Going Dutch

Translating Dutch Cycling Ideas to an American Context

July 28, 2020

Presented by the Dutch Cycling Embassy, Embassy of the Kingdom of the Netherlands Office of Infrastructure and Water Management, the League of American Bicyclists, and the Federal Highway Administration

Housekeeping

- ⇨ Submit your questions
- ⇨ Webinar archive: www.pedbikeinfo.org/webinars
- ⇨ Certificates and professional development hours
- ⇨ Follow-up email later today

Opening Remarks

Ambassador André Haspels

Kingdom of the Netherlands

Opening Remarks

Janette Sadik-Khan

Bloomberg Associates

Credit: Olugbenro Photography

Bill Nesper

League of American Bicyclists

bikeleague.org

Chris Bruntlett

Dutch Cycling Embassy

Going Dutch: Translating Dutch Cycling Ideas to an American Context

Chris Bruntlett – MarCom Manager

Dutch Cycling Embassy

July 28th, 2020

Do you want more cyclists in your city?

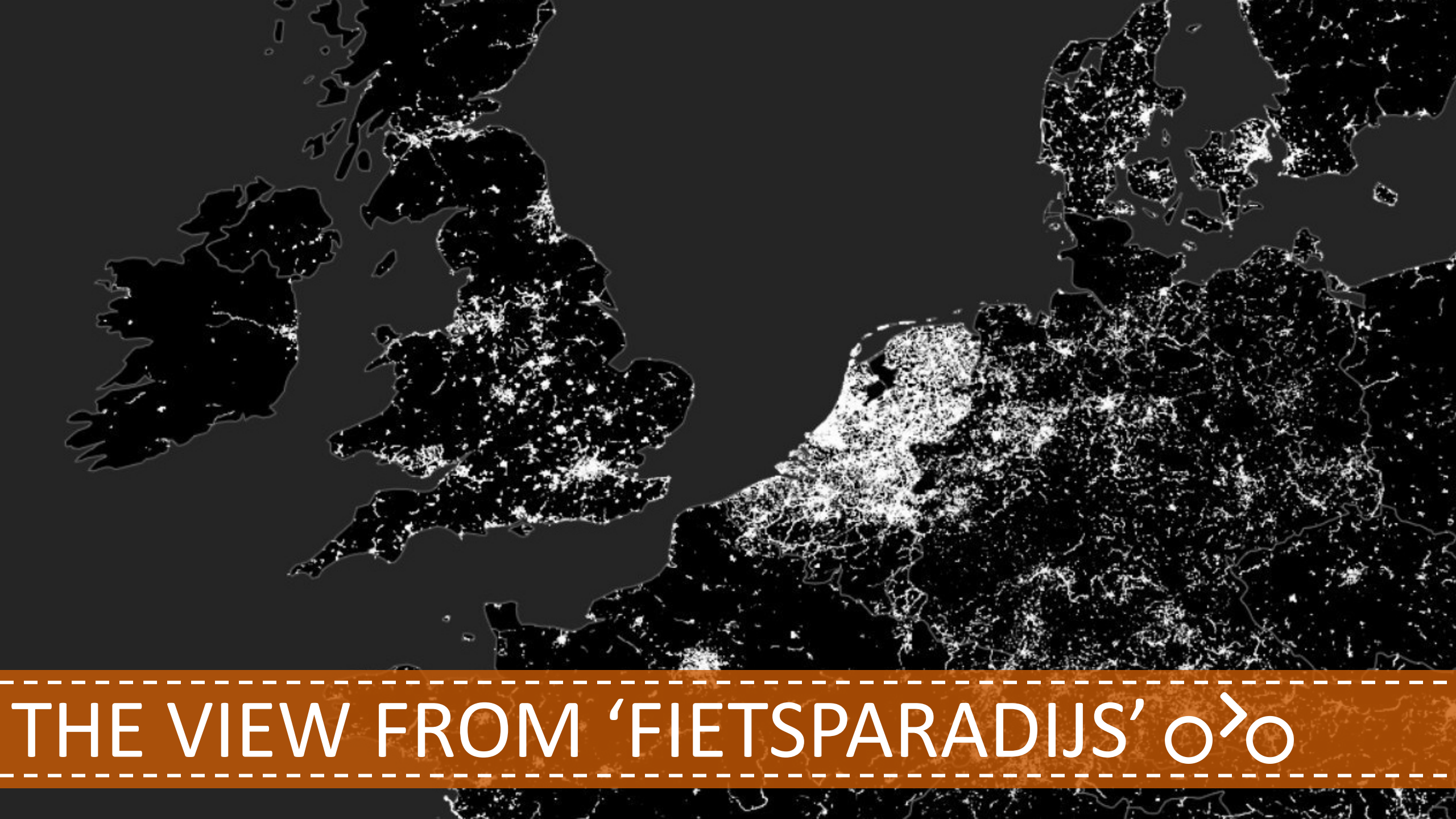
No need to reinvent the wheel. The Dutch Cycling Embassy can help.
We represent the best of Dutch Cycling. Share your cycling challenge with us, and use the knowledge and expertise that our network has to offer.

Whether your goals involve research, planning, policymaking, product development, manufacturing, construction or building, we can find the best possible partner for you from our network of private companies and consultants, NGOs, research institutions, local and national governments.

- A public-private network for sustainable, bicycle inclusive mobility.
- An intermediary between the demand for Dutch cycling expertise and parties that can deliver.
- 70+ partner organizations.

- **Experience** the Dutch cycling culture first hand
- **Think** about best possible solutions and achievable results
- **Act** by applying these solutions to your local context
- **Learn** more about effective policies and best practices

PEDALING THROUGH PANDEMIC



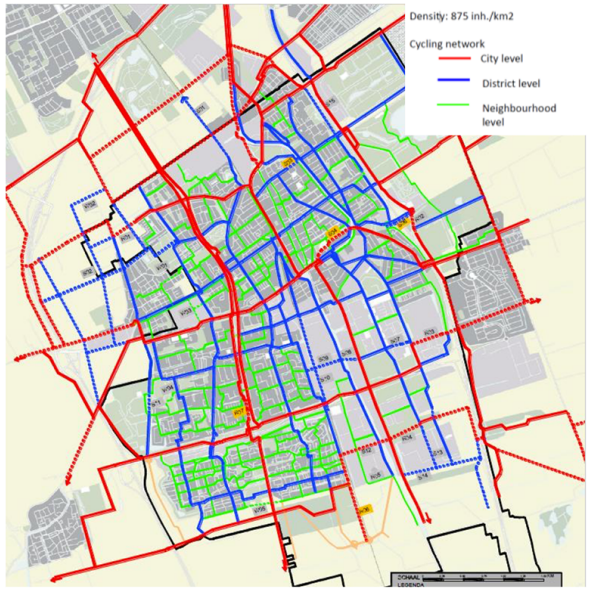
THE VIEW FROM ‘FIETSPARADIJS’ o›o

CRISIS AS A TURNING POINT

DON’T BE AFRAID TO EXPERIMENT ◌›◌

Delft

Source: Verkeerskunde 1/2014



Source: presentation by Zbynek Sperat

Requirement 1: Cohesion

- "You can cycle from anywhere to everywhere"
  - Network approach
  - All branches of are accessible and connected
  - A *cohesive* whole
- Grid size (300-500m)
  - Avoids detours
  - Avoids too many crossings
- Cohesion with other networks
  - Public transport: in NL 40% of train users uses their bicycle as access mode
  - Park and bike facilities

➔ **Start with a link, plan for a network!**

- University
- Work
- School
- Gym
- Shop
- ...

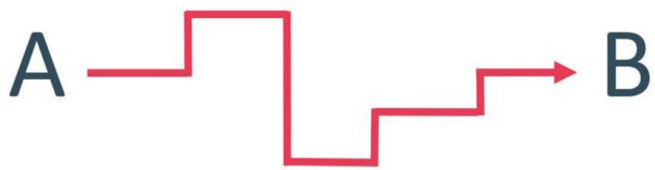
THINK AT THE NETWORK LEVEL

Requirement 2: Directness

"Minimising detours"

- Fast
- Less physical effort
- Competitive alternative

- Slow
- More physical effort
- Uncompetitive alternative



Requirement 3: Safety

(Traffic) Health:

- Ensuring **minimal pollution** due to emissions and noise
- Ensuring minimal **stress level**
- **Health benefits of cycling**

Road safety:

- **Segregating** vehicle types
- **Avoiding conflicts** with intersecting traffic
- **Reducing speeds** at points of conflicts

Requirement 4: Comfort

- Avoiding traffic nuisance
- Avoiding or limiting stops
- Optimizing wayfinding
- Comprehensibility
- Even road surface enjoyable to ride on
- Limiting amount of turning (directness)

Requirement 5: Attractiveness

- VERY PERSONAL but….

- Lively areas
- Variety and surprise
- Well-maintained public space
- Activities along the route
- Connections are lit
- Environmental opportunities

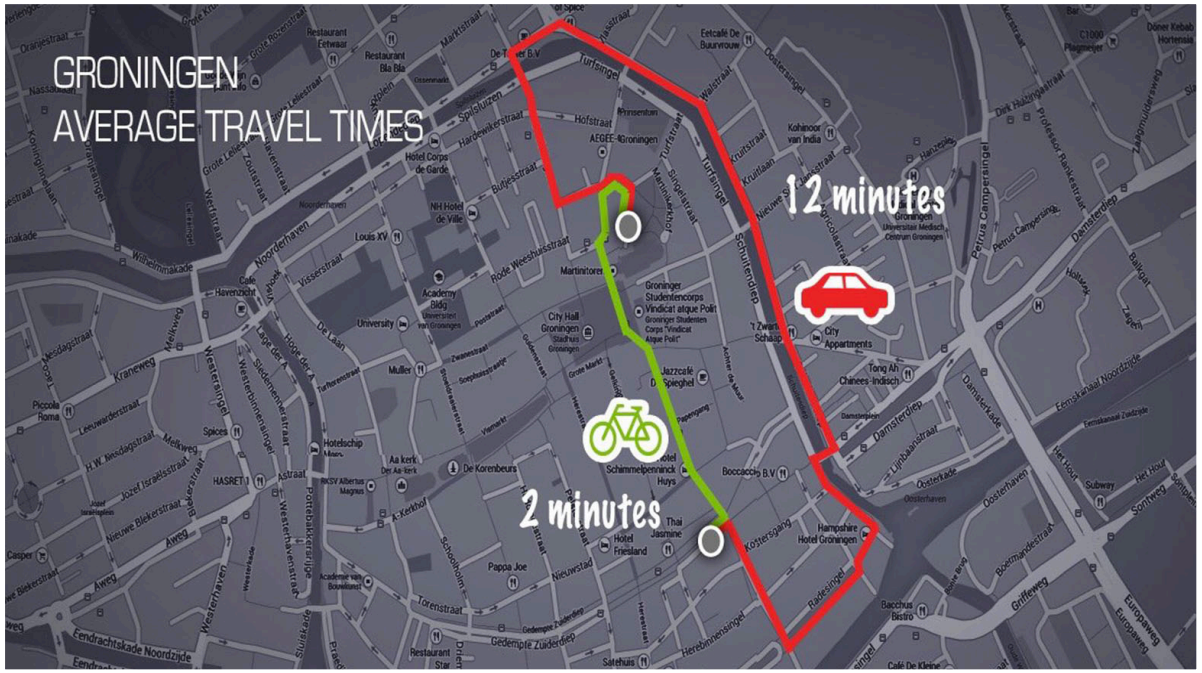
- Experience!
- Marketing

Road categorization

1. National /
   Regional through routes
   Speed limits 130/120/100/80km/h
   (80/75/62/50mph)
   No cycling

2. Local distributing –
   collector roads
   Speed limits 50km/h (31mph)
   Physical or Visible separation

3. Access streets / Places
   Speed limit 30km/h (18mph)
   No separation needed



EVERY BIKE PLAN NEEDS A CAR PLAN

EXTEND RANGE WITH E-BIKES

USE CYCLING TO FEED TRANSIT

PEDALING TOWARDS EQUITY

DUTCH CYCLING EMBASSY

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Federal Highway Administration

U.S. Department of Transportation
Federal Highway Administration

FHWA Resources for Bicycle Facility Design and Planning

Darren Buck, Ped & Bike Program Coordinator
FHWA Office of Human Environment

Planning and Designing Bicycle Facilities for All Ages and Abilities

Note: Percentages represent the level of comfort that people feel bicycling, according to peer-reviewed surveys as recently as 2016.
Source: FHWA Bikeway Selection Guide: https://safety.fhwa.dot.gov/ped_bike/tools_solve/docs/fhwasa18077.pdf
For more information, please visit FHWA's Bicycle and Pedestrian Program webpage: https://www.fhwa.dot.gov/environment/bicycle_pedestrian/

Available at https://www.fhwa.dot.gov/environment/bicycle_pedestrian/publications/network_planning_design/

New NHI Bicycle Facility Design Web Training (course #142080)

Bicycle Planning Principles

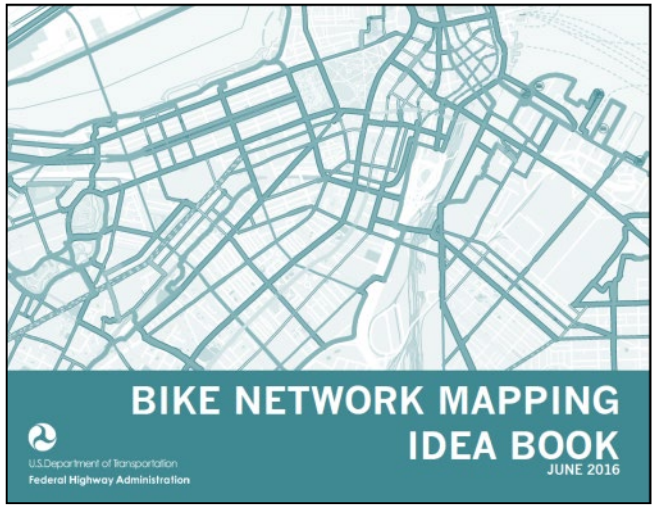
Safety

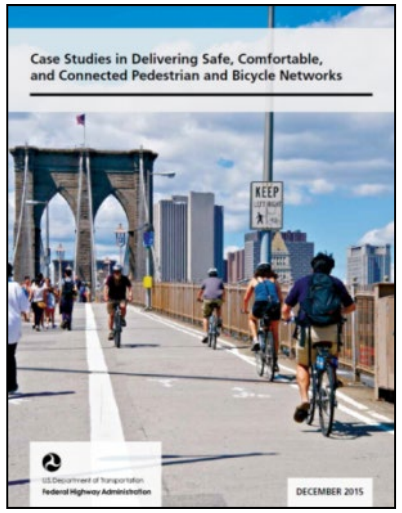
Comfort

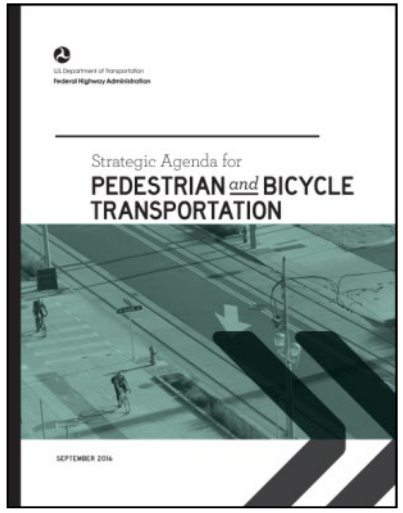
Connectivity

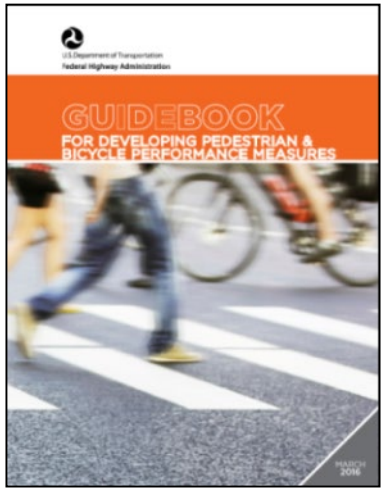
Available at https://www.nhi.fhwa.dot.gov/course-search?tab=0&key=bicycle&sf=0&course_no=142080

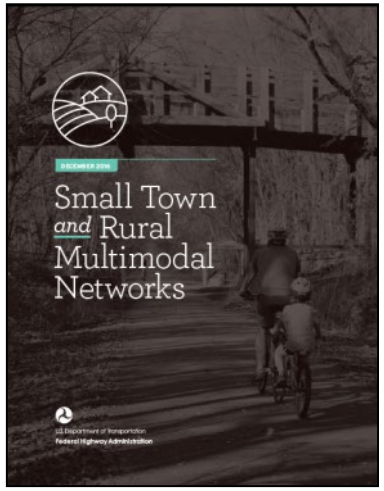
Recent FHWA Pedestrian and Bicycle Resources

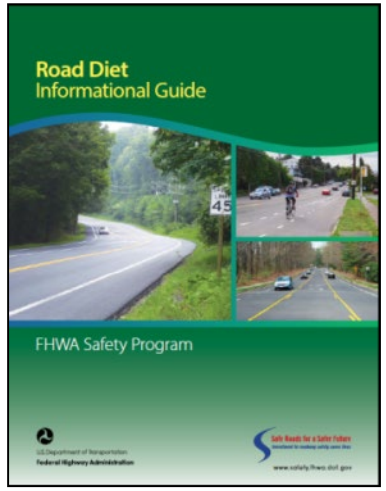










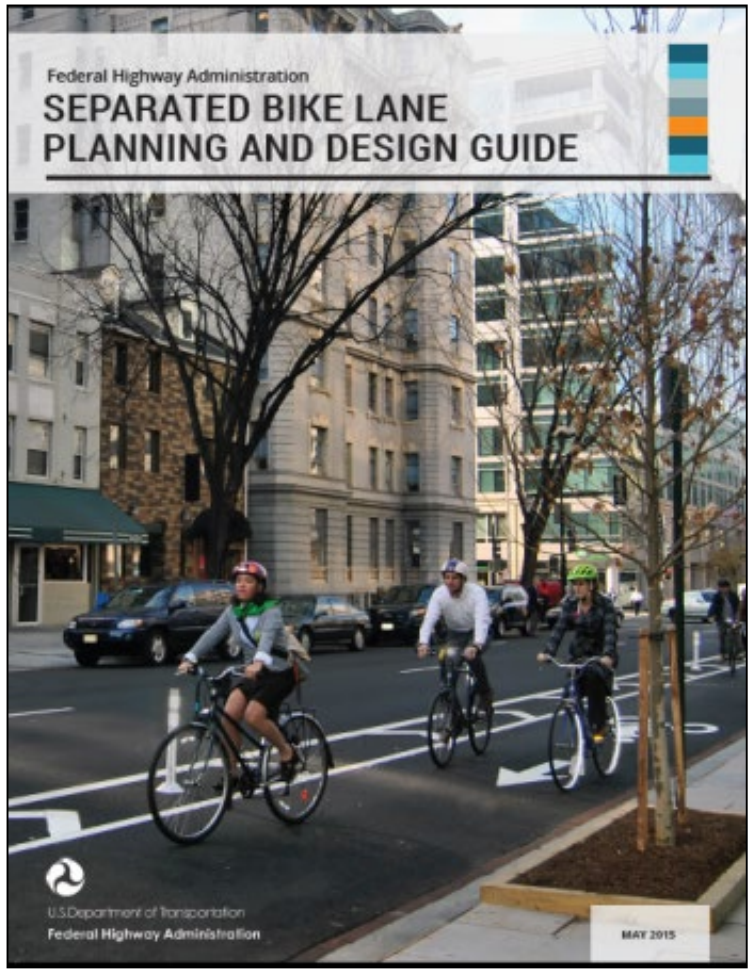


Available at www.fhwa.dot.gov/environment/bicycle_pedestrian

Separated Bike Lane Planning and Design Guide

Four Step Design Process

1. Establish Directional and Width Criteria
2. Select Forms of Separation
3. Identify Midblock Design Challenges and Solutions
4. Develop Intersection Design



Available at www.fhwa.dot.gov/environment/bicycle_pedestrian

Design Flexibility

Subject: **GUIDANCE:** Bicycle and Pedestrian Facility Design Flexibility Date: August 20, 2013

From: Gloria M. Shepherd
Associate Administrator for Planning, Environment and Realty

In Reply Refer To:
HEPH-10

Walter C. (Butch) Waidelich, Jr.
Associate Administrator for Infrastructure

Jeffrey A. Lindley
Associate Administrator for Operations

Tony T. Furst
Associate Administrator for Safety

To: Division Administrators
cc: Directors of Field Services

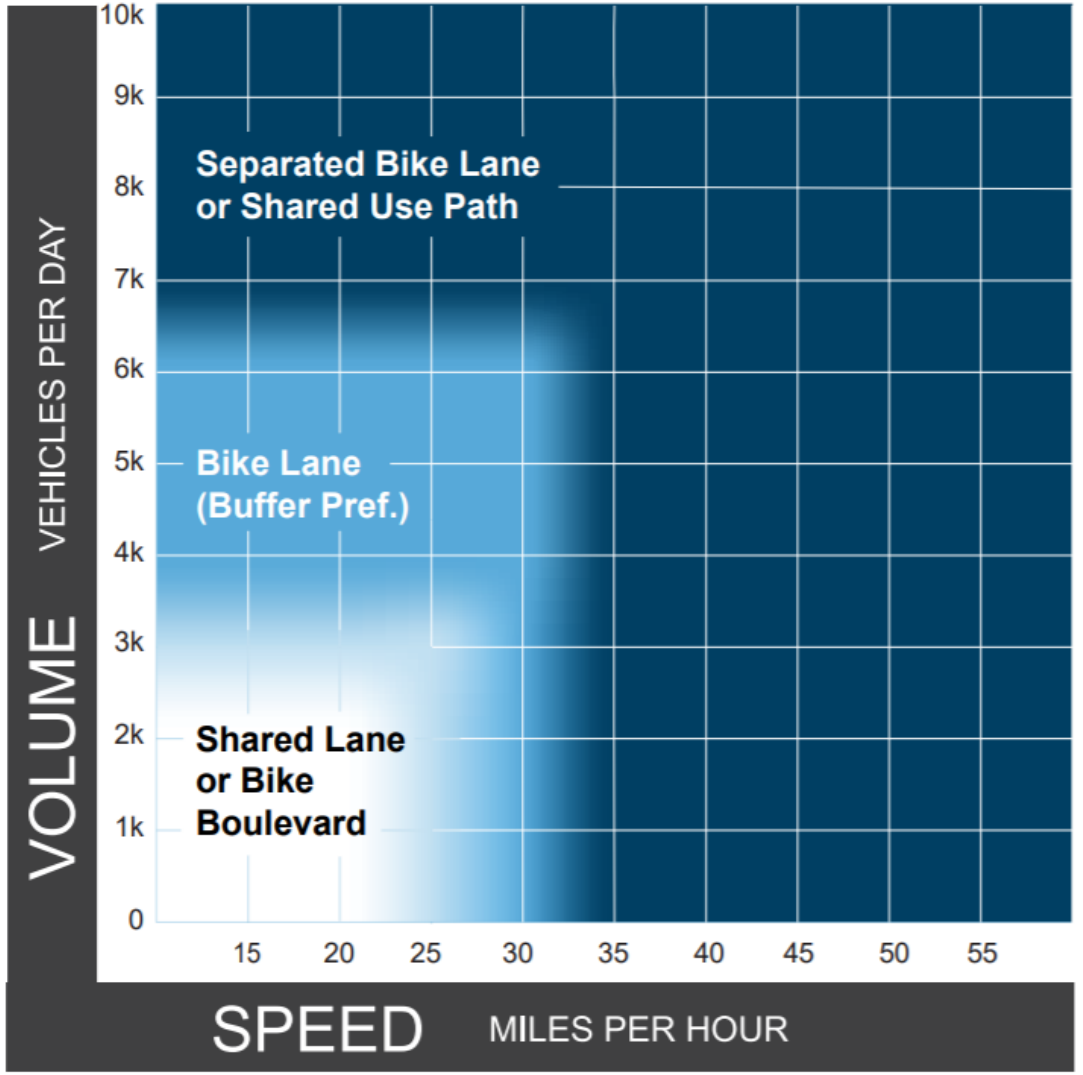
This memorandum expresses the Federal Highway Administration's (FHWA) support for taking a flexible approach to bicycle and pedestrian facility design. The American Association of State Highway and Transportation Officials (AASHTO) bicycle and pedestrian design guides are the primary national resources for planning, designing, and operating bicycle and pedestrian facilities. The National Association of City Transportation Officials (NACTO) *Urban Bikeway Design Guide* and the Institute of Transportation Engineers (ITE) *Designing Urban Walkable Thoroughfares* guide builds upon the flexibilities provided in the AASHTO guides, which can help communities plan and design safe and convenient facilities for pedestrian and bicyclists. FHWA supports the use of these resources to further develop nonmotorized transportation networks, particularly in urban areas.

