BIKE NETWORK MAPPING
IDEA BOOK

JUNE 2016

U.S. Department of Transportation
Federal Highway Administration

TABLE OF CONTENTS

INTRODUCTION

This resource highlights ways that different communities have mapped their existing and proposed bicycle networks. It shows examples of maps at different scales, while also demonstrating a range of mapping strategies, techniques, and approaches. Facility types represented on the respective maps and legends are each different because they represent a community's unique context and needs.

It is intended to serve as a resource as communities work to identify, plan, and improve their bicycle networks.

Connected pedestrian and bicycle networks make walking, wheeling, and bicycling viable transportation choices for everyone. Networks enhance access to jobs, schools, and health care, while also promoting equity, physical activity, and health. Connected networks are comprised of a range of facility types (e.g. bike lanes, separated bike lanes, shared use paths, etc.), linked together to facilitate short trips to and from destinations and long linear connections across a city or region.

A first step to achieving connected networks is to document where bicycling infrastructure currently exists. It is also essential to establish a vision for the future network. This vision is often captured in the form of a map and it's developed as part of a local planning process that includes opportunities for public participation and input.

A community's existing and proposed bicycle network maps inform the day-to-day programming and prioritization of projects and help to ensure that all transportation improvements are enhancing the quality of the nonmotorized network and capturing opportunities to make linkages between existing and new facilities.

Network Principles

Cohesion

Directness

Accessibility

Alternatives

Safety and Security

Comfort

PRINCIPLES

This *Bike Network Mapping Idea Book* highlights a range of approaches and techniques for showing connected networks, conveying information in map form, and incorporating local context.

Connected Network

A bicycle transportation network consists of a series of interconnected facilities that enable bicyclists of all ages and abilities to safely and conveniently get where they need to go. By providing connected networks, communities are helping to facilitate all of the following types of bicycling trips:

- Access to work and school from residential areas

- Bicycling links to transit

- Recreation and physical activity opportunities

- Access to grocery stores, government buildings, health care, and other essential services

Understanding that different users have different needs, bicycle networks should be designed to provide options for continuous, safe, seamless, and convenient travel between all possible destinations.

Mapping Techniques

Various mapping conventions can help your community to convey complex information graphically in a simple and easily digestible manner. The following pages highlight some tools and techniques used to develop effective bike network maps.

Planners and designers use various computer programs to create visually compelling maps. A typical workflow consists of the following:

1. Import and organize data in a GIS-based program.

2. Export maps to Adobe Illustrator or a similar program for minimal to extensive post-production work, such as editing of colors, lineweights, patterns, and type.

3. If the map will be presented in a report or plan, compile maps in Adobe InDesign or a similar program as part of a report or plan.

Local Context

Within a planning-level bike network map, local context helps to orient users to their surroundings as well as support information the cartographer wishes to showcase.

Including local landmarks and points of interest helps users to quickly orient themselves and understand key bike network connections.

For instance, a map might display parks and open space as a background layer. This helps to clarify the connections between existing and proposed bicycle facilities and recreational destinations.

These layers may include information such as land use, community destinations, transit access points, and other important information. These vary based on the unique needs of each jurisdiction.

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	▬▬	existing
▭▭	proposed	▪ ▪ ▪ ▪	proposed

COLOR SCHEME

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

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 organized in a seamless way.**
- **Small icons and symbols can help to identify points of interest in a less obtrusive way**

