commuters who bike*	13.6%	3.07%
SAFETY MEASURES CRASHES *Crashes per 10k bicycle commuters*	100	364.20
SAFETY MEASURES FATALITIES *Fatalities per 10k bicycle commuters*	0.4	2.29

KEY STEPS TO PLATINUM

» Your application indicated that your community is currently updating a bicycle master plan. This is a great step to continue improving conditions for bicycling and to further institutionalize processes for continued improvement. Your Bicycle Master Plan update should take advantage of best practices that are applicable to a community of your size, including the use of separated bike lanes, targeted education programming, and demonstration projects to help the community understand possible bicycle facilities.

» Expand bicycle safety education to be a routine part of education for students of all ages, and ensure that schools and surrounding neighborhoods are particularly safe and convenient for biking and walking. Work with local bicycle groups and interested parents to create Safe Routes to School programming for all K-12 schools in Oakland.

» Create an incentive program for businesses to provide standard bike parking, and to develop workplace bicycling programs for their employees. Use the framework of the Bicycle Friendly Business program to engage with more local businesses, agencies, and organizations to promote cycling to their employees and customers.

» Provide education to law enforcement officers on bicycle safety and traffic laws as they apply to bicyclists and motorists and bicycling skills. Ensure that law enforcement officers who are not certified or trained as bicycle patrol officers nevertheless have basic training or experience with bicycling in your community in order to foster positive interactions between bicyclists and police officers.

» Continue efforts to improve data-driven road safety operations and Vision Zero activities. Develop a coordinated and comprehensive Vision Zero policy and plan to create engineering, education, and enforcement strategies to reduce traffic crashes and deaths for all road users, including bicyclists and pedestrians. Road diets, lane diets, and traffic calming treatments are important engineering components for addressing safety.

LEARN MORE » WWW.BIKELEAGUE.ORG/COMMUNITIES

SUPPORTED BY eco counter AND LEAGUE MEMBERS

10 BUILDING BLOCKS OF A BICYCLE FRIENDLY COMMUNITY

	Average Platinum	Oakland
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RETHINKING HOW WE ADVOCATE FOR NETWORKS

OAKLAND, CA

BICYCLE FRIENDLY COMMUNITY Fall 2018 GOLD THE LEAGUE OF AMERICAN BICYCLISTS

TOTAL POPULATION 412,040

POPULATION DENSITY 7384

TOTAL AREA (sq. miles) 55.8

OF LOCAL BICYCLE FRIENDLY BUSINESSES 3

OF LOCAL BICYCLE FRIENDLY UNIVERSITIES 0

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Active Bicycle Advocacy Group	YES	YES
Active Bicycle Advisory Committee	MEETS AT LEAST ONCE A MONTH	MEETS AT LEAST ONCE A MONTH
Bicycle–Friendly Laws & Ordinances	VERY GOOD	VERY GOOD
Bike Plan is Current and is Being Implemented	YES	YES
Bike Program Staff to Population	1 PER 21K	1 PER 79K

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LEARN MORE » WWW.BIKELEAGUE.ORG/COMMUNITIES SUPPORTED BY eco counter AND LEAGUE MEMBERS

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RETHINKING HOW WE ADVOCATE FOR NETWORKS

OAKLAND, CA

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» Create an incentive program for businesses to provide standard bike parking, and to develop workplace bicycling programs for their employees. Use the framework of the Bicycle Friendly Business program to engage with more local businesses, agencies, and organizations to promote cycling to their employees and customers.

» Provide education to law enforcement officers on bicycle safety and traffic laws as they apply to bicyclists and motorists and bicycling skills. Ensure that law enforcement officers who are not certified or trained as bicycle patrol officers nevertheless have basic training or experience with bicycling in your community in order to foster positive interactions between bicyclists and police officers.

» Continue efforts to improve data-driven road safety operations and Vision Zero activities. Develop a coordinated and comprehensive Vision Zero policy and plan to create engineering, education, and enforcement strategies to reduce traffic crashes and deaths for all road users, including bicyclists and pedestrians. Road diets, lane diets, and traffic calming treatments are important engineering components for addressing safety.

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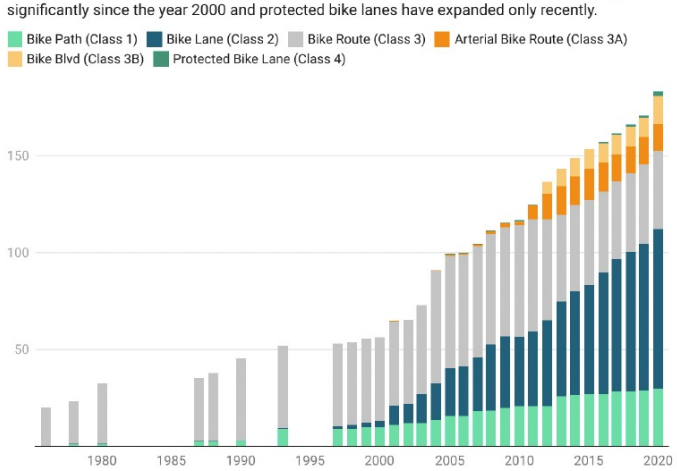
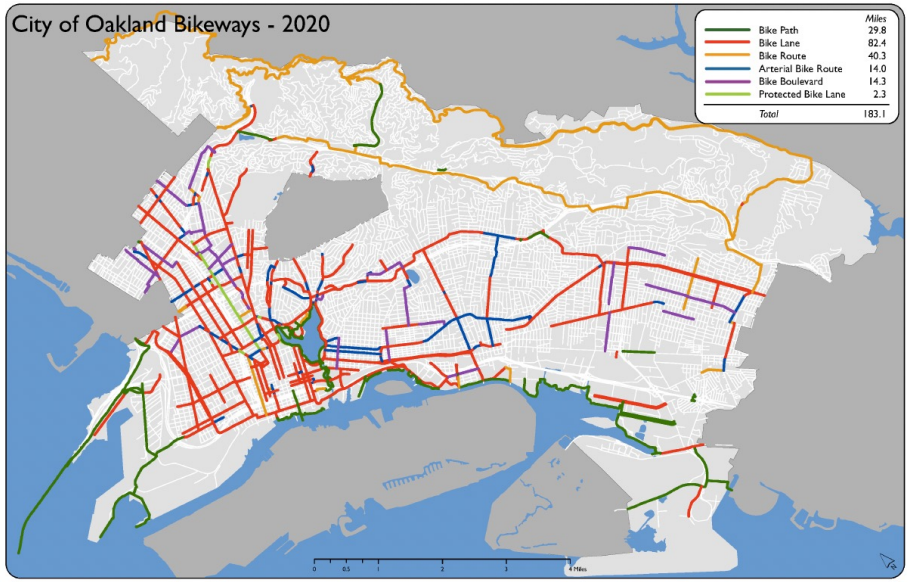
Figure 11: Oakland Bike Network Growth Over Time

Source: City of Oakland

The City of Oakland has a rich dataset of bike facilities over time. Bike lanes have expanded significantly since the year 2000 and protected bike lanes have expanded only recently.





RETHINKING HOW WE ADVOCATE FOR NETWORKS

- ✓ Advocating for connected networks
- ✓ Advocating for the Safe System Approach
- ✓ Advocating for context-appropriate facilities for all ages and abilities
- ✓ Advocating for equitable facilities
- ✓ Advocating for inclusive planning processes
- ✓ Advocating for data