- 2013 design flexibility memo
- AASHTO Guide to the Development of Bicycle Facilities

Available at https://www.fhwa.dot.gov/environment/bicycle_pedestrian/guidance/design_flexibility.pdf

Bikeway Selection Guide

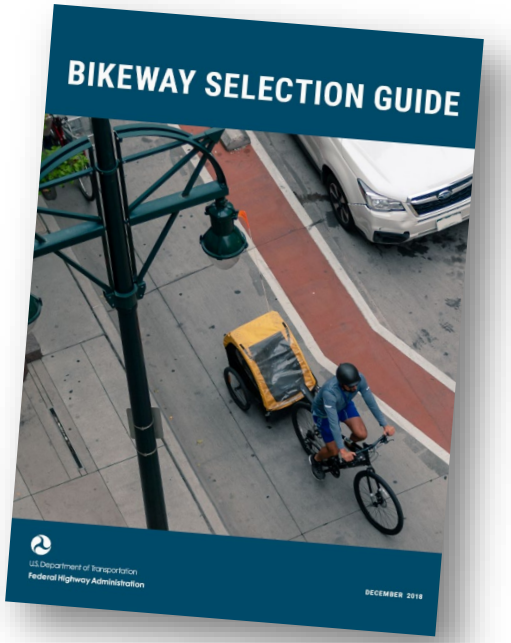
- Help practitioners make informed decisions about tradeoffs relating to the selection of bikeway types.
- Highlight linkages between the bikeway selection process and the transportation planning process.
- Emphasizes engineering judgment, design flexibility, documentation, and experimentation.



Available at https://safety.fhwa.dot.gov/ped_bike/tools_solve/docs/fhwasa18077.pdf

Bikeway Selection Process

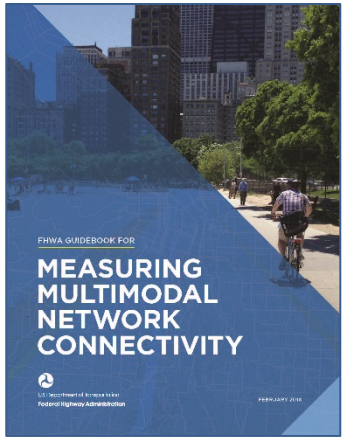
- Policy
- Planning
- Selection
- Design

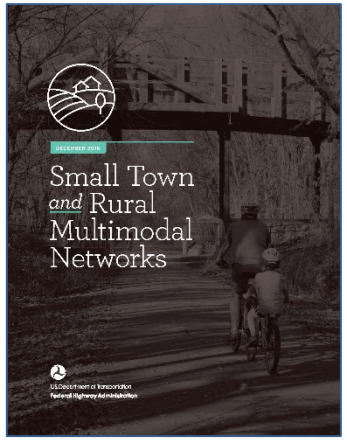


Bicycle and Pedestrian Network Resources

There are several resources available to FHWA's planning partners that provide information on bicycle and pedestrian network development. They include:

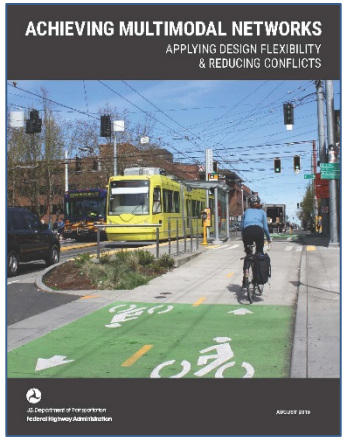
Guidebook for Measuring Multimodal Network Connectivity





Small Town and Rural Multimodal Networks

Achieving Multimodal Networks: Applying Design Flexibility & Reducing Conflicts



Available to download at http://www.fhwa.dot.gov/environment/bicycle_pedestrian/

MAP BASICS

Common approaches for bicycle infrastructure planning maps are highlighted below. The maps that follow demonstrate these general approaches to varying degrees.

(1) COMMON INFORMATION LAYERS

BIKE NETWORK LAYERS

Specific Facility Types

- Bike path, bike lane, buffered bike lane, bike boulevard, separated bike lane, greenway, etc.

OR

Flexible Facility Types

- On-street vs. off-street bikeway systems

LOCAL CONTEXT LAYERS

- Transit lines & stations
- Bikeshare stations
- Community amenities: Schools, universities, libraries, community centers, hospitals etc.
- Building footprints
- Specific land use functions, such as commercial uses
- Study areas or corridors

BASE LAYERS

- Parks & open space
- Streets
- Waterbodies
- City boundaries
- Labels

(2) REPRESENTING DIFFERENT TYPES OF INFORMATION

PROPOSED VS. EXISTING NETWORK

- Identify ways to clearly denote what is existing and what is being proposed.

Outline — Dashed

existing — exi

proposed — pro

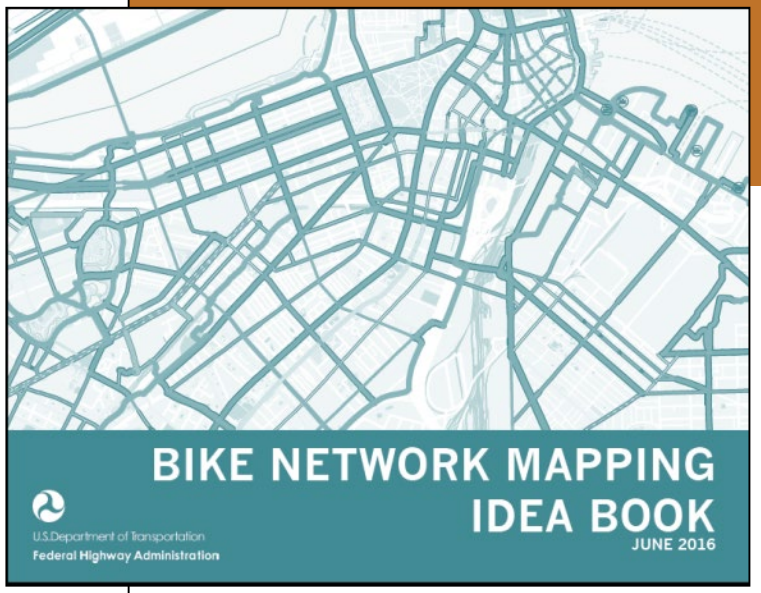
COLOR SCHEME

- Consider how color will play a role in highlighting the bicycle network. Bright, saturated colors stand out against softer and more subdued

LEVEL OF INFORMATION

- Carefully consider the amount of information used to tell the story. More information can help, but it can also be overwhelming if not

[6] Bike Network Mapping Idea Book



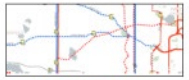
HENNEPIN COUNTY, MN

LOCATION	YEAR	PUBLICATION	RESPONSIBLE AGENCY
HENNEPIN COUNTY, MN	2015	HENNEPIN COUNTY BIKE PLAN	HENNEPIN COUNTY

Full Map (Click to view full size)

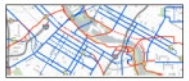
KEY MAP FEATURES

Simple symbology - Two colors and two line types



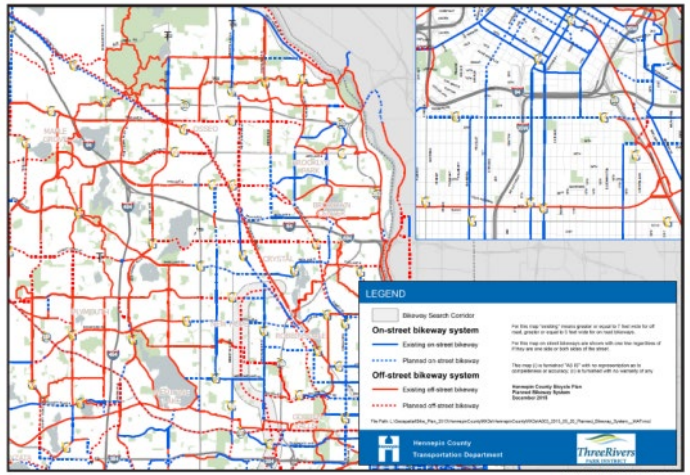
Map focuses on county and state roads. Local roads not shown to improve legibility.

Downtown area is shown in more detail for closer inspection



[20] Bike Network Mapping Idea Book

COUNTY



Bike Network Mapping Idea Book [21]

Available at https://www.fhwa.dot.gov/environment/bicycle_pedestrian/publications/bikemap_book/

Multimodal Network Planning Pilot Projects

- Using variety of network measurement tools (including Level of Traffic Stress)
- New data sources (including Streetlight, Sidewalk Labs)
- Variety of contexts (arterial corridors all the way to statewide)
- Answering different questions (safety, planning, project prioritization)

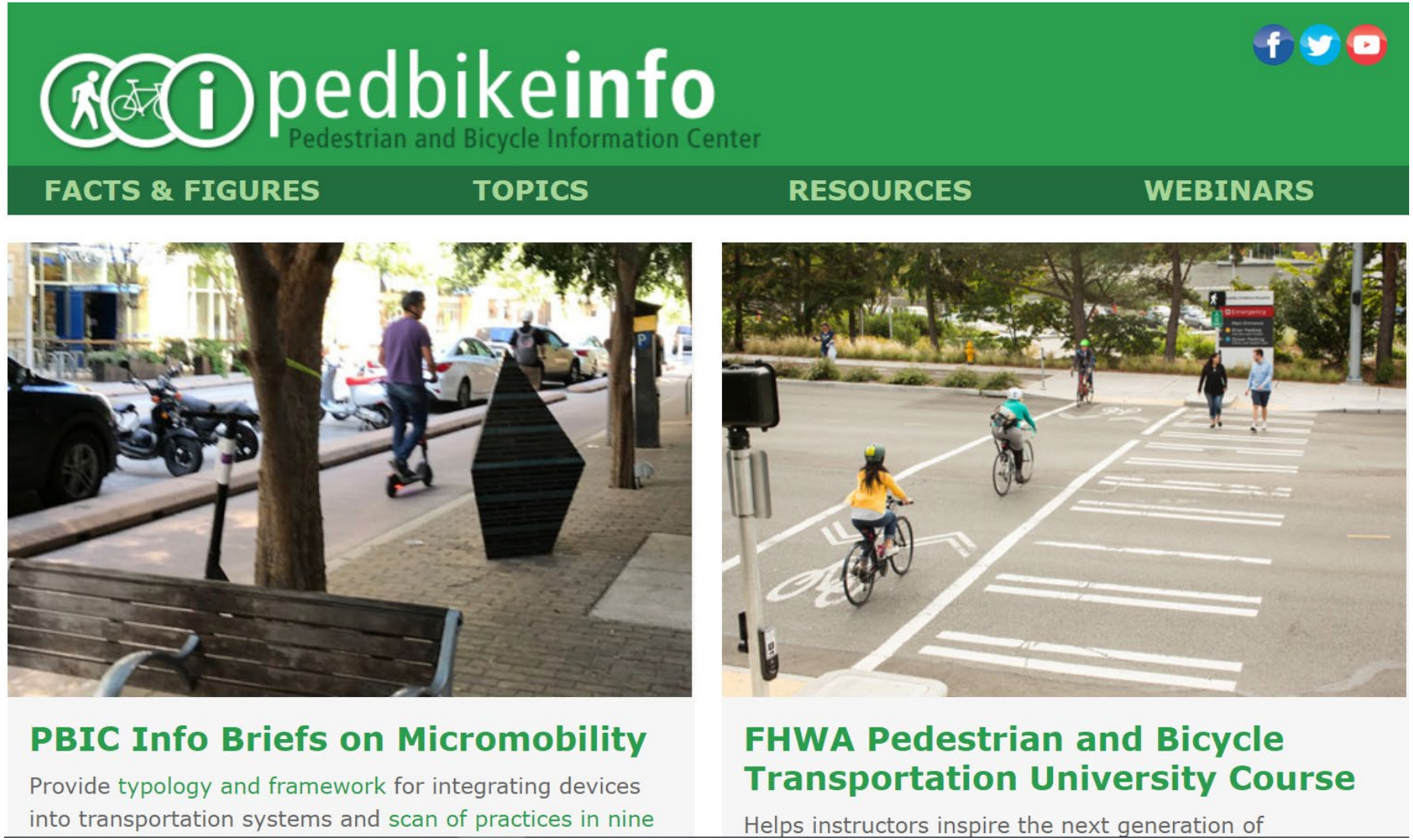
Multimodal Network Planning Pilot Locations

- MetroPlan Orlando, FL
- Mid-America Regional Council, MO-KS
- New Hampshire MPOs
- Eastgate Regional Council of Governments, OH
- Corvallis and Albany MPOs, OR
- Houston-Galveston Area Council, TX
- Utah DOT/Wasatch Front Regional Council/Mountainland Association of Governments
- Washington State DOT

Thinkbike overview

- Workshops in a variety of US cities since 2010
- Focus on Dutch design standards, network planning, and forecasting
- Includes local practitioners, community members, Dutch experts, FHWA

Pedbikeinfo.org



Contacts

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FHWA Division Office Pedestrian and Bicycle Points of Contact

www.fhwa.dot.gov/environment/bicycle_pedestrian/state_fhwa_contacts

State DOT Pedestrian and Bicycle Coordinators

https://www.fhwa.dot.gov/environment/bicycle_pedestrian/state_contacts

For More Information:

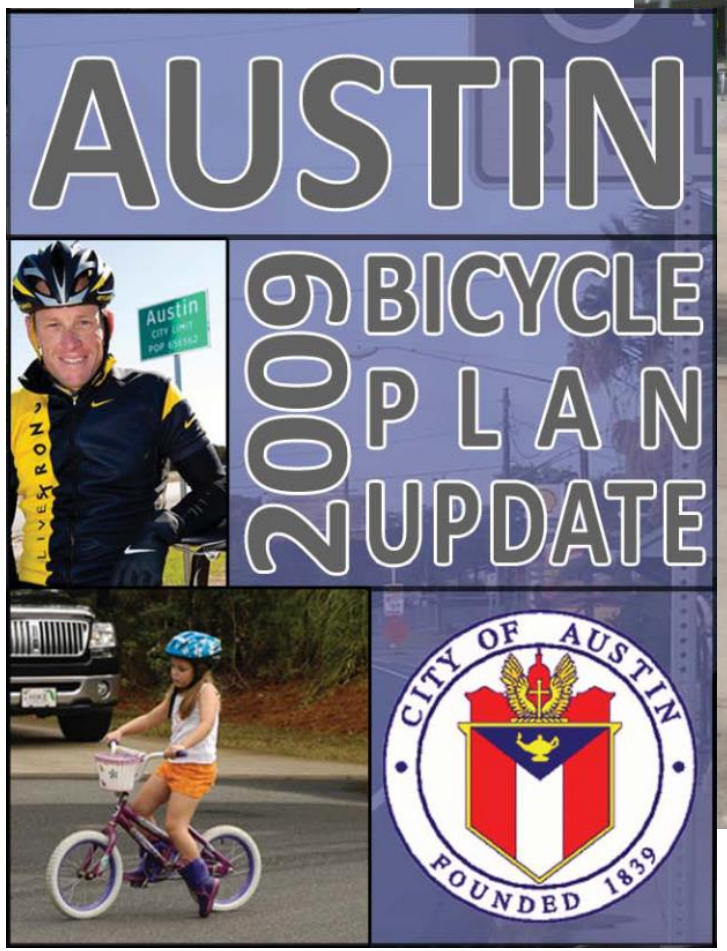
www.fhwa.dot.gov/environment/bicycle_pedestrian

Nathan Wilkes

Austin Department of Transportation

How the Dutch Left Their Mark in Austin

2009


AUSTIN
2009 BICYCLE PLAN UPDATE
Austin
CITY OF AUSTIN
FOUNDED 1839

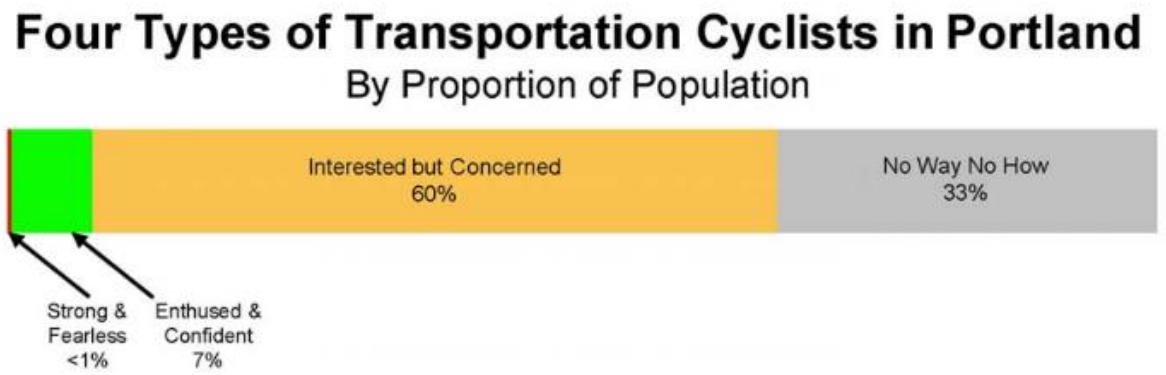

Eureka
CAR WASH

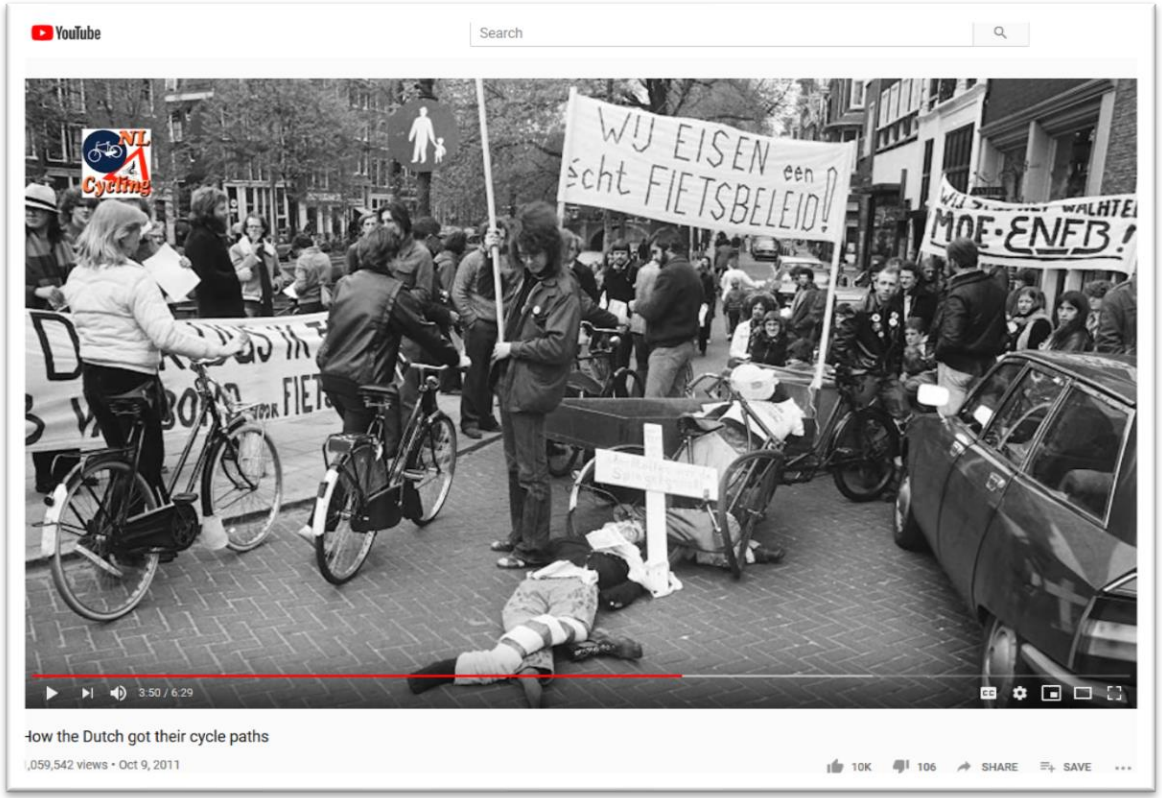
2010 / 2011

Four Types of Cyclists

Roger Geller, Bicycle Coordinator
Portland Office of Transportation

Despite all the considerable advances Portland and the region have made in facilitating bicycling, concerns about the safety of bicycling still loom large. Riding a bicycle should not require bravery. Yet, all too often, that is the perception among cyclists and non-cyclists alike. No person should have to be "brave" to ride a bicycle; unfortunately, this is a sentiment commonly expressed to those who regularly ride bicycles by those who do





3rd Street Color – Green or Dutch?