(3) LEVEL OF DETAIL ON EXISTING/PROPOSED FACILITY TYPES

Providing more information about facility types requires more complex color schemes and line types.
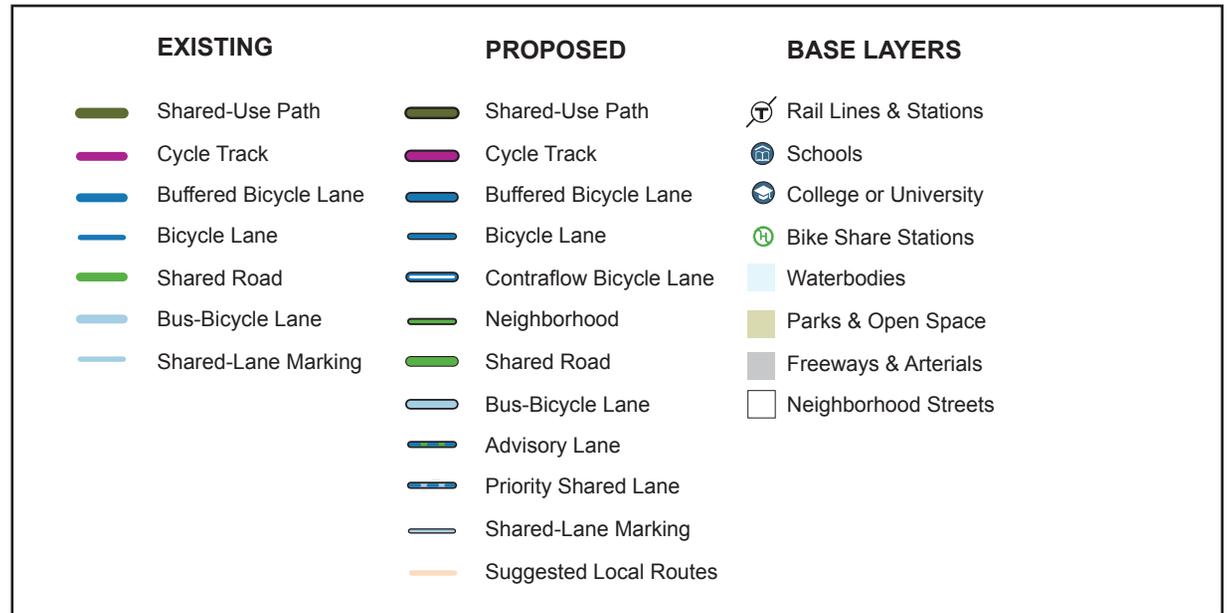
MULTIPLE LAYERS AND INFORMATION

Example: Boston, pg. 34

This scheme helps to convey multiple facility types and specific street conditions in a clear and easily digestible manner. It can also fully integrate a series of community base layers and contextual information, including supplemental data like bicycle counts or safety information to aid decision making.

Consider a similar palette if creating a map that:

- **Identifies specific facility types**
- **Needs a clear and concise color palette**

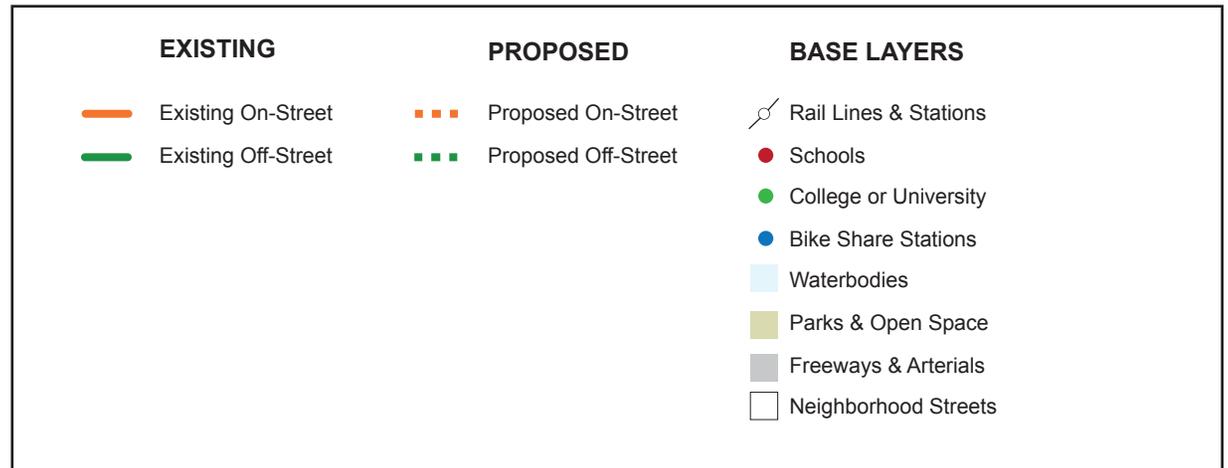| EXISTING	PROPOSED	BASE LAYERS
Shared-Use Path	Shared-Use Path	Rail Lines & Stations
Cycle Track	Cycle Track	Schools
Buffered Bicycle Lane	Buffered Bicycle Lane	College or University
Bicycle Lane	Bicycle Lane	Bike Share Stations
Shared Road	Contraflow Bicycle Lane	Waterbodies
Bus-Bicycle Lane	Neighborhood	Parks & Open Space
Shared-Lane Marking	Shared Road	Freeways & Arterials
	Bus-Bicycle Lane	Neighborhood Streets
	Advisory Lane	
	Priority Shared Lane	
	Shared-Lane Marking	
	Suggested Local Routes	

FLEXIBLE NETWORK MAPS

Example: Cedar Rapids, pg. 42

This scheme helps to convey a bicycle network that does not identify specific facility types.

Consider a similar palette if the map:

- **Is not intended to identify specific facility types**
- **Is focused on existing & proposed routes**

EXISTING	PROPOSED	BASE LAYERS
Existing On-Street	Proposed On-Street	Rail Lines & Stations
Existing Off-Street	Proposed Off-Street	Schools
		College or University
		Bike Share Stations
		Waterbodies
		Parks & Open Space
		Freeways & Arterials
		Neighborhood Streets

SUMMARY

The following chart identifies key features in each map.