2012
Green Lane Project
First Netherlands Study Tour

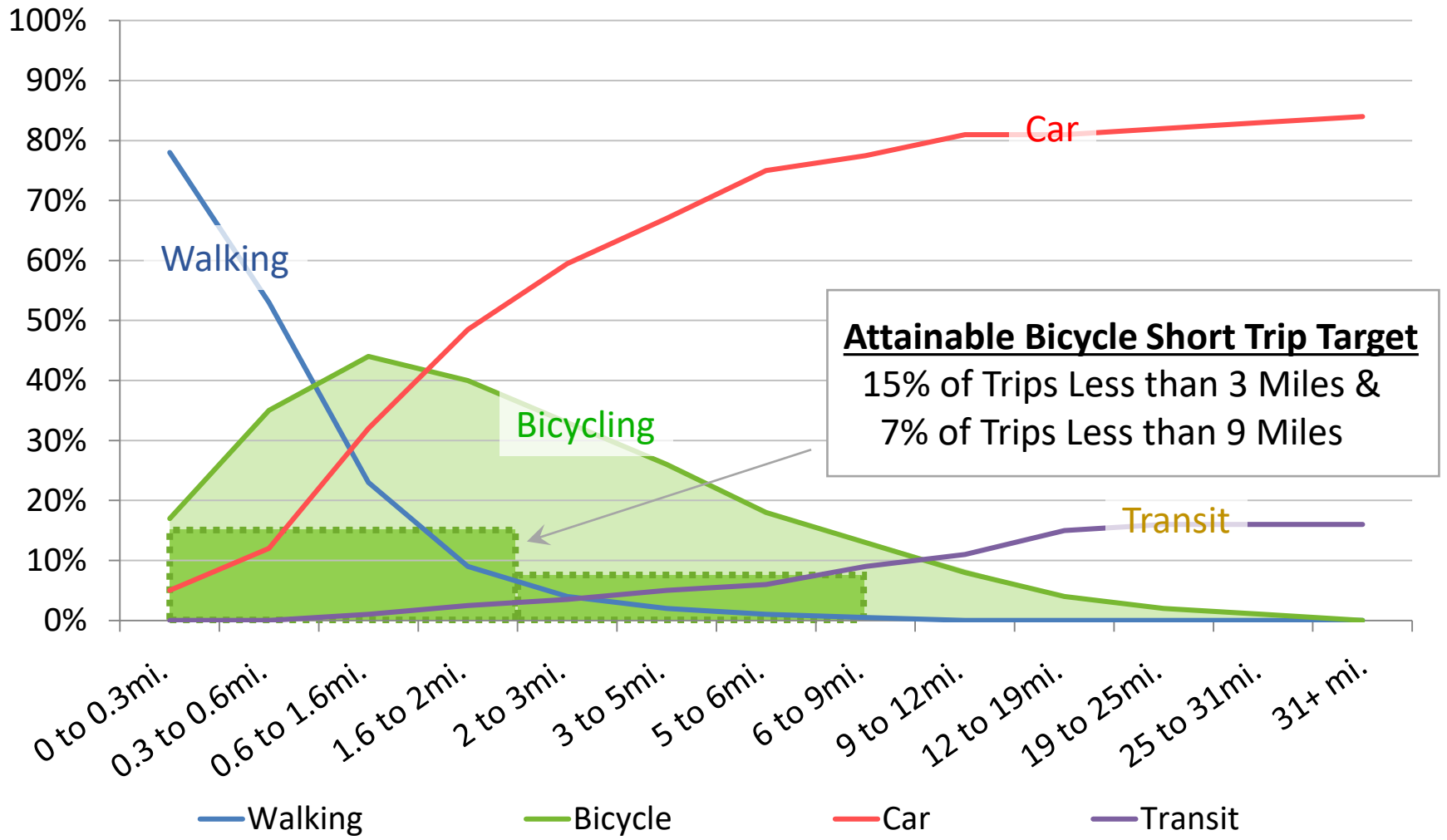
green lane PROJECT

Think Bike DUTCH CYCLING EMBASSY

2012 Think Bike

2012 Think Bike

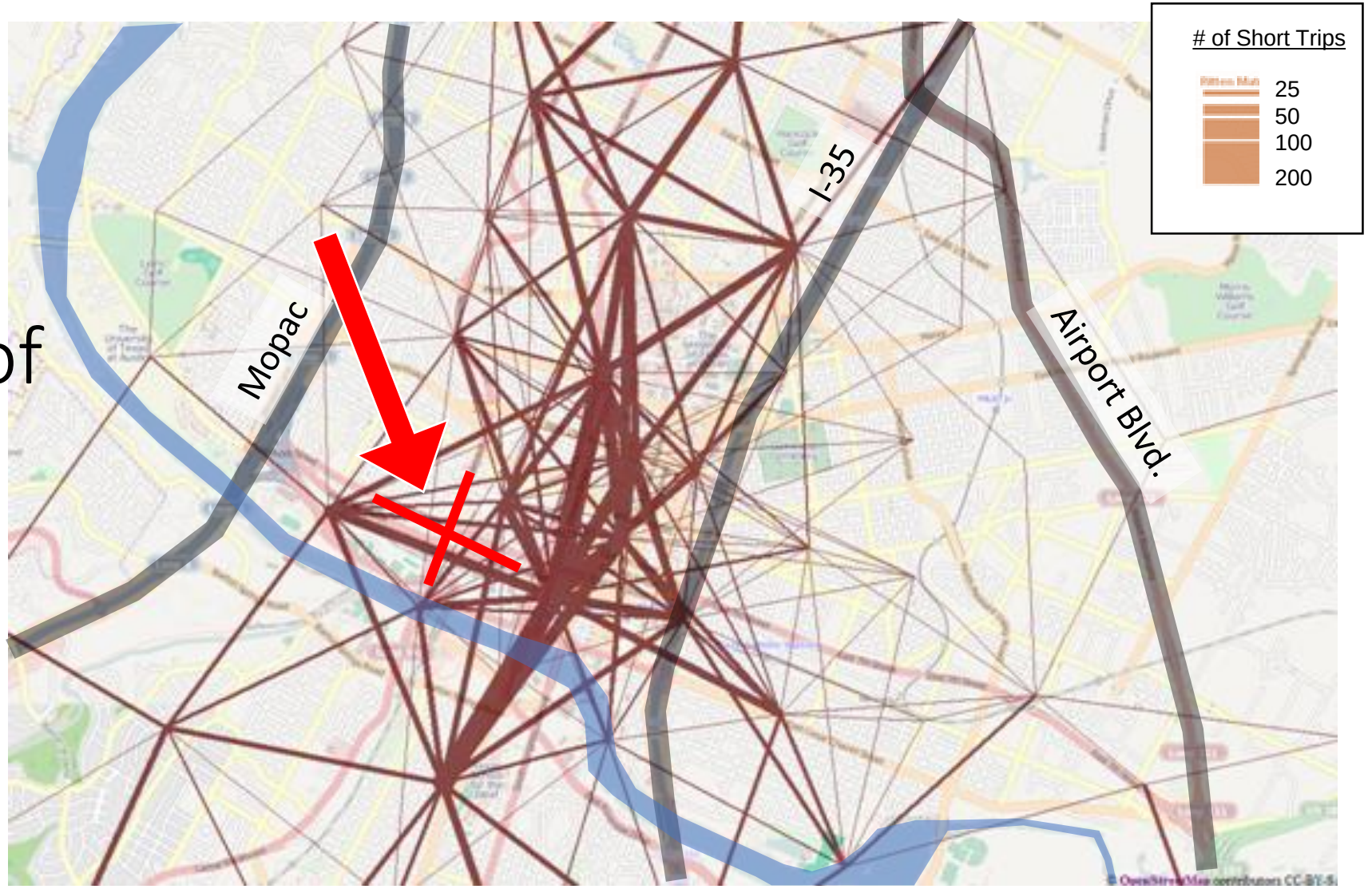
"Capture Short Trips by Bicycle"



2012 Think Bike

“Invest where the short trips are”

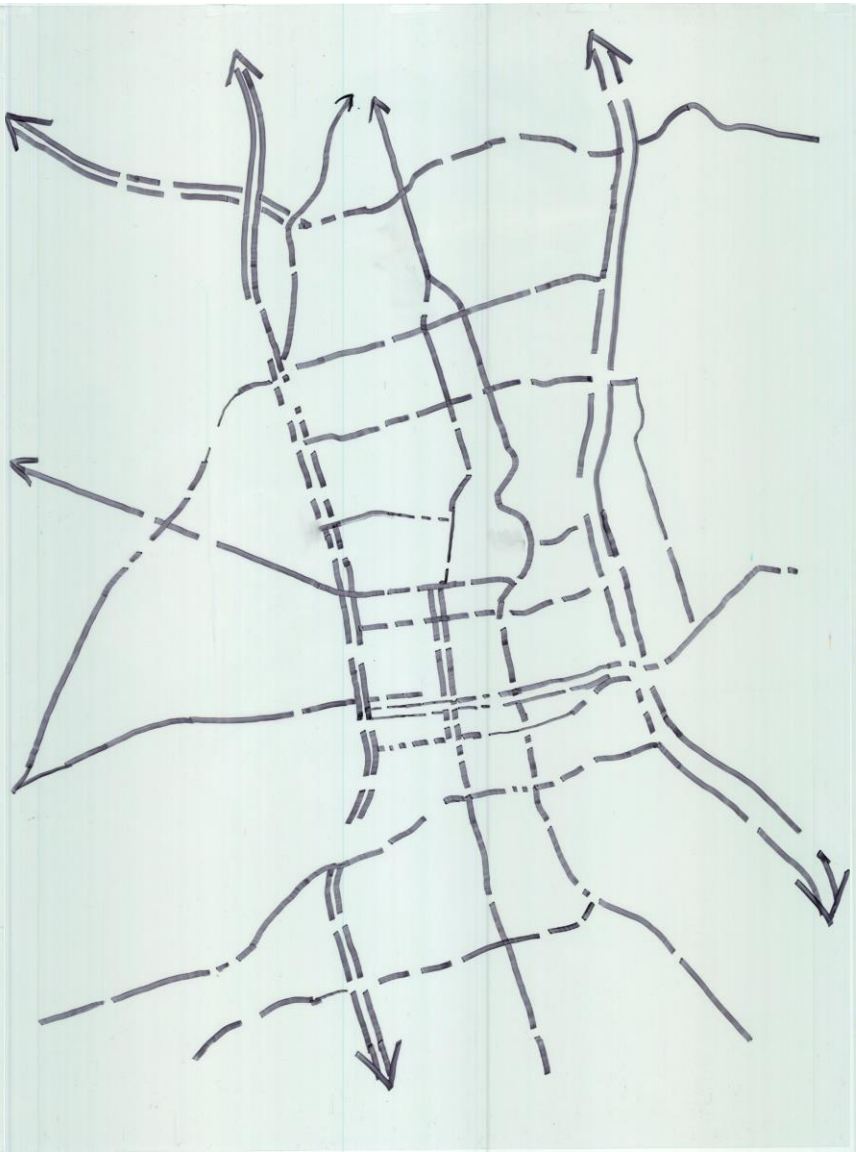
Spider Diagram of Short Car-Trips (0-3 mile)



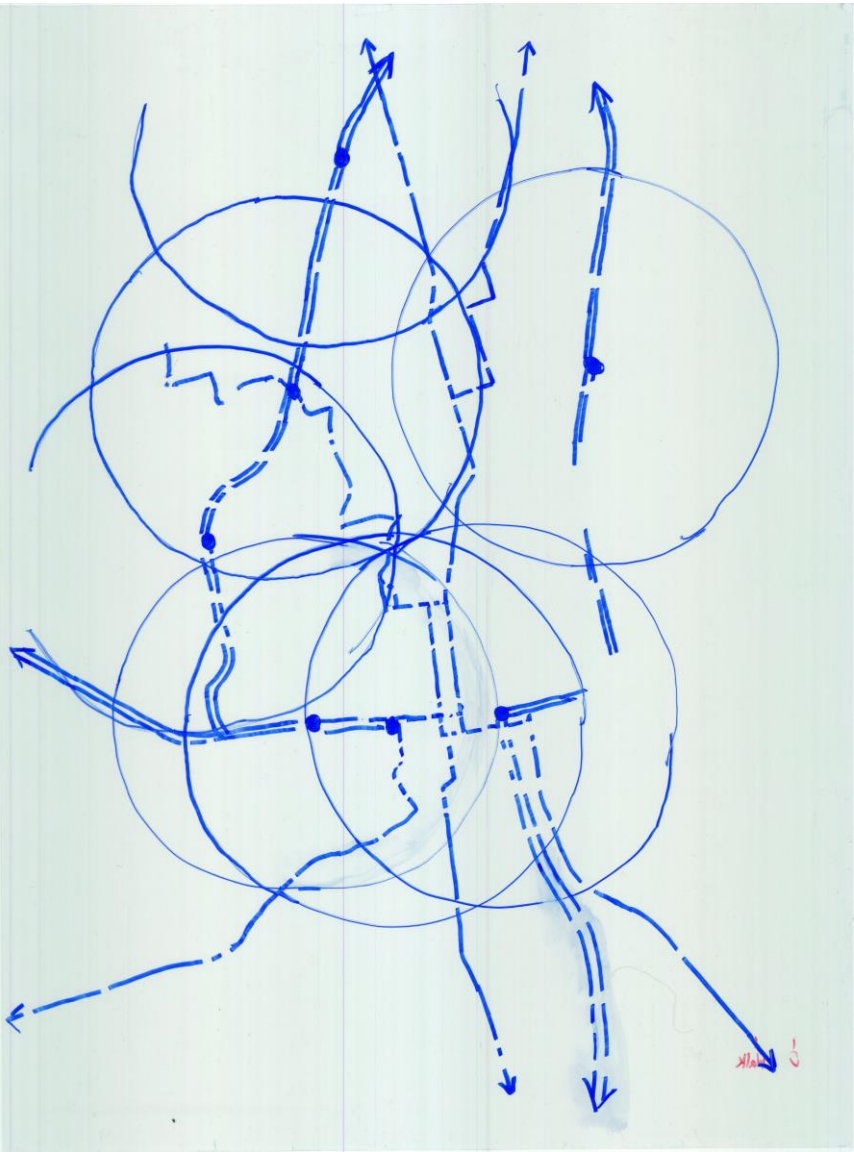
2012 Think Bike

"You can't plan for bikes without planning for all modes"

Bike Network



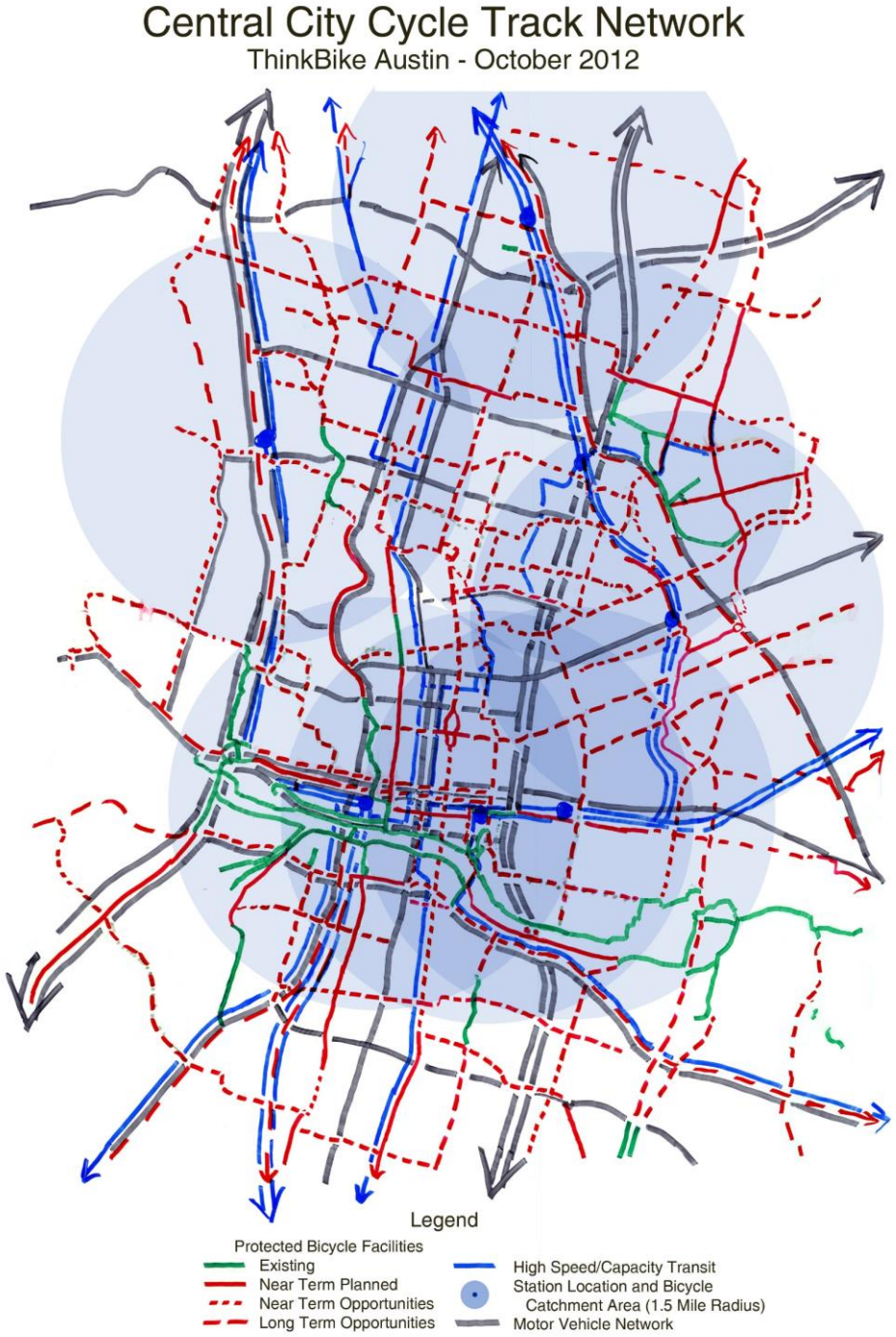
Car Network



Transit Network

2012 Think Bike

“You can’t plan for bikes without planning for all modes”



2012 Think Bike

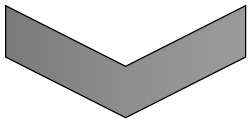
“Feed Transit with Bikes”

Austin’s Lakeline Commuter Rail Station
Neighborhoods in easy
bicycling distance to transit station

2014 Bicycle Plan

A Shift in Focus:

~~"To Create and Promote the best environment for the friendly co-existence of bicycle riders and other transportation users in Austin"~~



"To maximize the contribution of bicycling to Austin's quality of life"

2014 Bicycle Plan

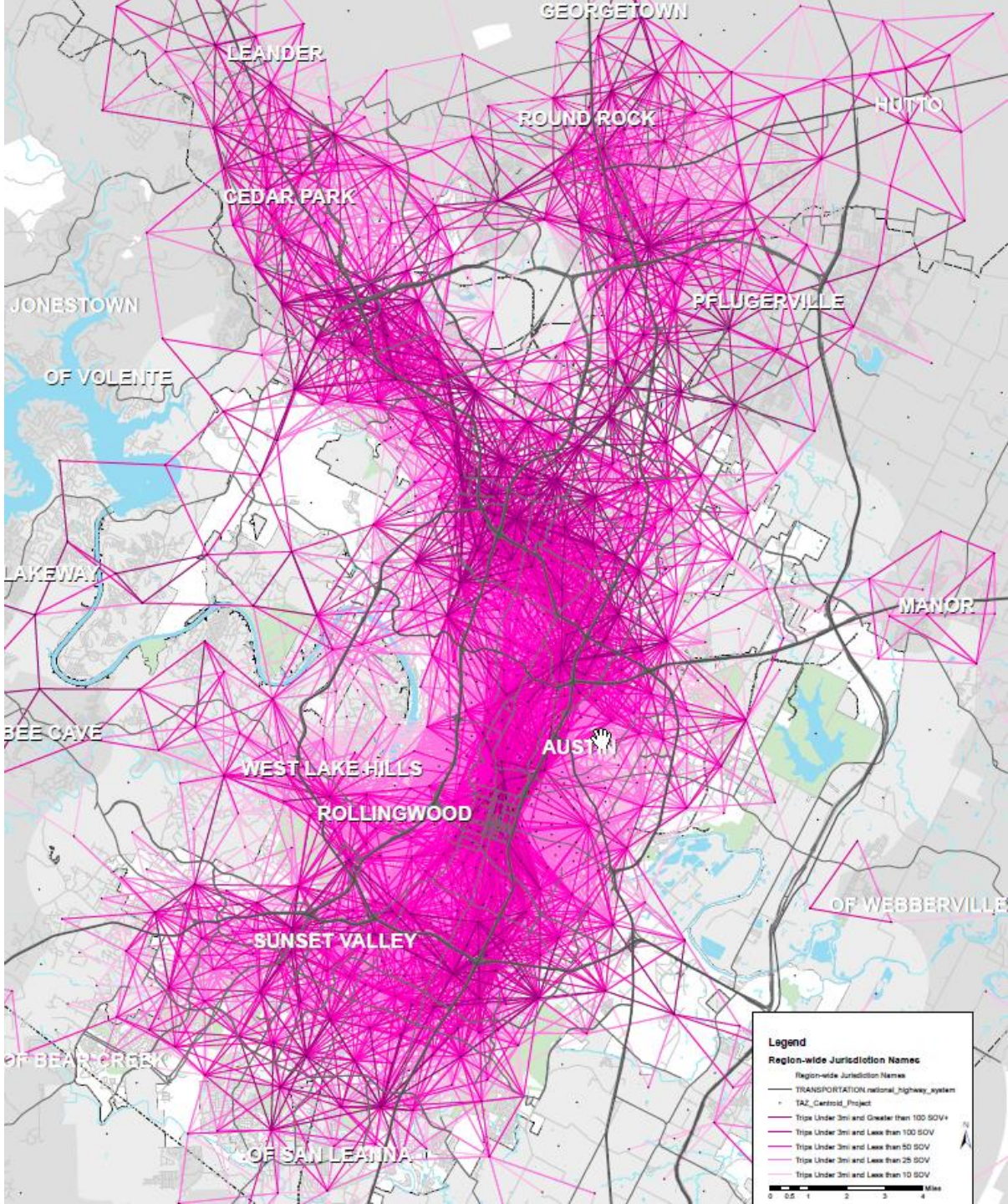
The 8 to 80 Test:

*An **8 year old** traveling with an **80 year old** should be able to traverse the city **comfortable and safely**.*

Creating a Network:

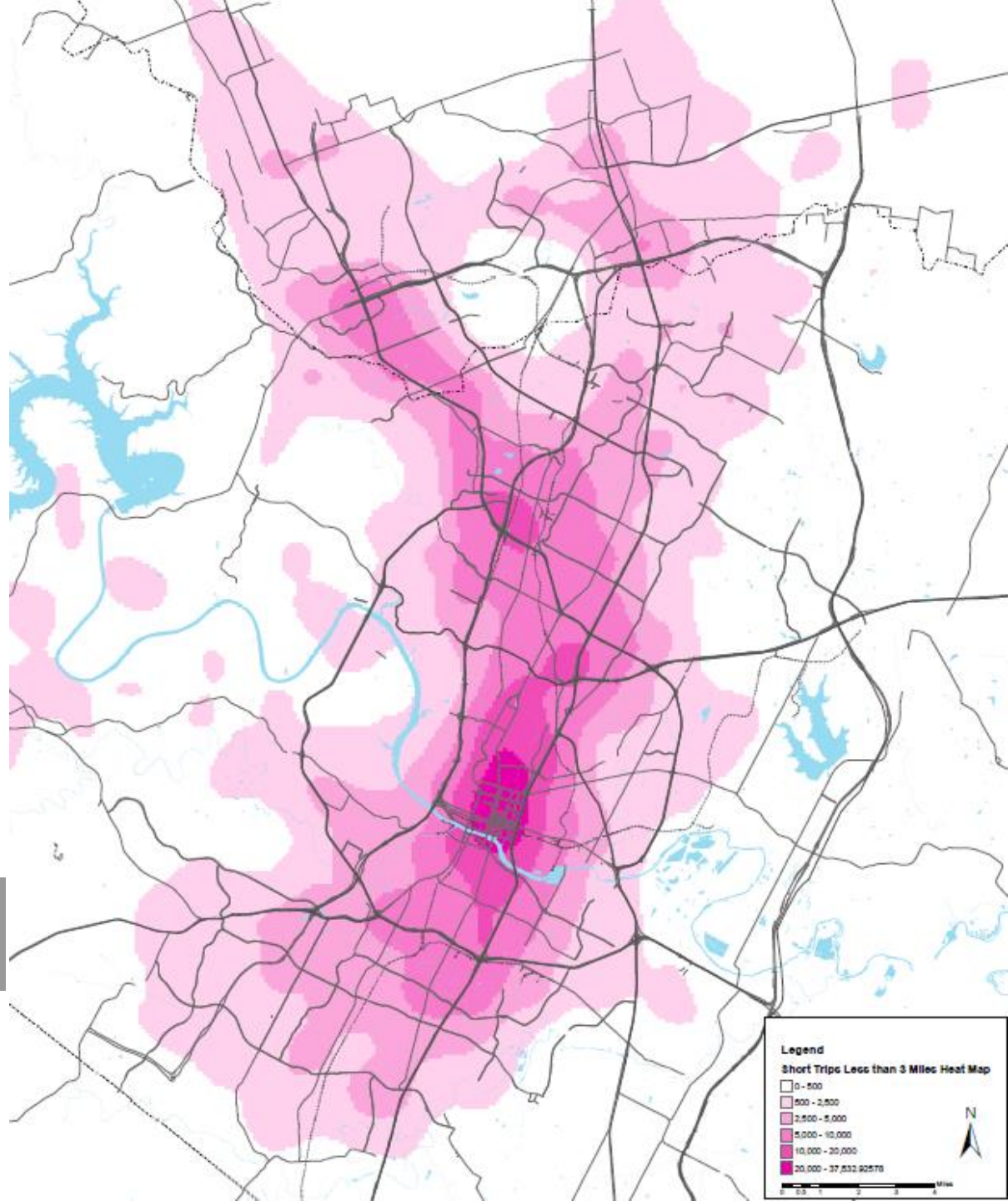
2014 Bicycle Plan

Austin's Short Trip Travel Demand



2014 Bicycle Plan

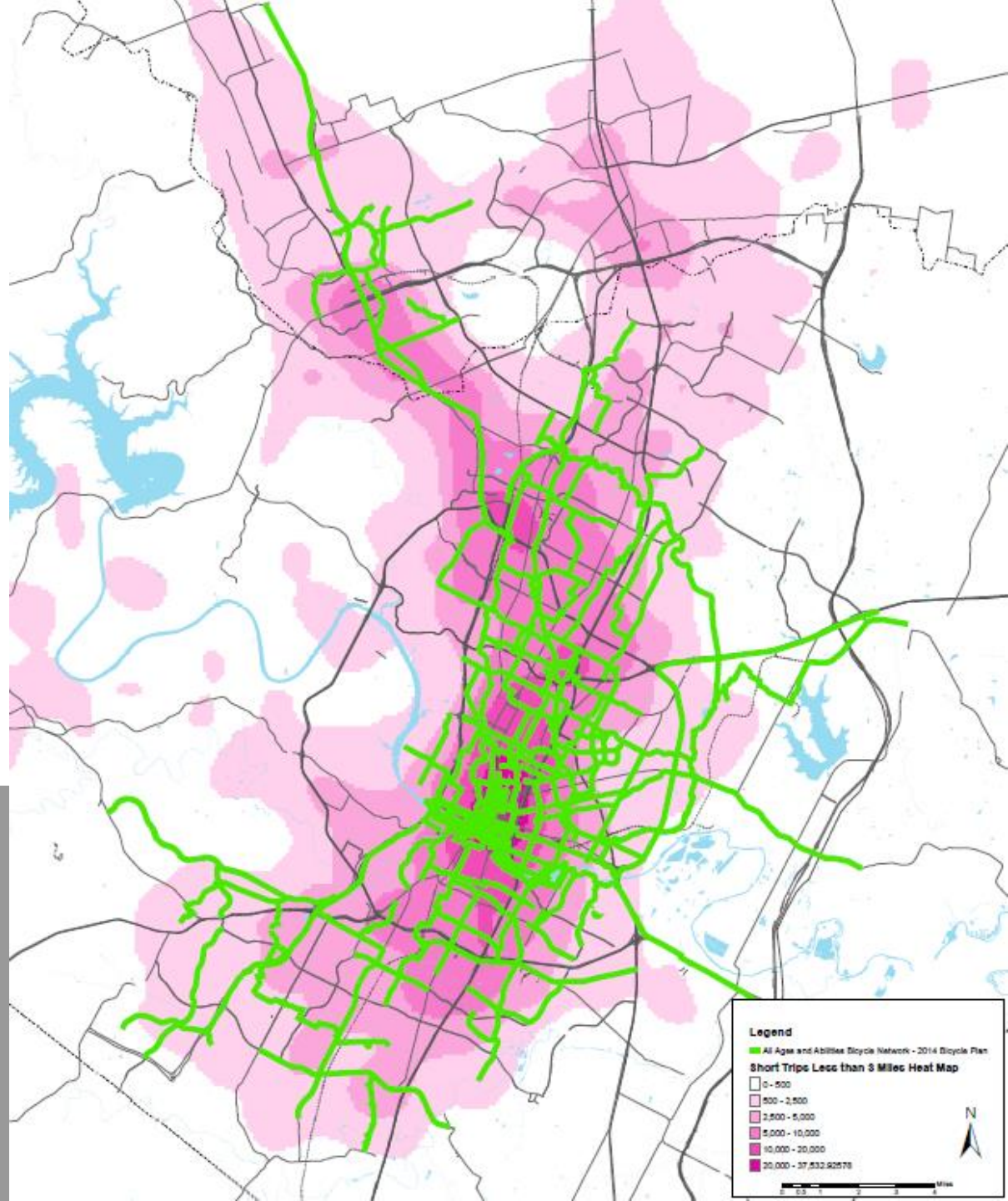
Austin's Short Trip Travel Demand



Heat map of short trip concentration

2014 Bicycle Plan

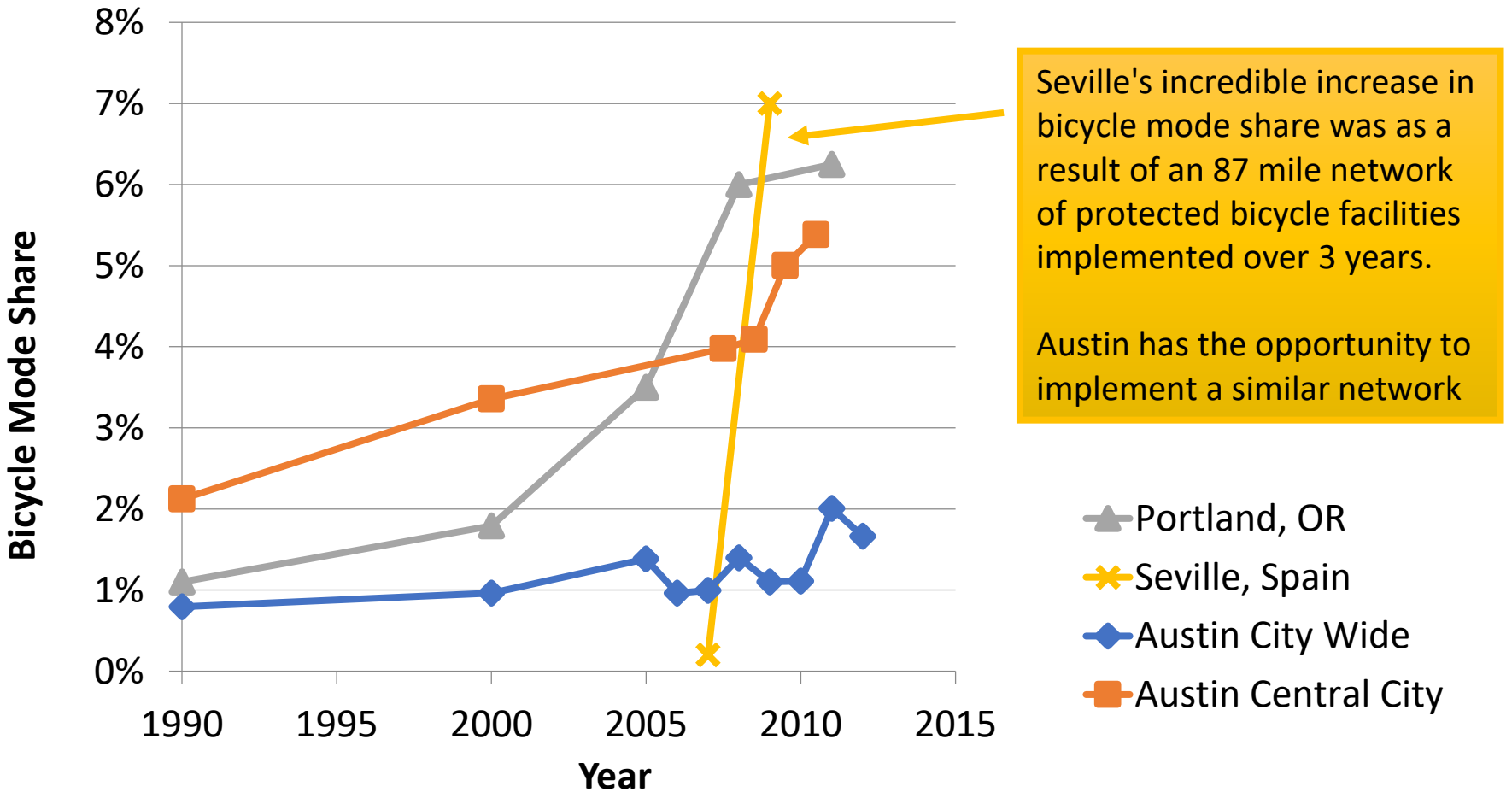
The All Ages and Abilities Bicycle Network



Focus on where short trips exist

- The central city
- To major transit stations
- Key feeder routes to the central city

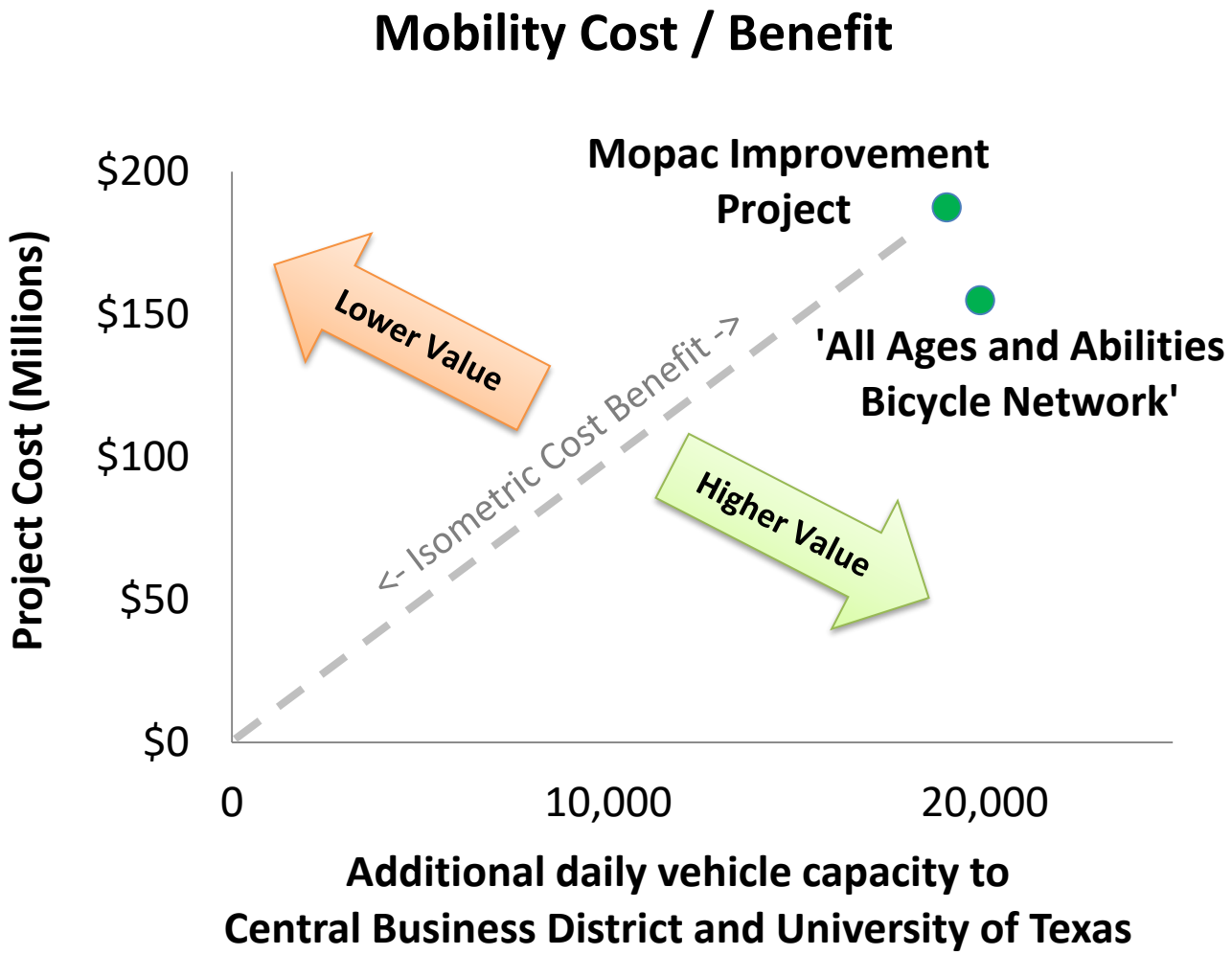
2014 Bicycle Plan
How Fast Can We Make Change



Seville's incredible increase in bicycle mode share was as a result of an 87 mile network of protected bicycle facilities implemented over 3 years.

Austin has the opportunity to implement a similar network

2014 Bicycle Plan
The Cost Benefit [traffic] Case for the Network

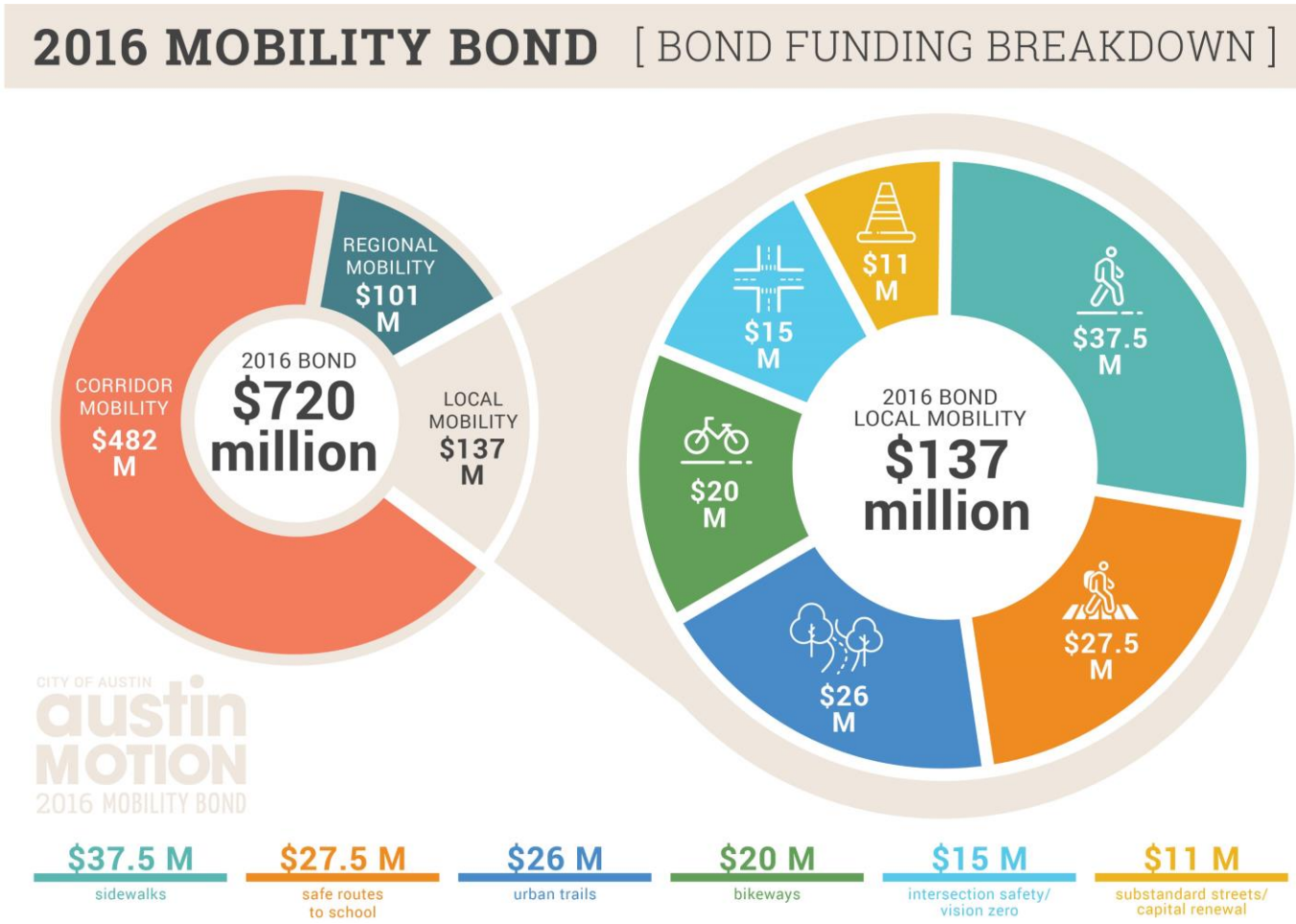


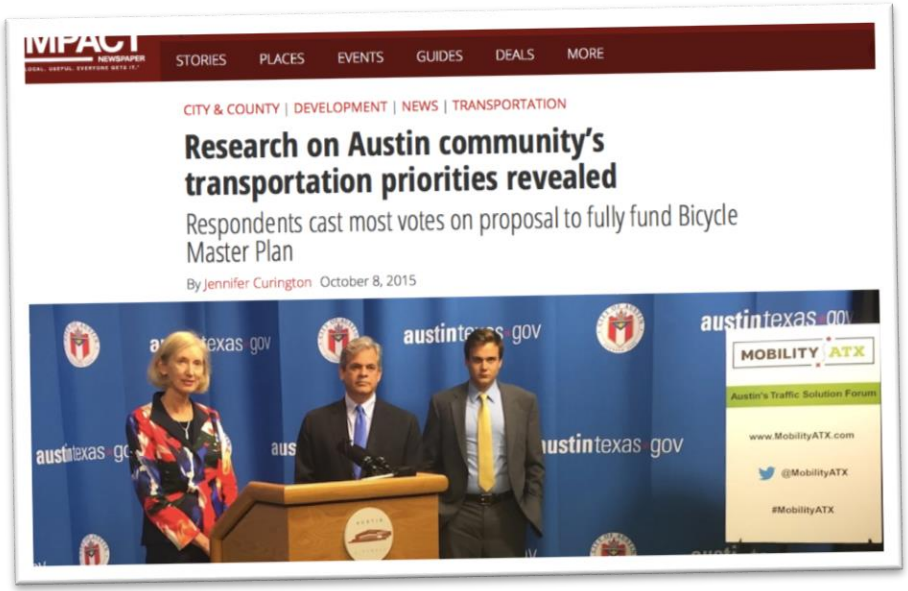
2014 Bicycle Plan
Quantifying the Benefits

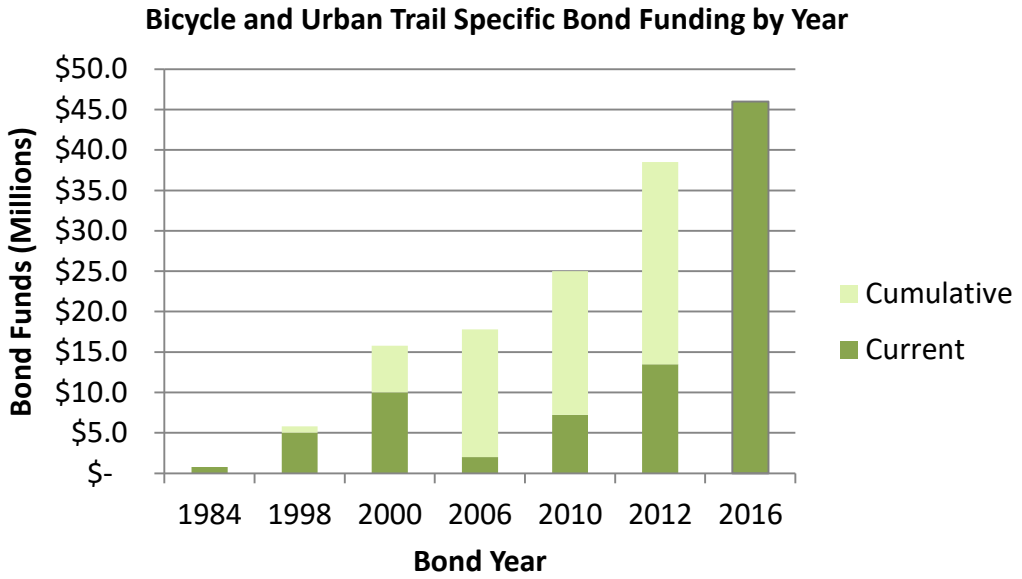
BENEFITS TO MOBILITY, ENVIRONMENT , AFFORDABLILITY, HEALTH

- ↓ 170,000 fewer daily trips
- ↓ 460,000 reduction in vehicle miles traveled
- ↓ 84,000 metric ton reduction of carbon per year
- ↓ $170 million saved in direct driving costs annually
- ↑ 15% of Austinites meet daily physical activity
- ↓ Reduced congestion on I35

2016 Mobility Bond







2018 Delegation to the Netherlands

- Large delegation of leadership and technical staff
- Major shifts in leadership
- In 2018 we choose the Netherlands over Seville to work with the end in mind
- A street designer’s perspective…

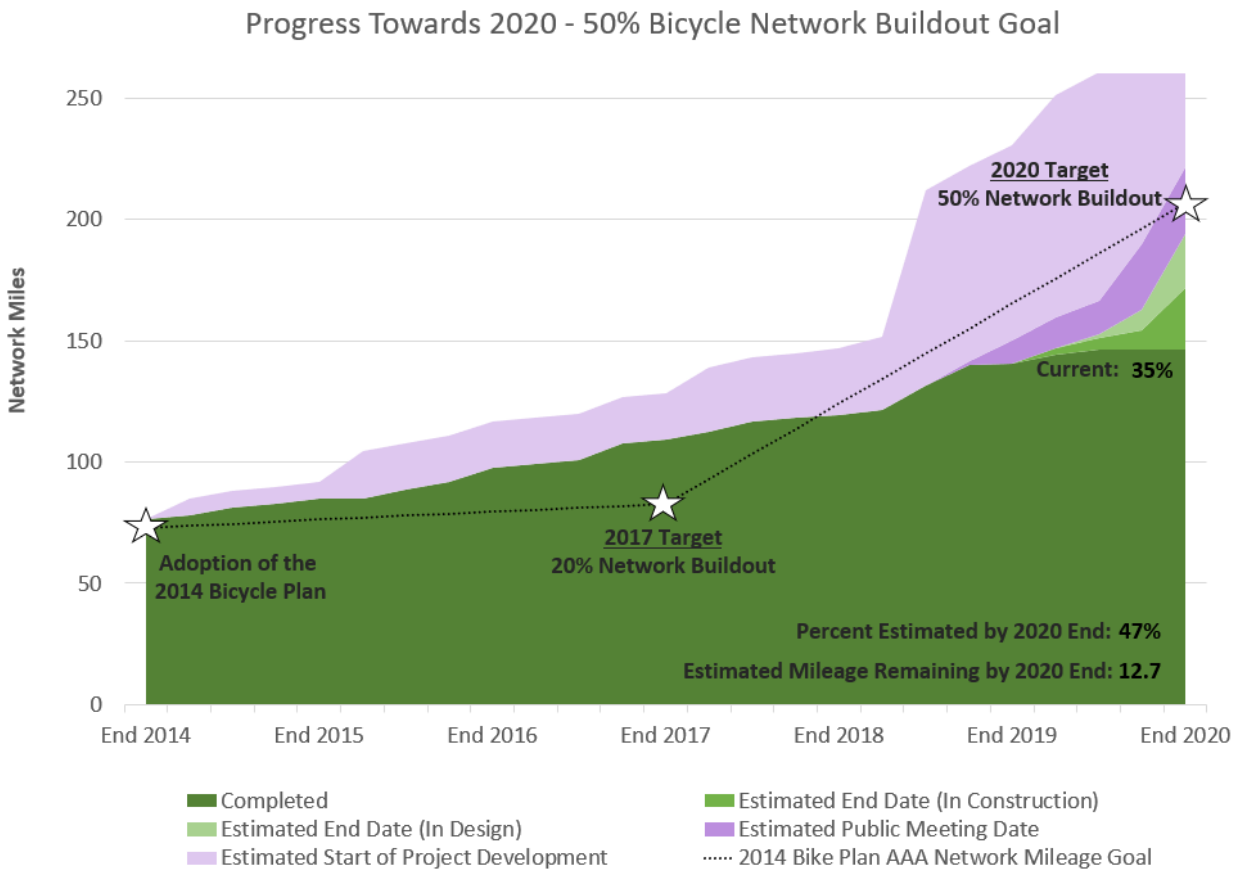
Design Fluidity & Try and Refine

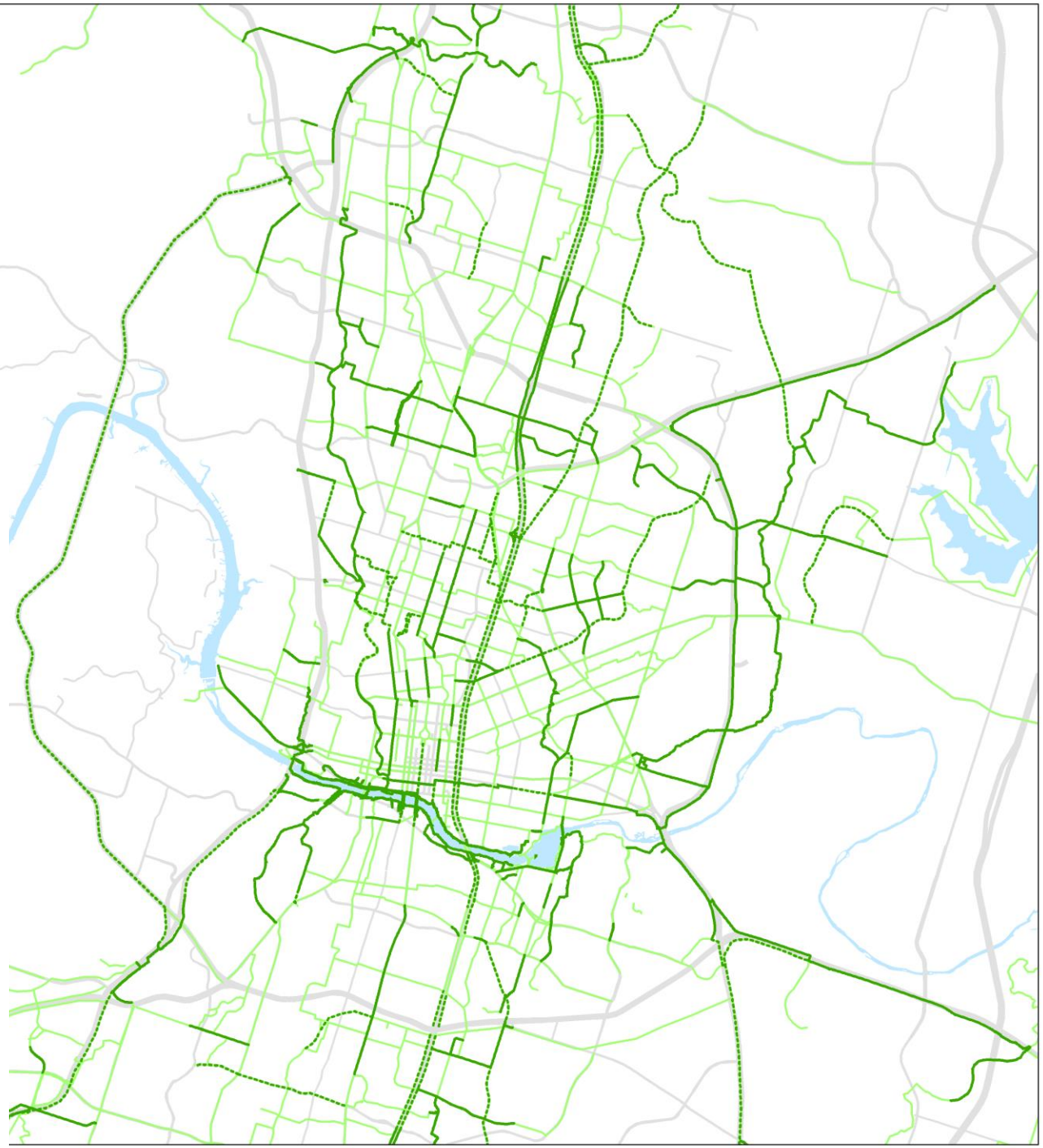
Where we are
and where we are headed…

Cohesion
Directness
Safety
Comfort
Attractiveness

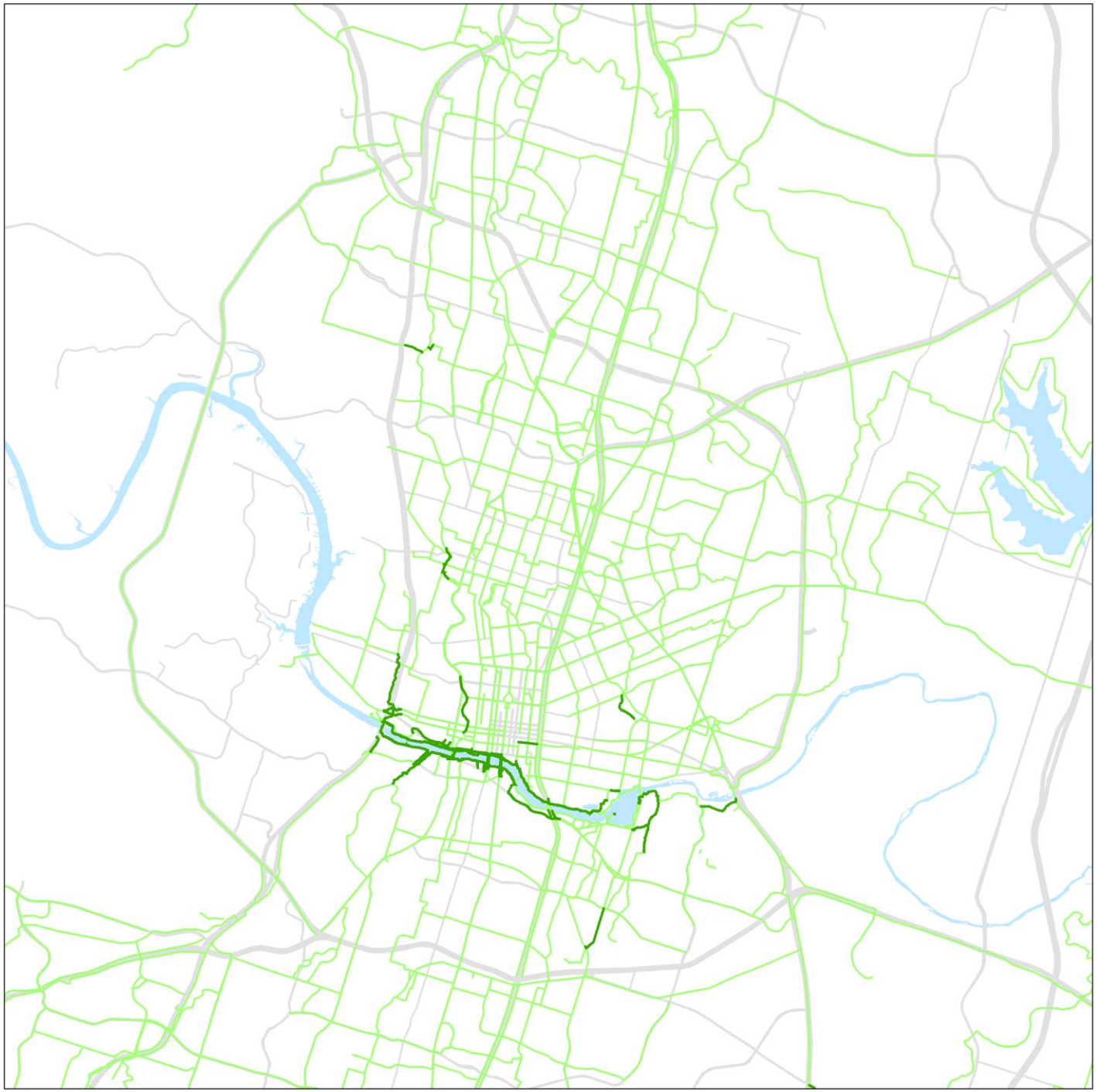
& *“Get Used to Spending More Money on Bikes”*

2020
All Ages and Abilities Network Buildout Goal

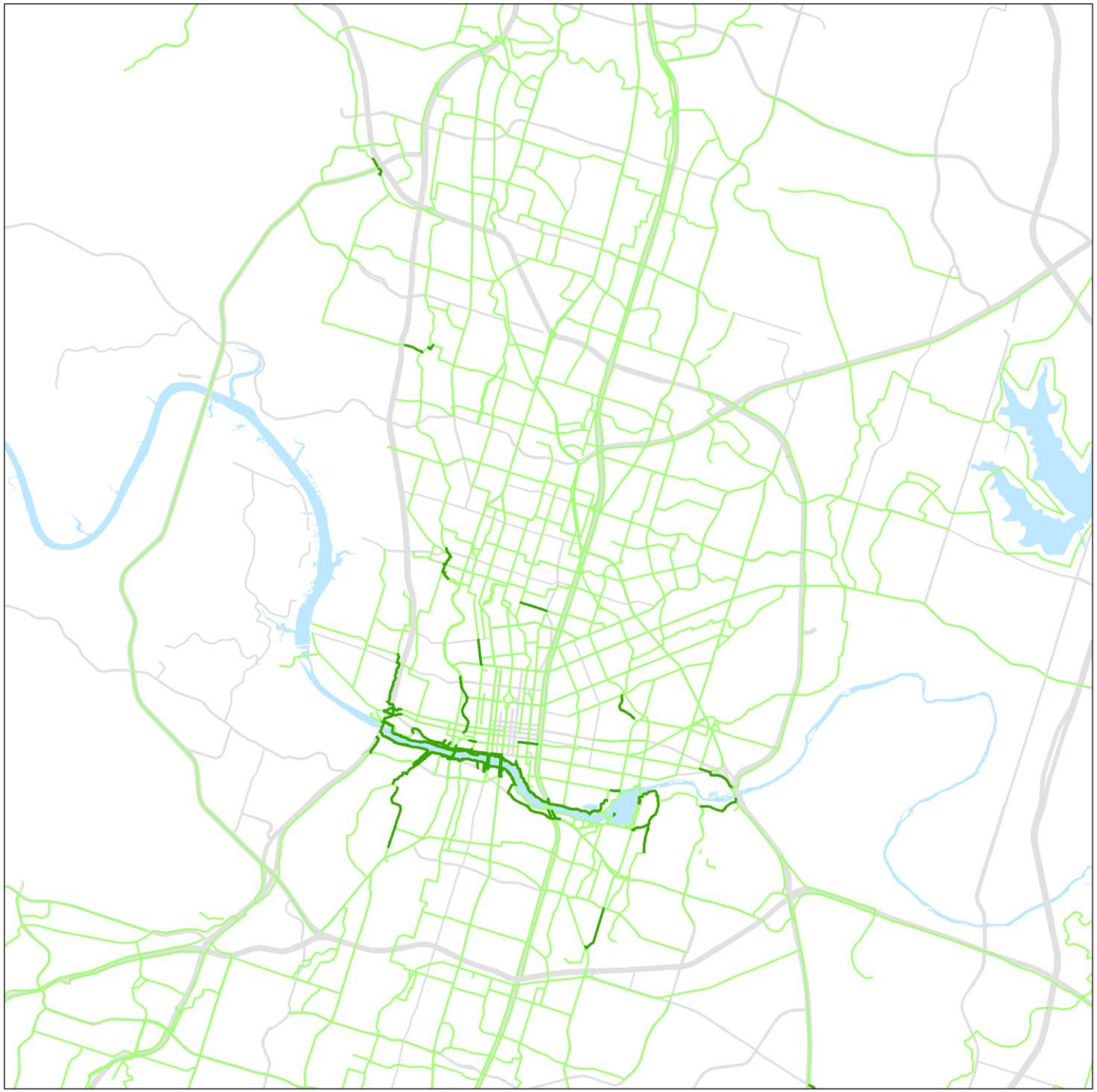




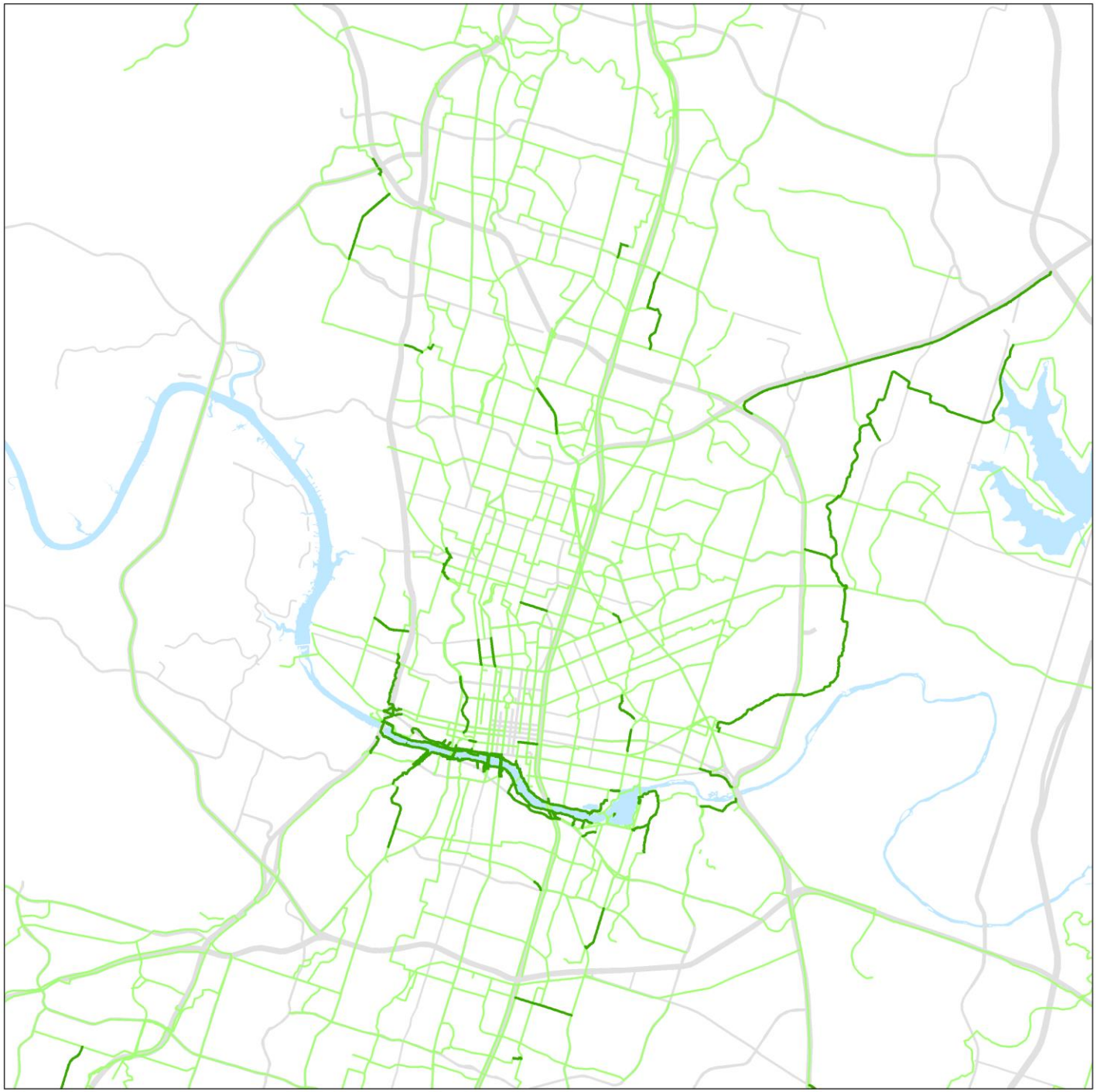
2010
Austin's
All Ages and Abilities
Bicycle Network



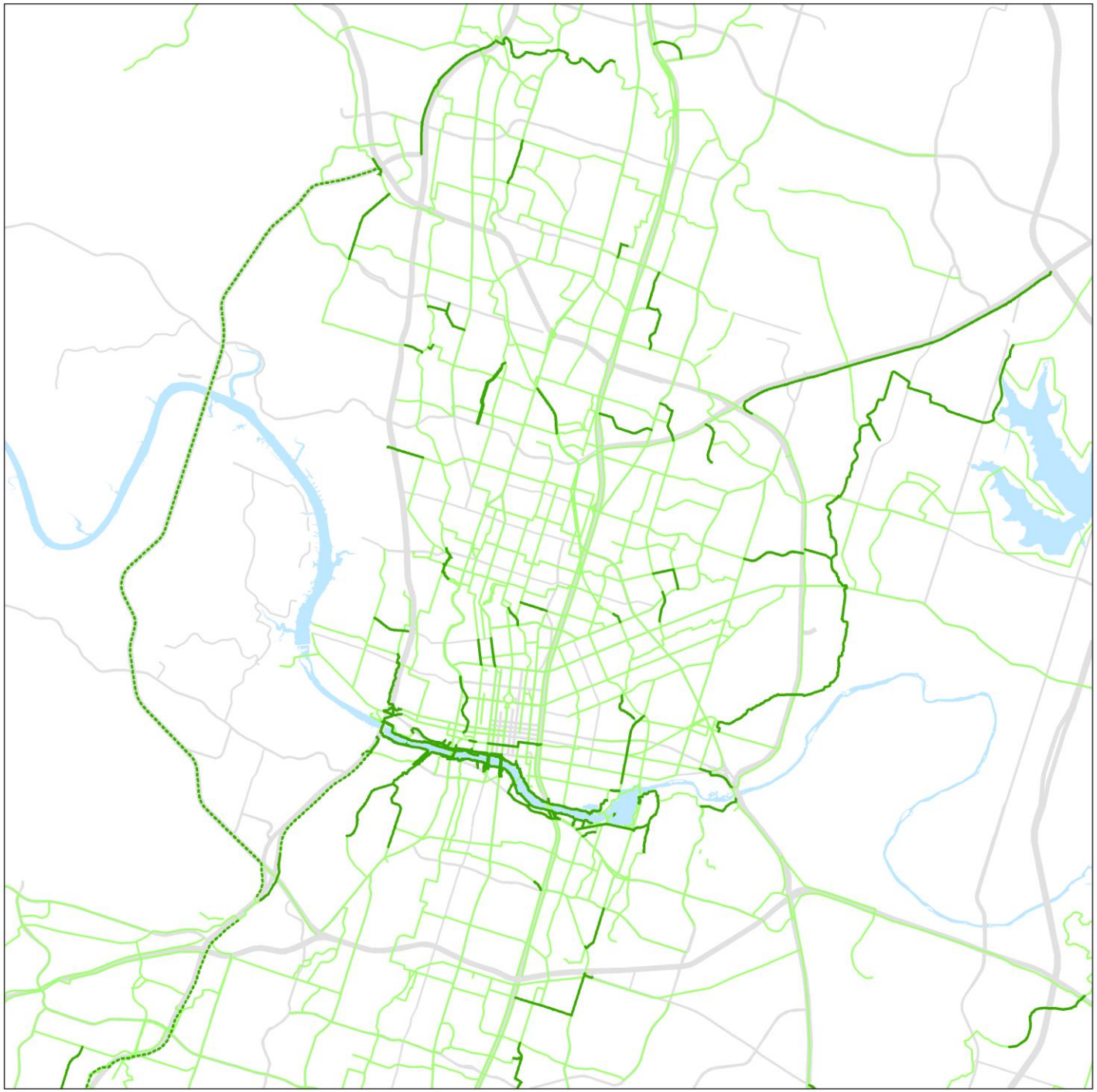
2012
Austin's
All Ages and Abilities
Bicycle Network



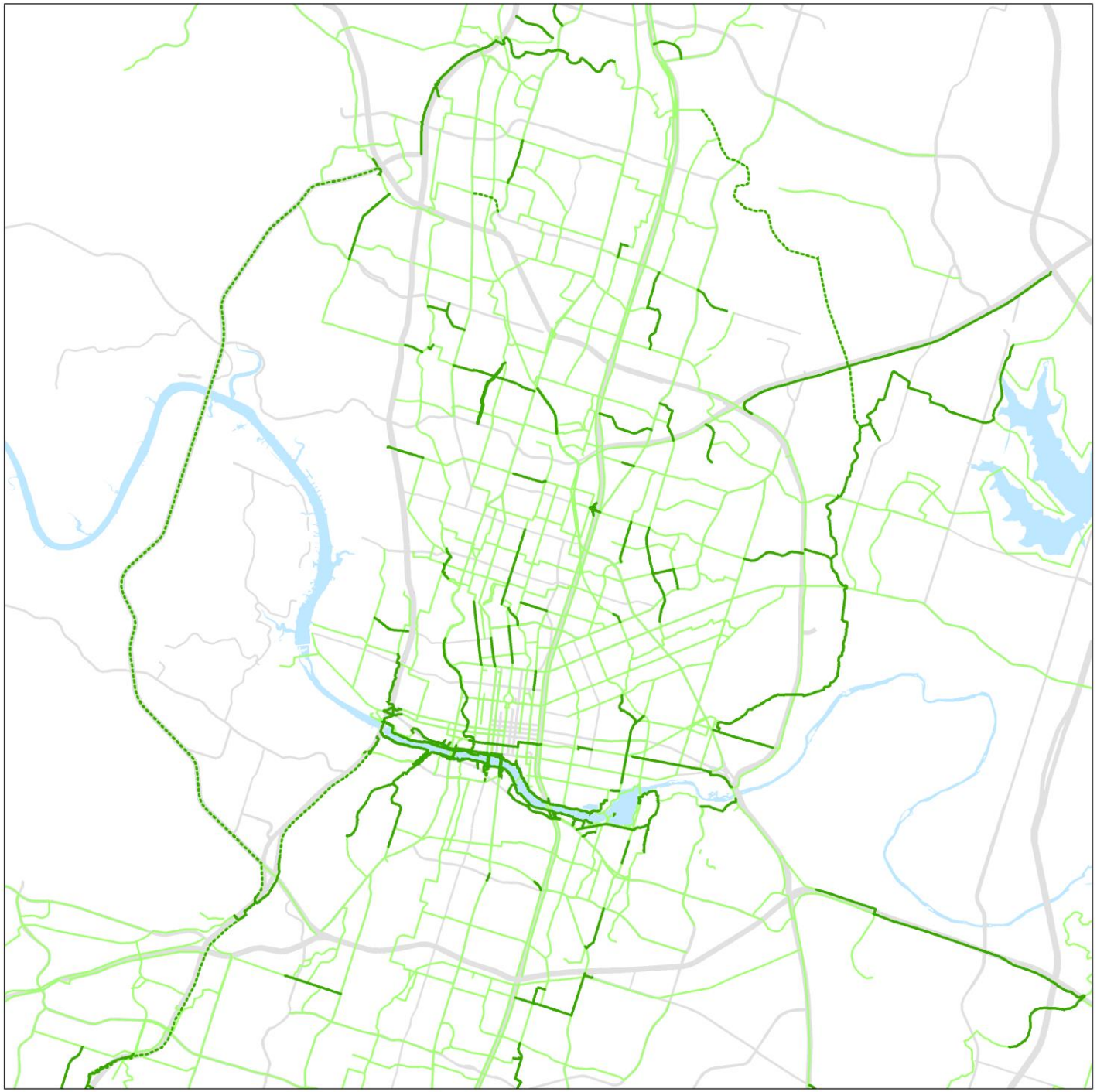
2014
Austin's
All Ages and Abilities
Bicycle Network



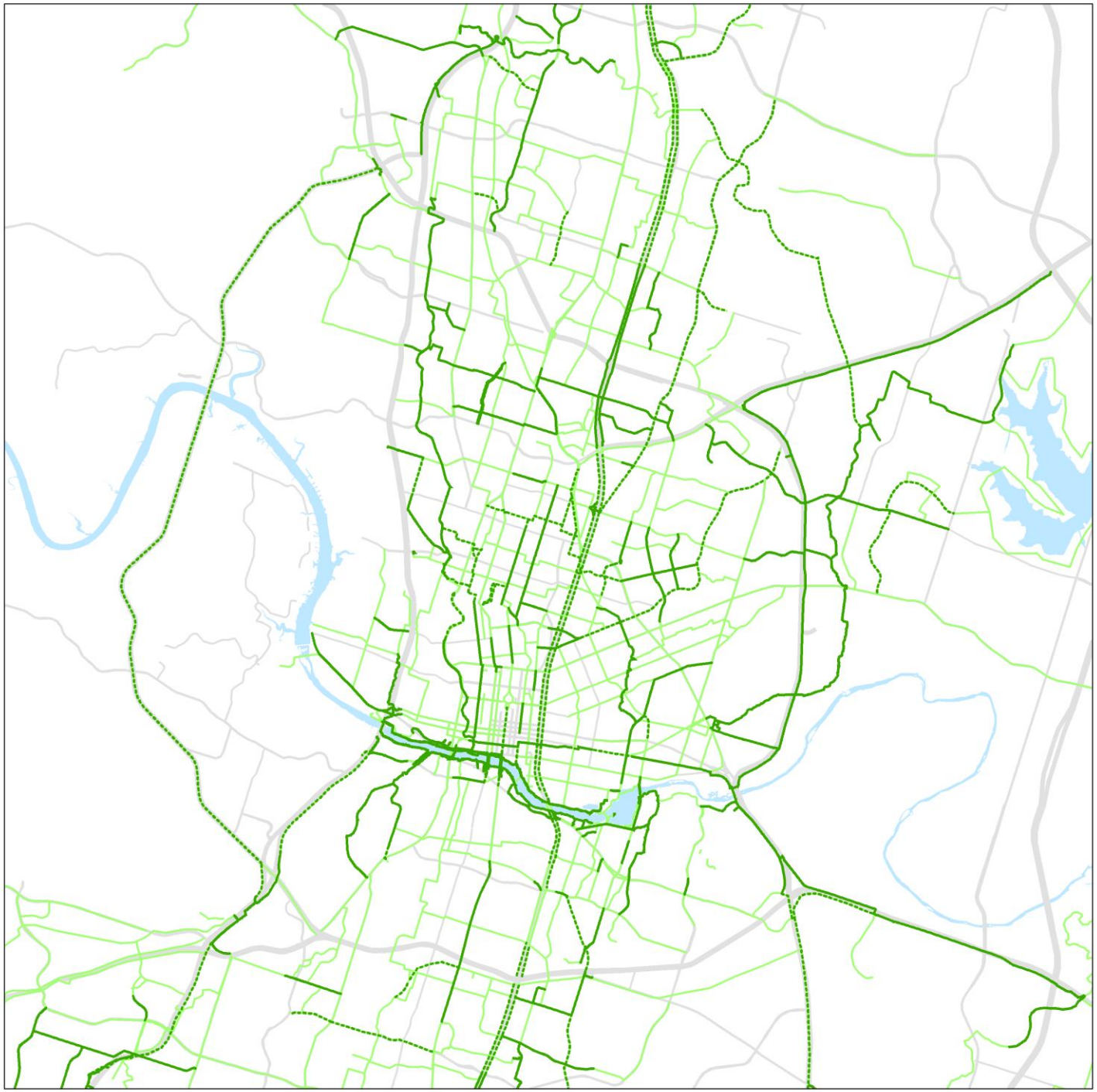
2016
Austin's
All Ages and Abilities
Bicycle Network



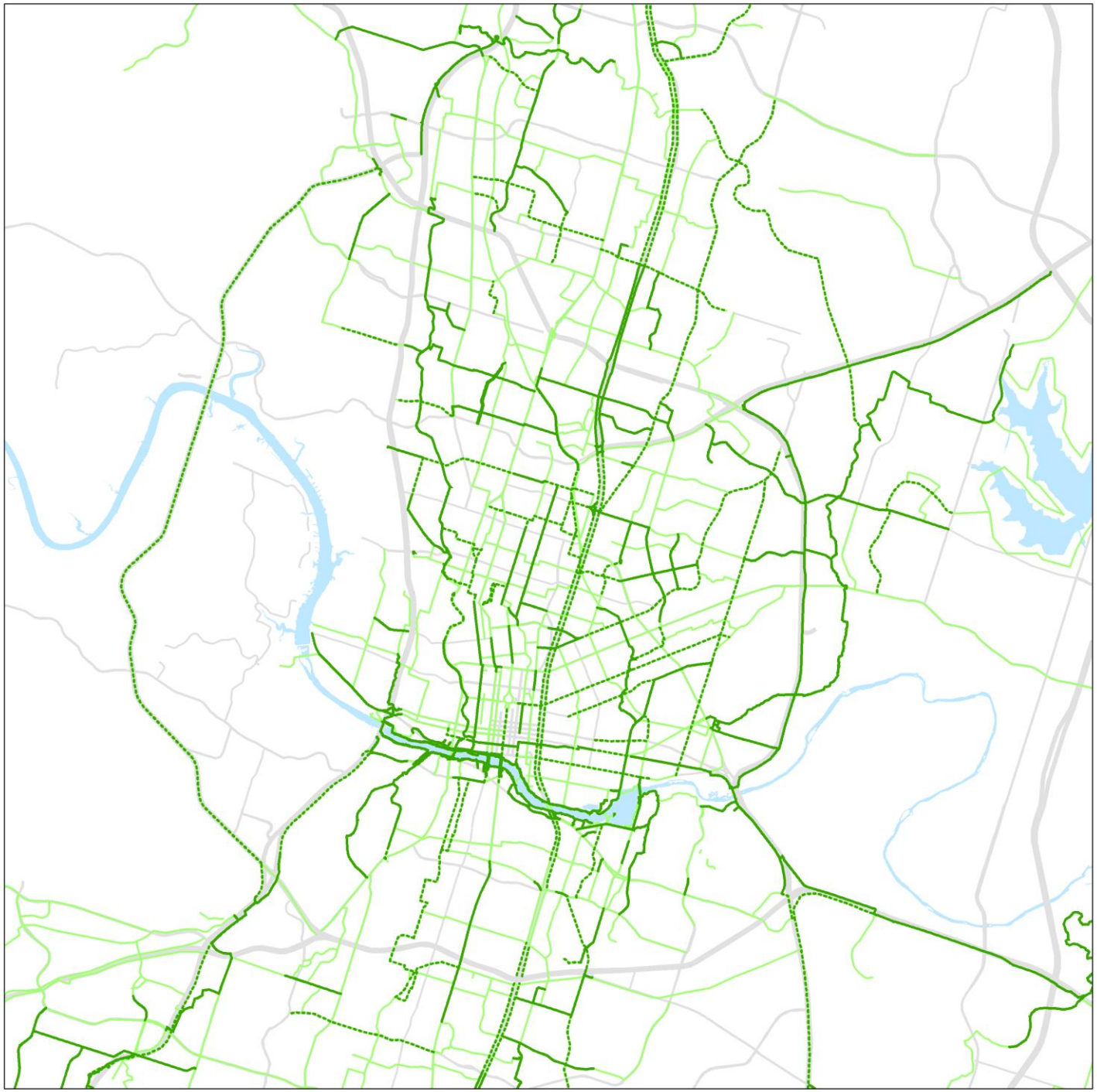
2018
Austin's
All Ages and Abilities
Bicycle Network



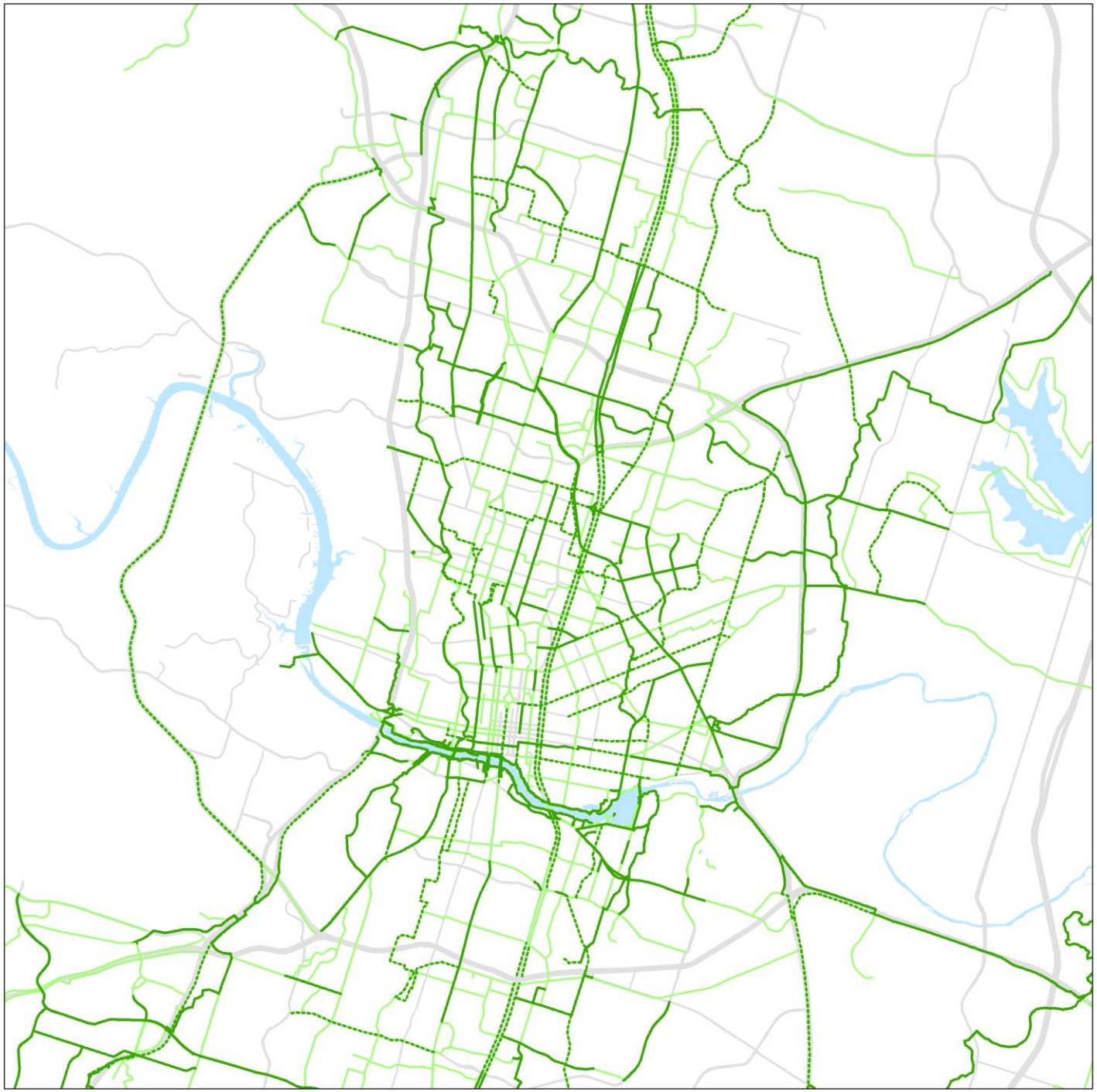
2020
Austin's
All Ages and Abilities
Bicycle Network



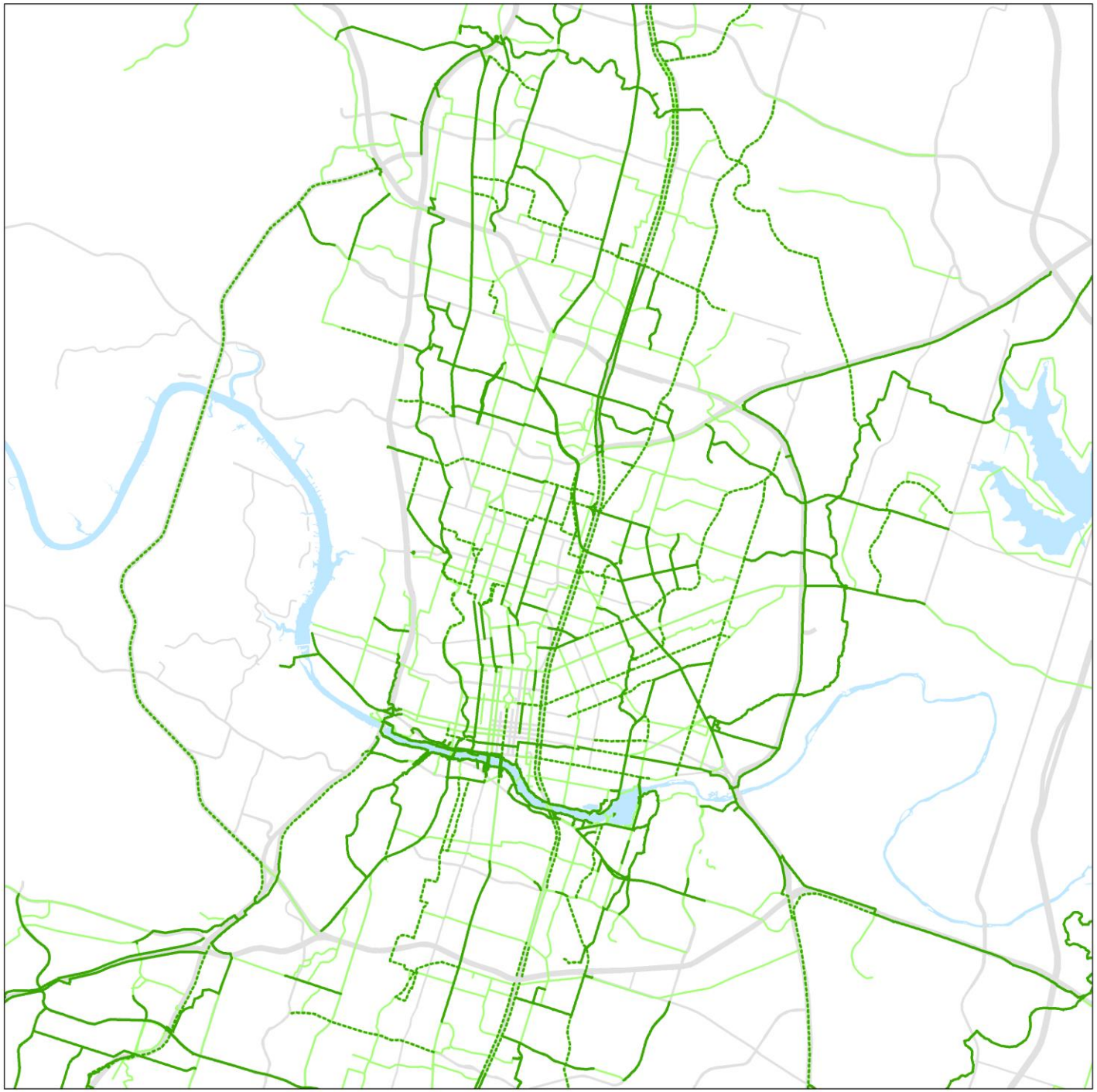
2022
Austin's
All Ages and Abilities
Bicycle Network



2024
Austin's
All Ages and Abilities
Bicycle Network

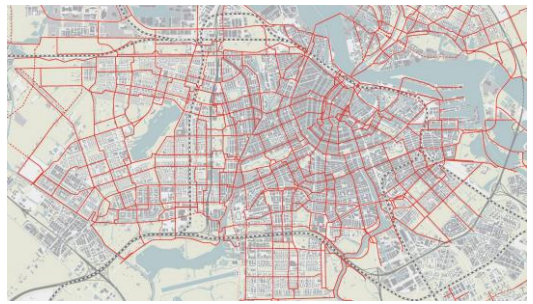


2026
Austin's
All Ages and Abilities
Bicycle Network

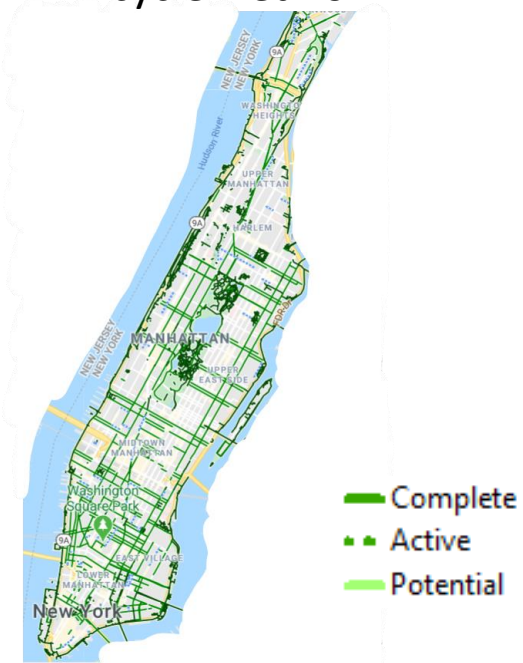


2026
Austin's
All Ages and Abilities
Bicycle Network

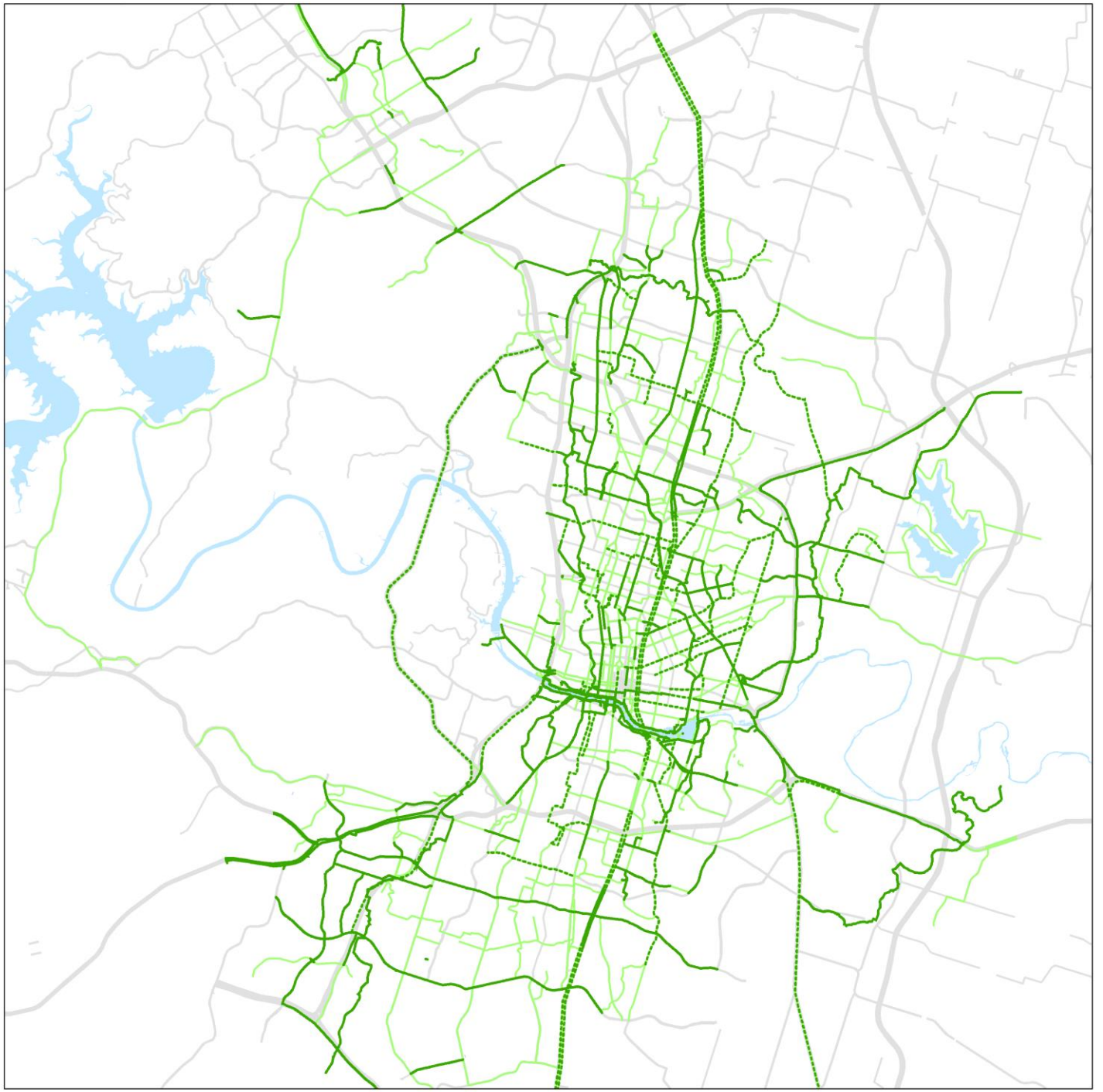
Amsterdam
Bicycle Network



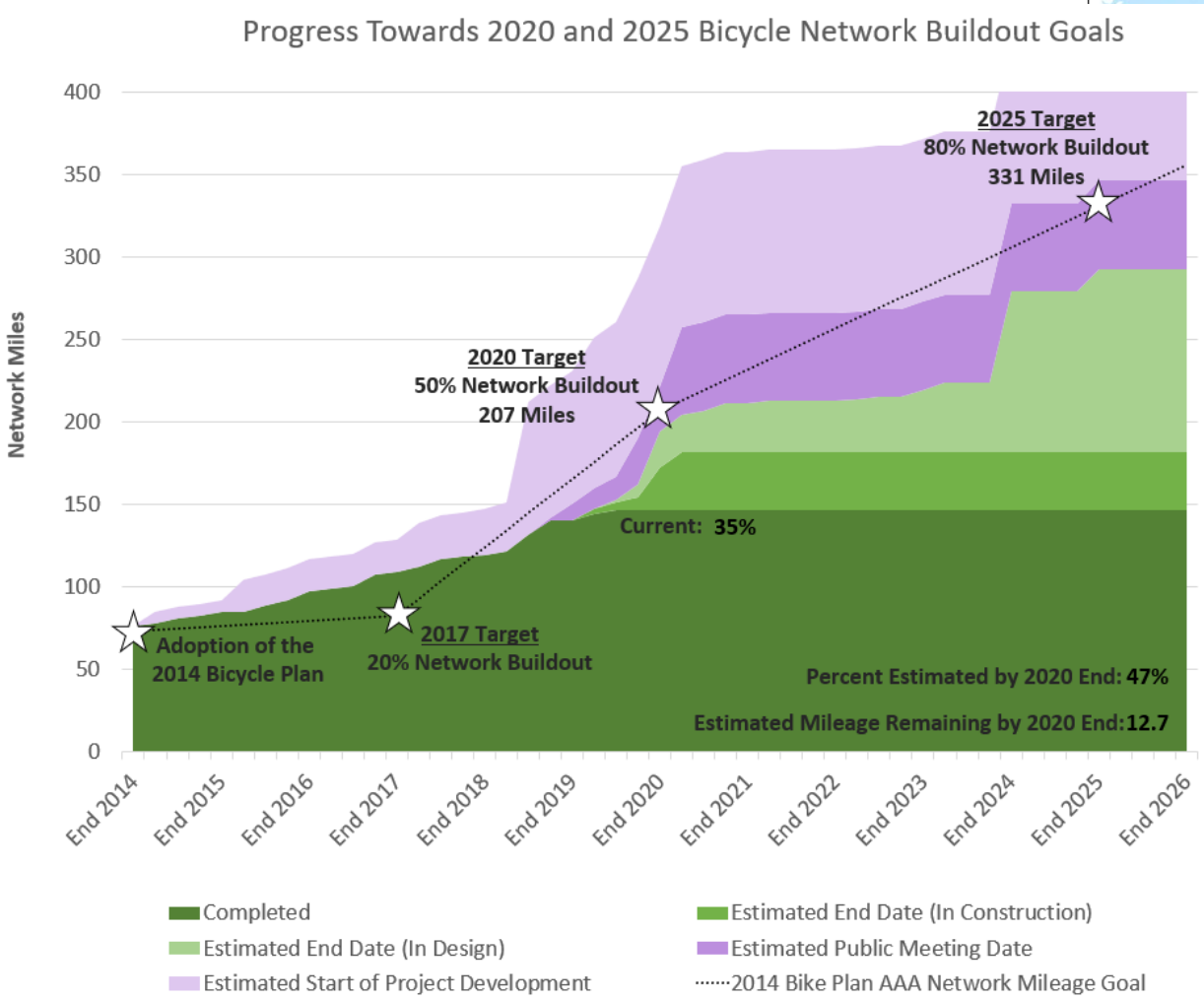
New Amsterdam
Bicycle Network

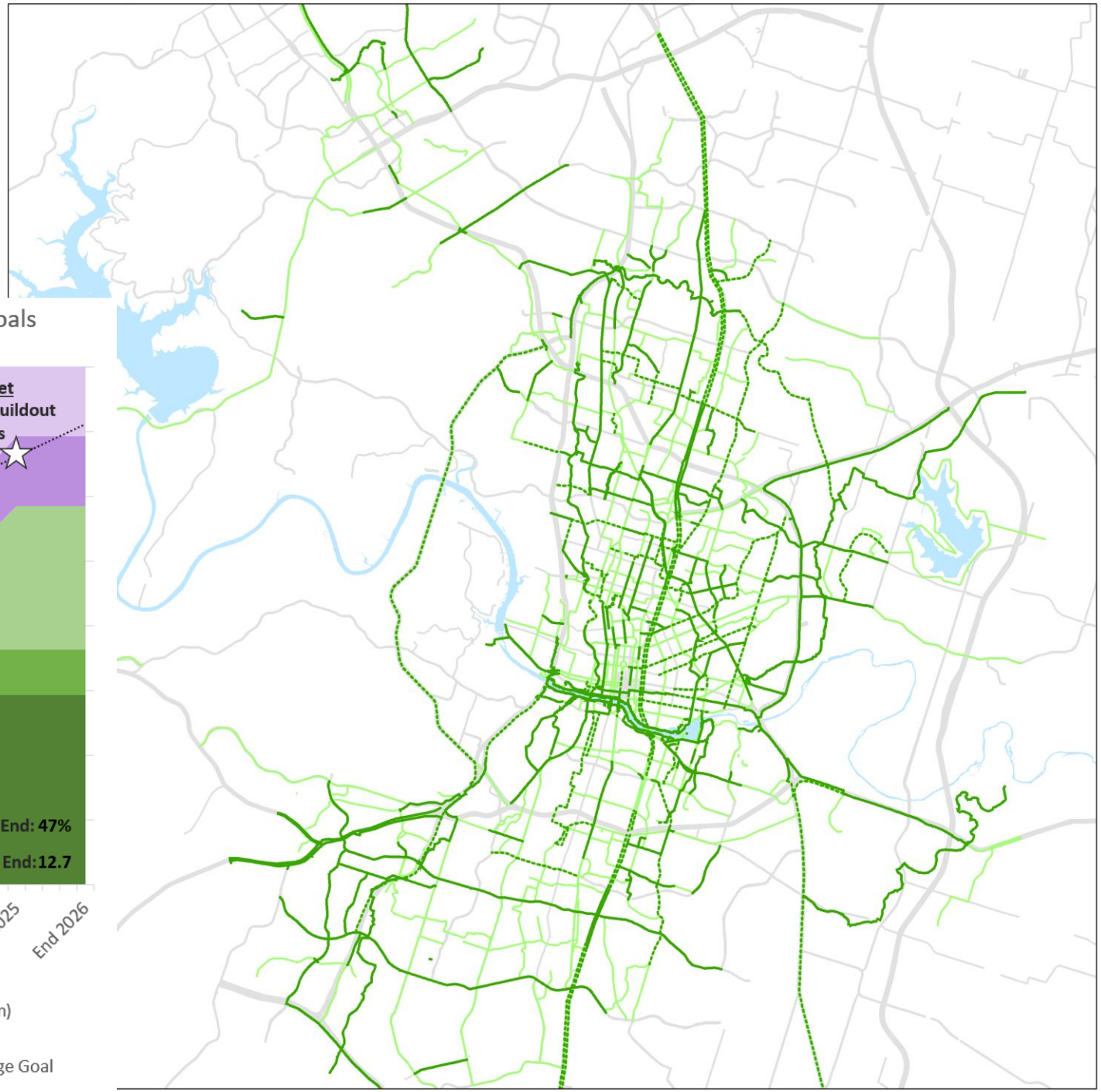


Maps are same scale



2025 AAA Network Buildout Goal





Will Handsfield

District Department of Transportation

The Dutch Planning Approach

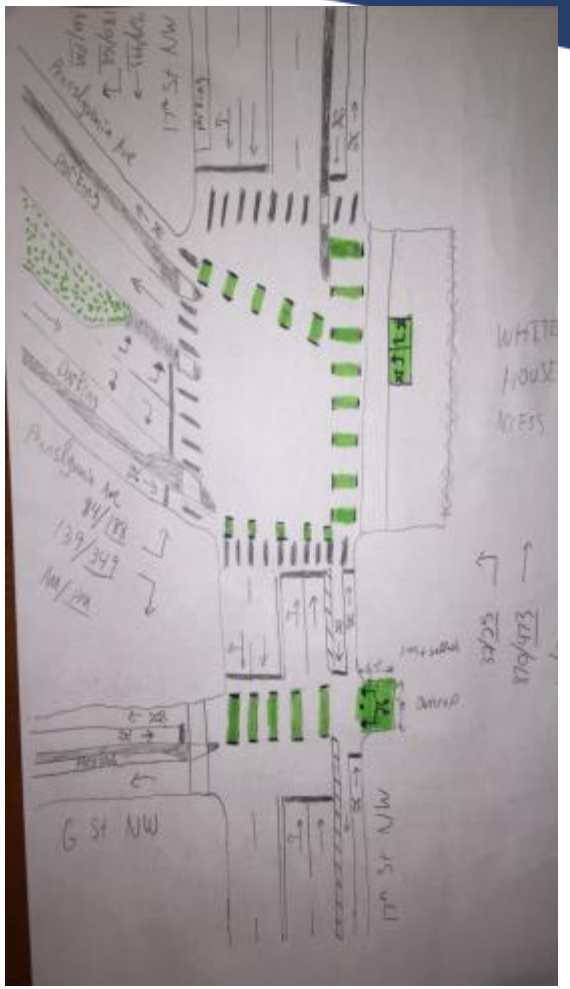
G Street NW & Virginia Ave NW Bicycle Infrastructure Projects

Tuesday, July 28th, 2020

Will Handsfield
DDOT Bicycle Planner

Agenda

- Planning Background
- Dutch Bike Workshop themes
- Network Plan
- G Street Cycletrack Plan – Summer 2020
- Upcoming Projects
  - Virginia Ave NW Summer 2021
  - 20th/21st Street Fall 2020
  - Pennsylvania Avenue Fall 2021



Goals for Cycling in Washington D.C.

- **Individual Benefits**
  - Reduced transportation costs
  - Exercise and health
- **Economic Development**
  - Tourism
  - Increases foot traffic/local spending
- **Environmental Benefits**
  - Reduced CO_2 emissions
- **System Management Benefits**
  - Reduced wear and tear
  - Fewer cars on road
- **Network**
  - Interconnected network is necessary to support cycling
- **Resiliency**
  - Bikes keep people & goods moving when other systems fail

HE
BIA
R, MAYOR

Why is DC Installing Bicycle Lanes?

2005 Bicycle Master Plan Goals

- 2000: 1% of commute trips by bike
- 2010: 3% of commute trips by bike
- 2015: 5% of commute trips by bike

Sustainable DC goals (2032)

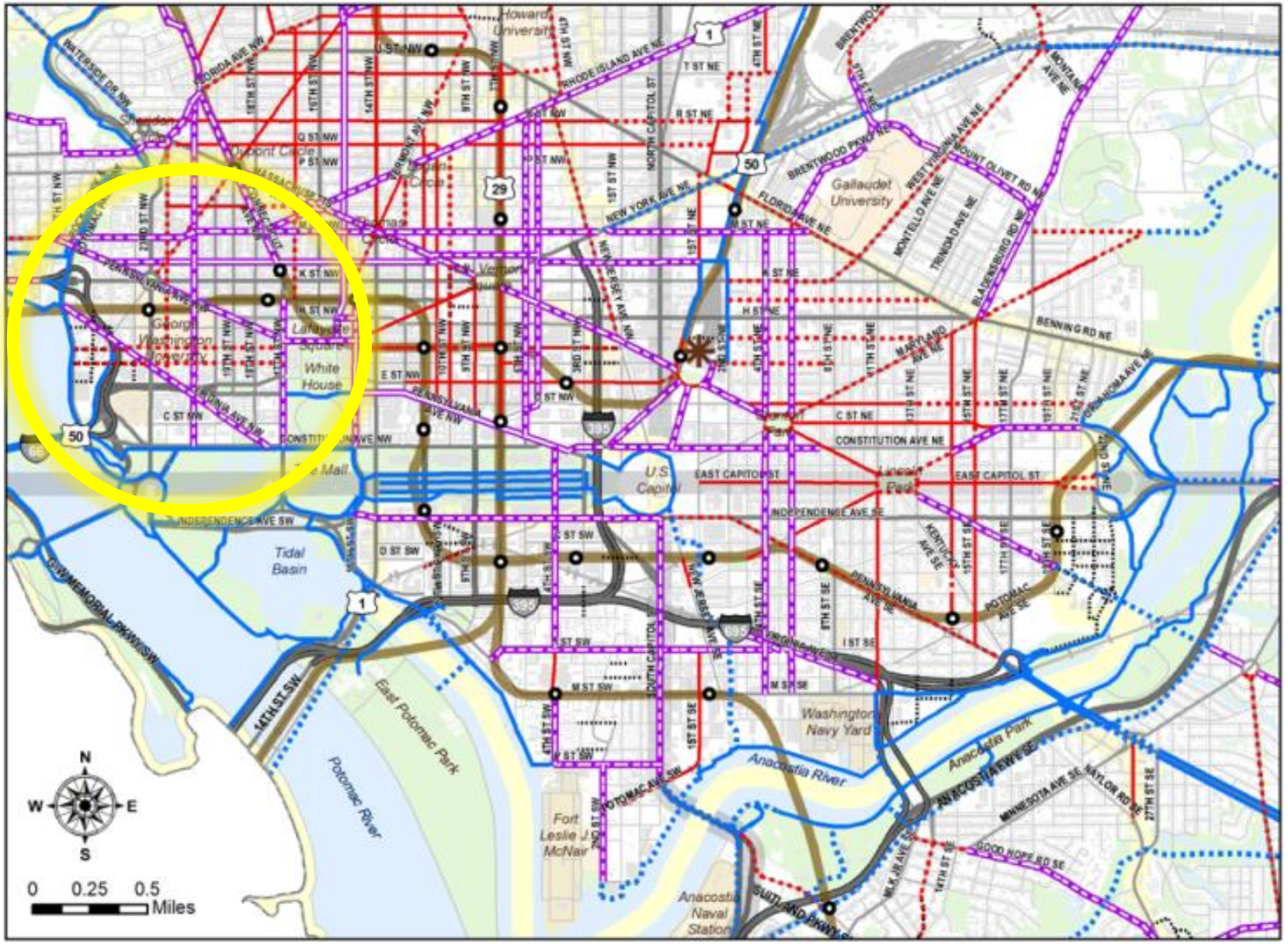
- 75% of all trips by walk, bike, or transit
- 200 more bike share stations

Vision Zero

- Eliminate Traffic fatalities
- Re-engineer dangerous roads

VISION ZERO
SAFE STREETS FOR WASHINGTON, DC

moveDC Bicycle Plan - 2014



moveDC

DUTCH CYCLING EMBASSY

Thinkbike workshop West End district Washington D.C. – April 2016

GOVERNMENT OF THE DISTRICT OF COLUMBIA
MURIEL BOWSER, MAYOR

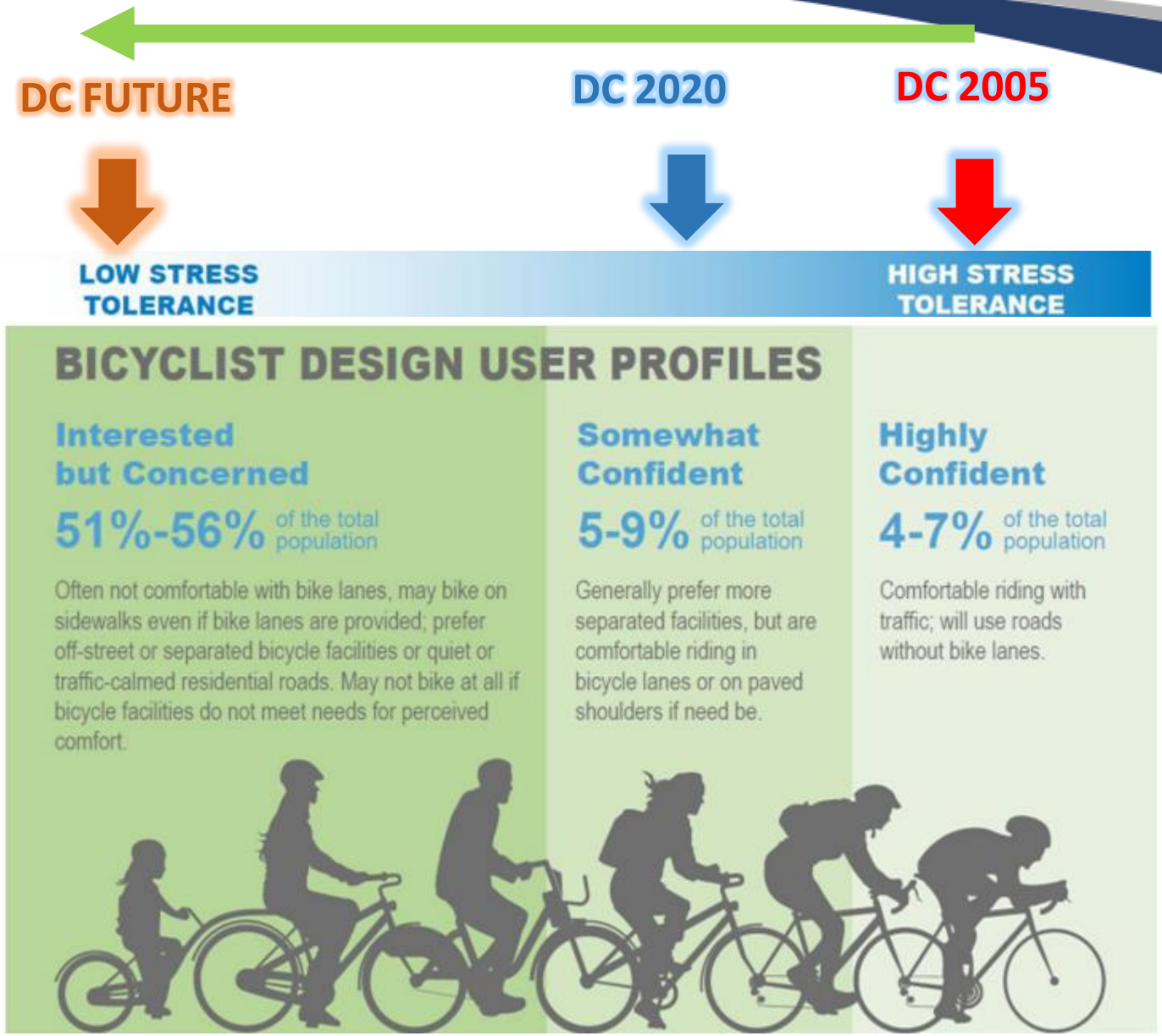
Workshop Overall Ambition

(remember this image, we'll see it again)

What is a Protected Bike Lane?

- A protected bike lane is a physically separated space designated for bicycle use
- DC started installing in 2009
- Separation mid-block by vertical posts or curb
- No separation at intersections
  - Conflicts minimized through:
    - Signalization
    - Traffic control (yielding)
- Bus boarding conflicts
  - Starting to address w/raised platforms

Why Protected Lanes?



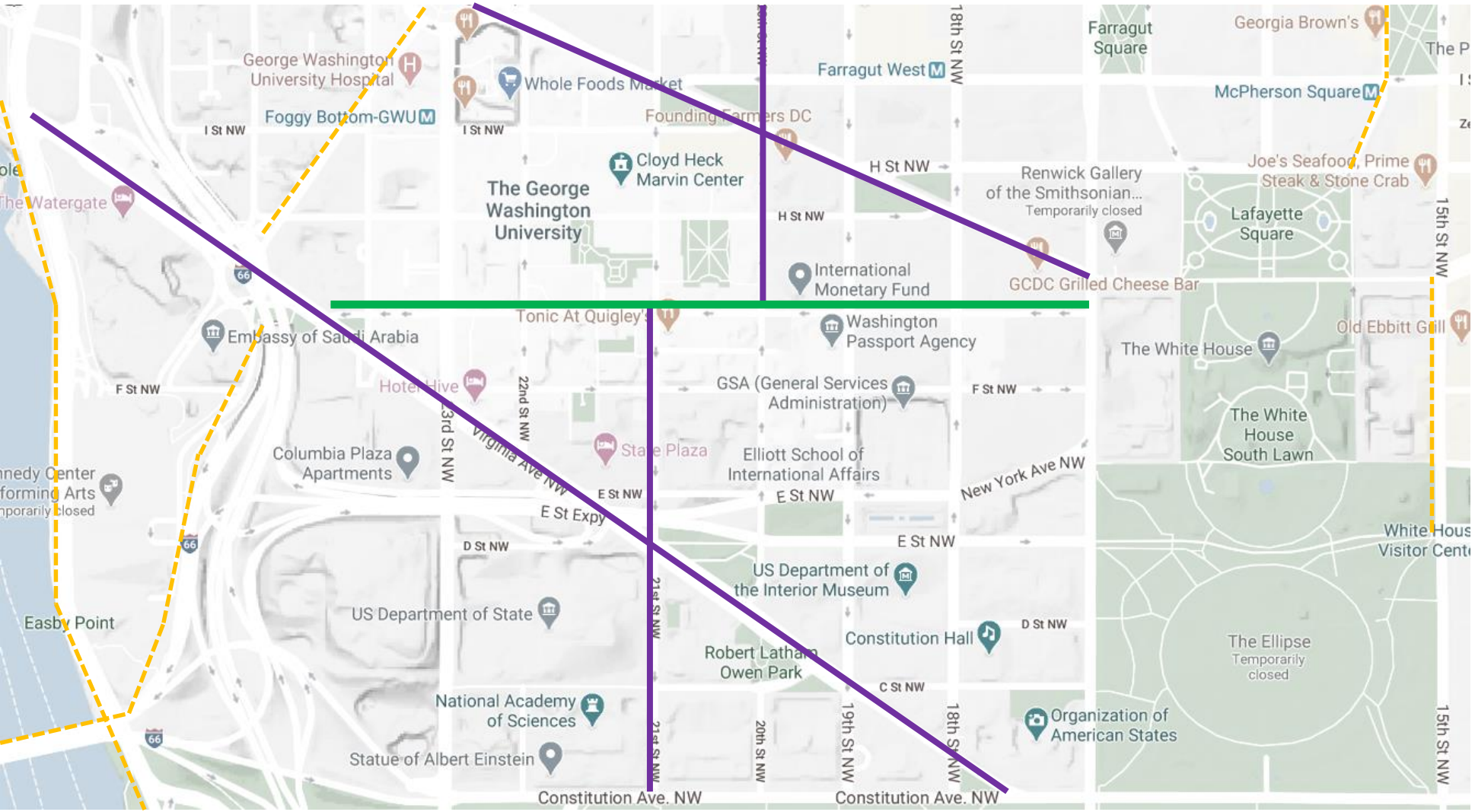
Protected Bike Lanes (PBLs)

Two-way PBL

Also called a “cycletrack”

Sidewalk | One-Way or Two-Way Bike Lane | Buffer | Driving or Parking Lane

Project Background



Existing facility

Under Construction

Planning Underway

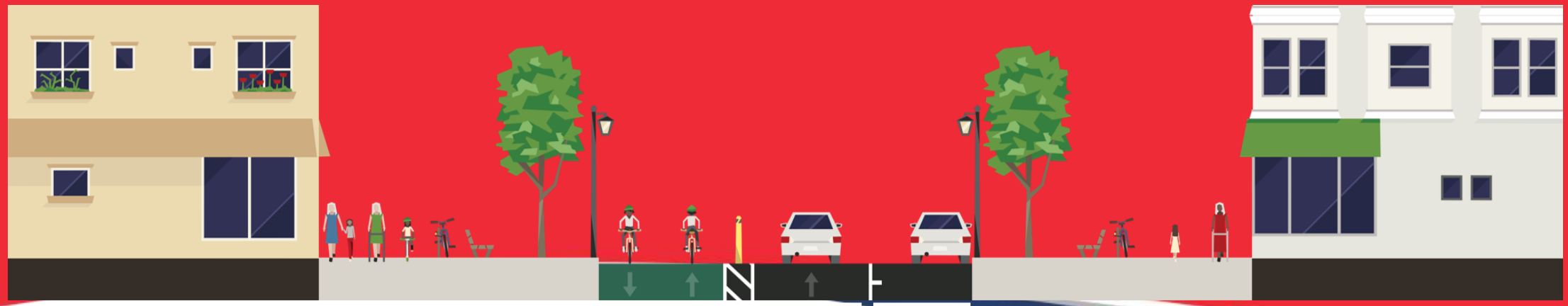
Why Protected Lanes?

- Result in 3x ridership of “regular” bike lanes
- Higher degree of user comfort
- Attracts “interested” riders, appropriate for ages 8 - 80
- With a network children can be more independent on their bicycles
- Eliminates conflicts between bicycles and parking cars
- Provide adequate space and removes the danger of “car dooring”

G St Cycletrack Schedule

- **Concept Planning**
  - MoveDC (2013-14)
  - ThinkBike (2016)
- **Preferred Alternative Analysis**
  - Traffic analysis & signal changes (2019)
- **Design and Engineering**
  - Winter-Spring 2020
- **Public Comment Period- 30 days**
  - April 2020
- **Construction**
  - Summer 2020

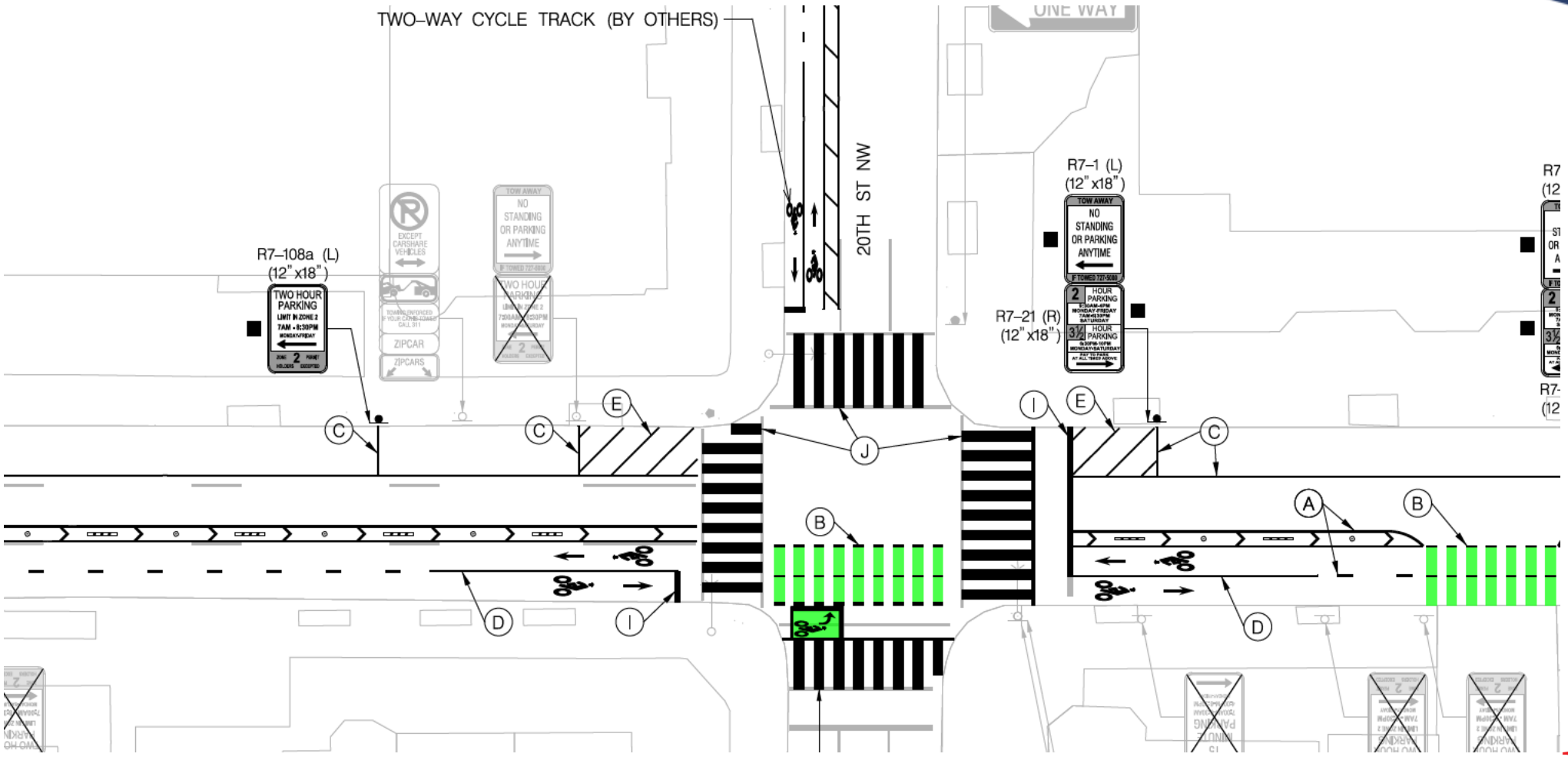
G St NW Cycletrack
(17th St NW to Virginia Ave NW)



Context Setting

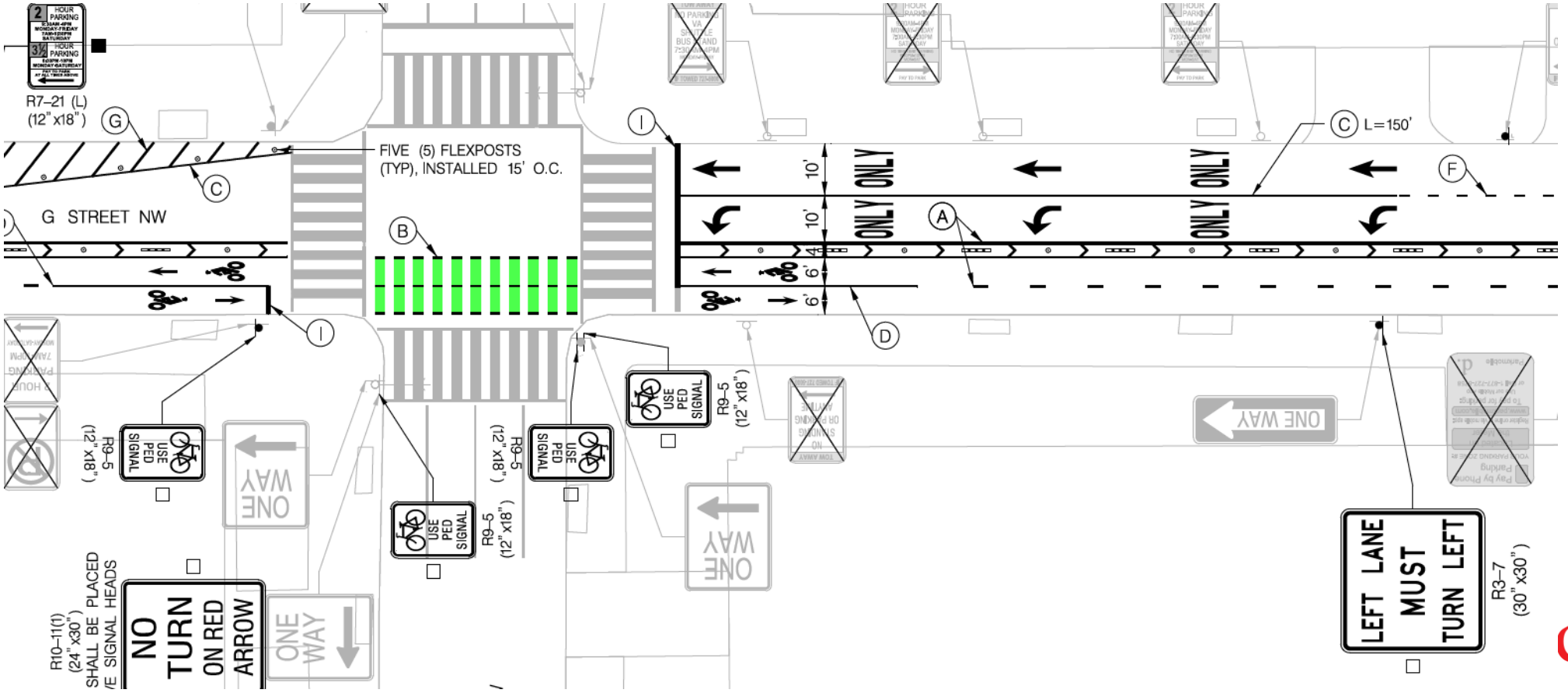
- **Traffic**
  - **25 MPH speed limit**
  - **Left turns at 3 intersections**
- **Parking**
  - **Currently both sides**
- **Curbside uses**
  - **Urban pick-up/drop-off**
  - **bus boarding (north side)**

Network Connectivity

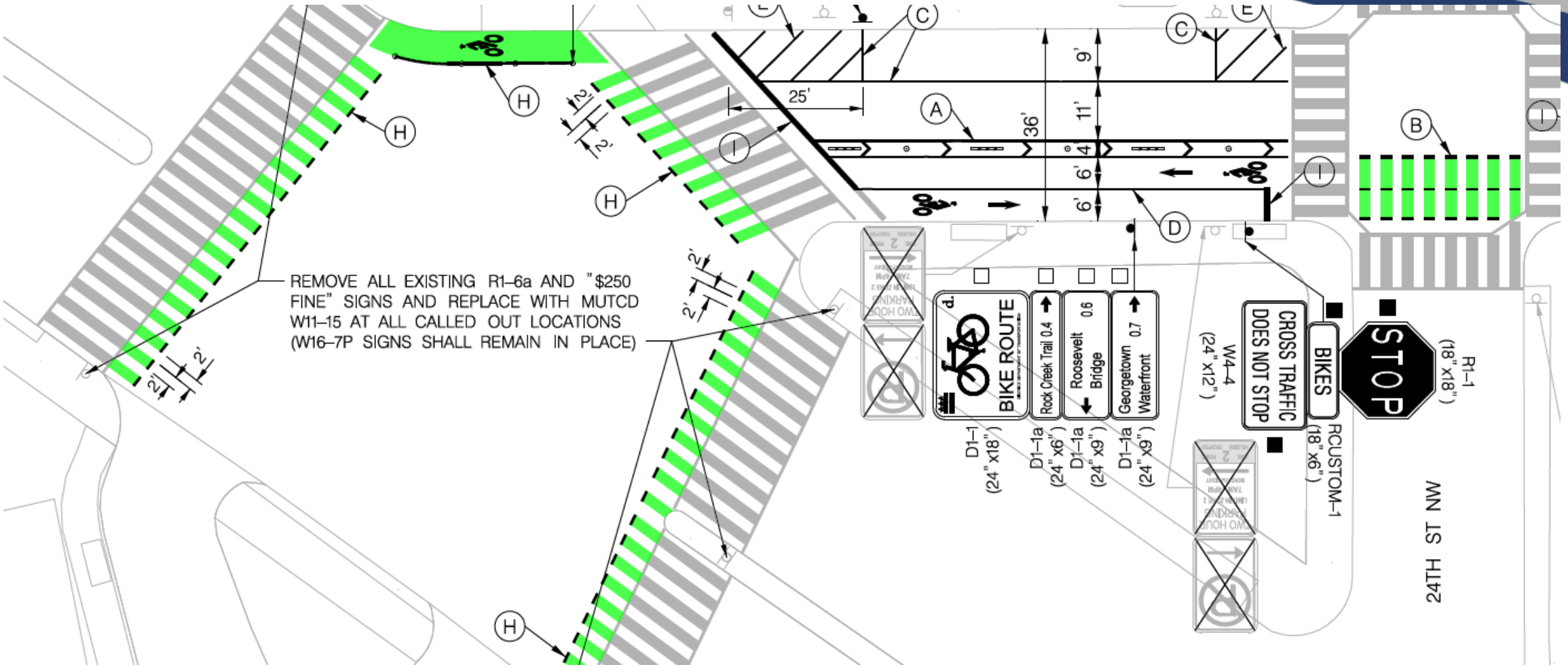


Traffic Changes

- Left turns at 3 intersections must be phased separately
- Slight reduction in level-of-service during PM rush-hour



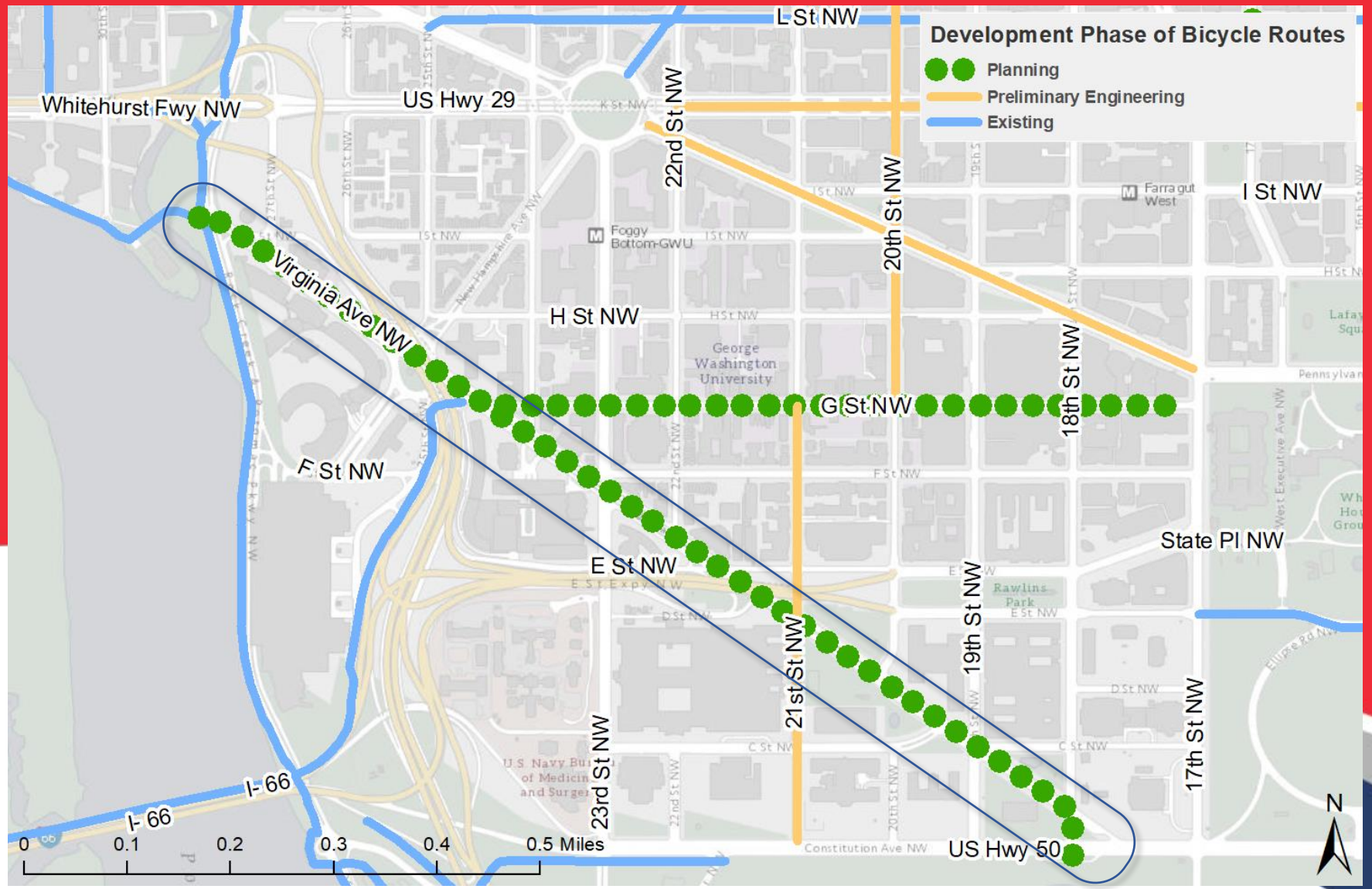
Intersection Treatments



Virginia Avenue NW PBL

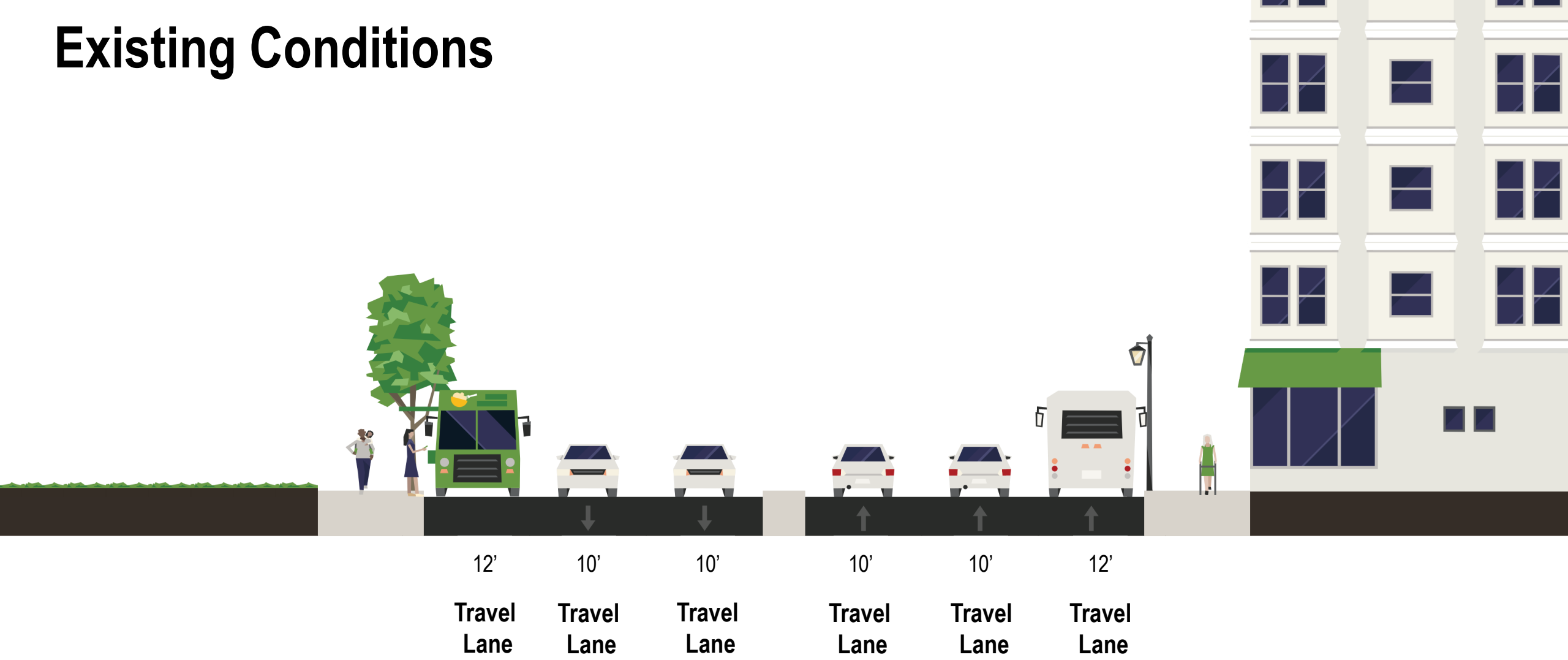
(Constitution Avenue NW to Rock Creek Parkway)

- A useful route – people already use it!
- Connects trail network to downtown and mall
- Most parts of roadway have excess capacity



Virginia Avenue NW Context

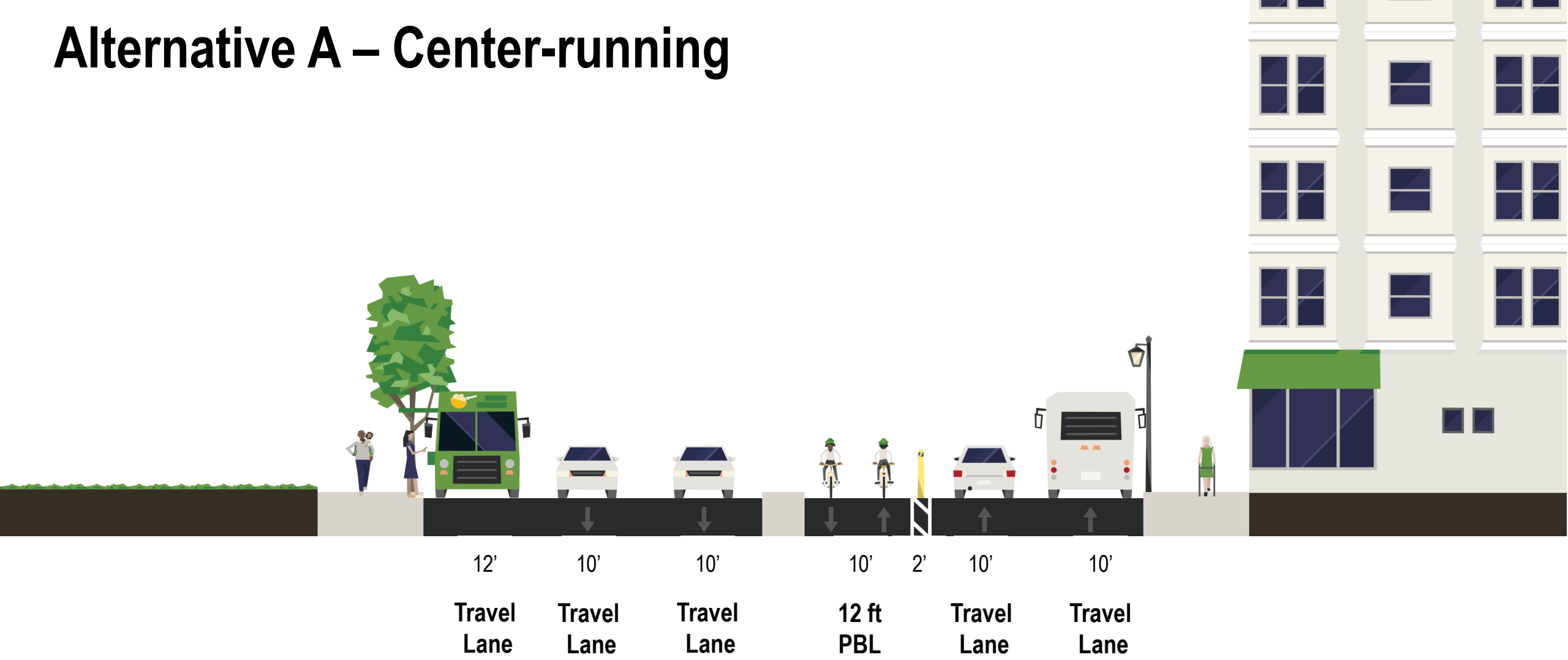
Existing Conditions



Alternative A Summary:

- 32 ft roadway width in each direction
- Provides a 10 ft protected bike lane

Alternative A – Center-running

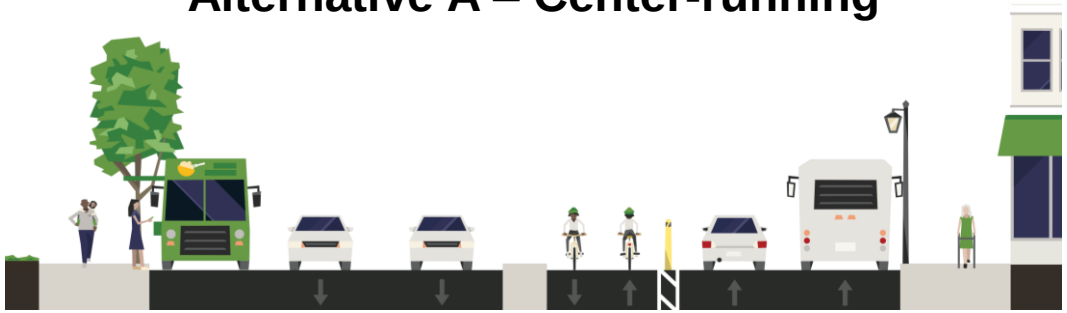


Alternative A Summary:

- Retains curbside access for buses and other services
- Provides a 10 ft protected bike lane

Alternatives Trade-Off Summary

Alternative A – Center-running



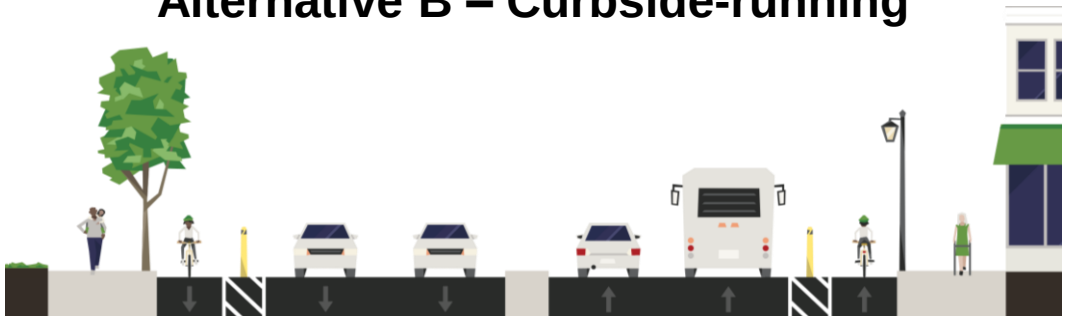
Pro

- Preserves curbside access for buses, vendors, and parking.
- Requires less reduction in travel lanes
- Offers safe comfortable environment for people on bicycles

Con

- Requires slower, less convenient turn movements and curb access for people on bicycles.
- Introduces new potential conflict for left turning vehicles
- Requires passage through tunnel under 23rd St NW

Alternative B – Curbside-running



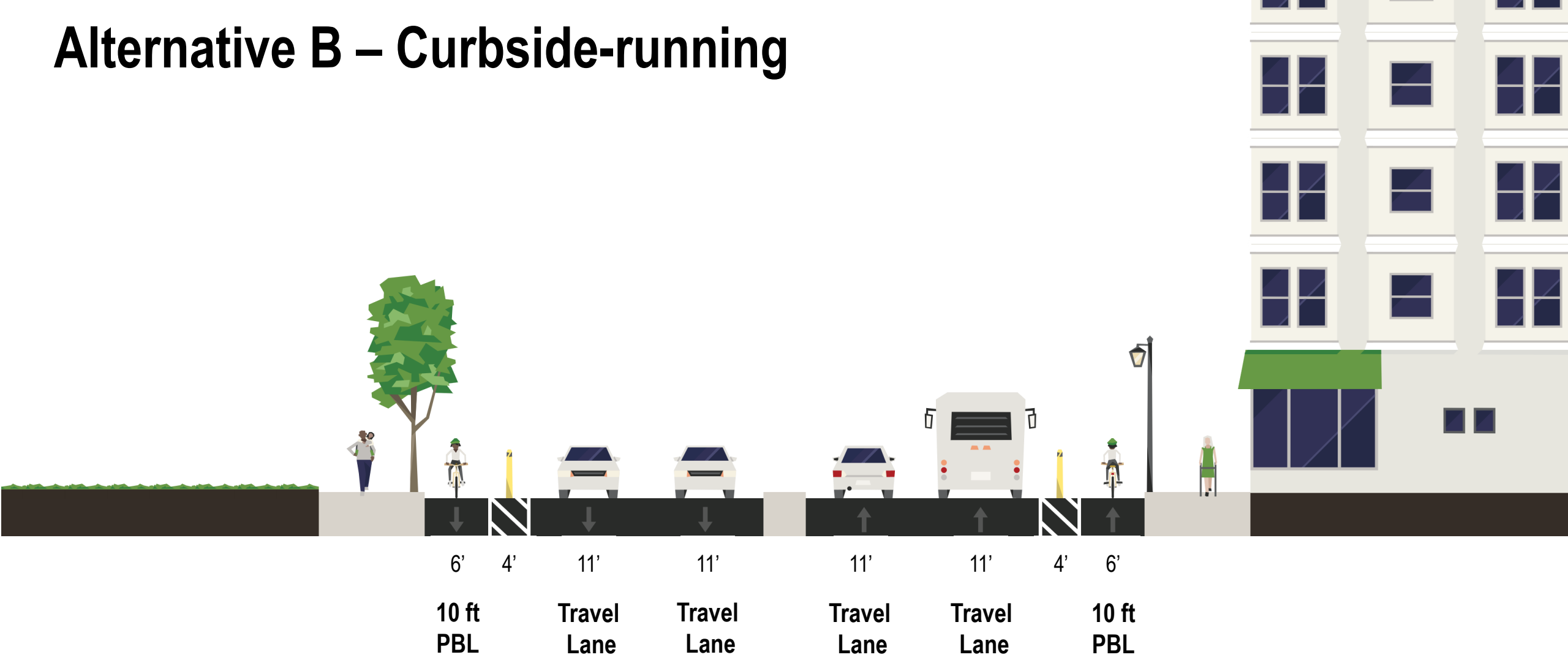
Pro

- Eases curbside access and turning movement for cyclists.
- Traditional traffic patterns limit conflicts between people biking and driving at intersections
- Offers safe comfortable environment for people on bicycles

Con

- Requires greater reduction in travel lanes, parking, and curbside access for food trucks.
- Requires specialized bus transit islands, increasing cost and further reducing travel lanes
- Slip lanes and merges create potential for conflict

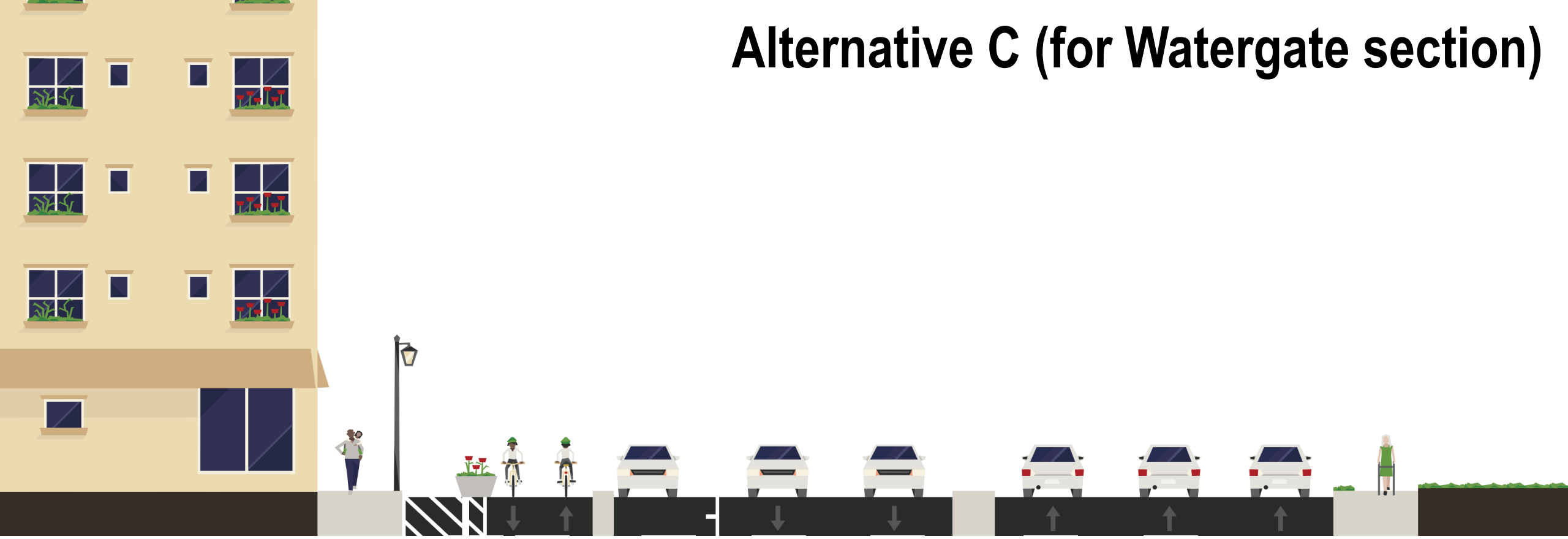
Alternative B – Curbside-running



Alternative B Summary:

- Limits curbside access for parking
- Provides a 10 ft protected bike lane

Alternative C (for Watergate section)



Alternative C Summary:

- Relocates Parking from service lane to through lanes.
- Provides trail-like environment for walking, jogging, and cycling

Virginia Ave Next Steps

- **Preferred Alternatives Design and Engineering**
  - Spring/ Summer 2020
- **Construction**
  - Summer 2021

More Information

Project Websites

https://wiki.ddot.dc.gov/display/BPP/G+Street+NW

https://wiki.ddot.dc.gov/display/BPP/Virginia+Avenue+NW

Contact Information

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G Street NW and 20th and 21st Street Projects

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Cynthia.Lin@dc.gov

Virginia Avenue NW Project

Kevin Harrison, DDOT
Kevin.Harrison@dc.gov

Discussion

- ⇨ Send us your questions
- ⇨ Follow up with us:
  - ⇨ Darren Buck darren.buck@dot.gov
  - ⇨ Chris Bruntlett chris.bruntlett@dutchcycling.nl
  - ⇨ Bill Nesper billnesper@bikeleague.org
  - ⇨ Will Handsfield William.Handsfield2@dc.gov
  - ⇨ Nathan Wilkes nathan.wilkes@austintexas.gov
  - ⇨ General Inquiries pbic@pedbikeinfo.org
- ⇨ Archive at www.pedbikeinfo.org/webinars