MAP	SCALE	DOES IT IDENTIFY: A GENERALIZED NETWORK	SPECIFIC FACILITY TYPES	DOES IT SHOW: LINKAGES TO LOCAL DESTINATIONS	LINKAGES TO SURROUNDING JURISDICTIONS	BARRIERS	SPOT IMPROVEMENTS	OPPORTUNITIES TO RECONNECT COMMUNITIES	PAGE #
Arkansas	State	X		X	X			X	10
Yellowstone, WY-ID-MT	Regional	X		X			X	X	12
Albemarle Region, NC	Regional		X		X			X	14
San Francisco Area, CA	Regional	X			X			X	16
Alameda County, CA	County	X		X	X			X	18
Hennepin County	County	X			X			X	20
Idaho Falls, ID	City		X	X	X	X		X	22
Cambridge, MA	City	X		X		X		X	24
Santa Barbara, CA	City		X	X				X	26
Atlanta, GA	City		X					X	28
Austin, TX	City	X		X				X	30
Fort Collins, CO	City		X	X				X	32

| | | **DOES IT IDENTIFY:** | | **DOES IT SHOW:** | | | | | |
MAP	**SCALE**	**A GENERALIZED NETWORK**	**SPECIFIC FACILITY TYPES**	**LINKAGES TO LOCAL DESTINATIONS**	**LINKAGES TO SURROUNDING JURISDICTIONS**	**BARRIERS**	**SPOT IMPROVEMENTS**	**OPPORTUNITIES TO RECONNECT COMMUNITIES**	**PAGE #**
Portland, OR	City		X		X			X	34
Boston, MA	City		X	X	X			X	36
Salt Lake City, UT	City		X	X	X		X	X	38
Chicago, IL	City	X		X				X	40
Grafton, WI	City		X	X	X			X	42
Cedar Rapids, IA	City	X		X	X			X	44
Seattle, WA	City		X	X	X			X	46
North Santa Clara County, CA	Campus		X	X	X			X	48
Port of Portland, OR	Campus		X	X	X			X	50
Oregon State University	Campus	X			X	X		X	52
University of North Carolina	Campus		X		X			X	54

ARKANSAS

LOCATION	YEAR	PUBLICATION	RESPONSIBLE AGENCY
STATE OF ARKANSAS	2015	ARKANSAS STATE BICYCLE AND PEDESTRIAN PLAN	ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT

KEY MAP FEATURES

Full Map (Click to view full size)
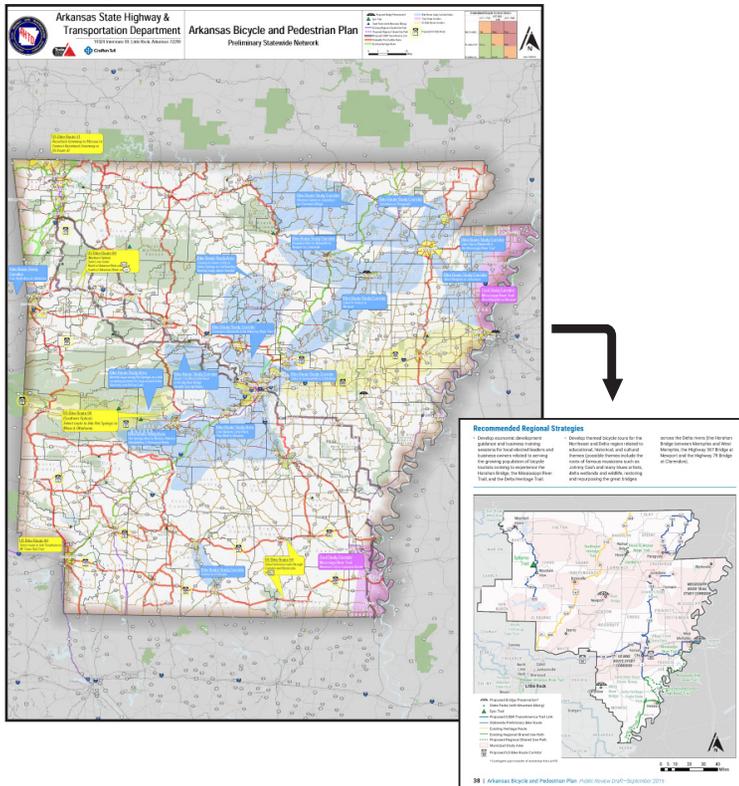
Region-specific maps are identified in the plan with more detail provided

Calls out study corridors/areas

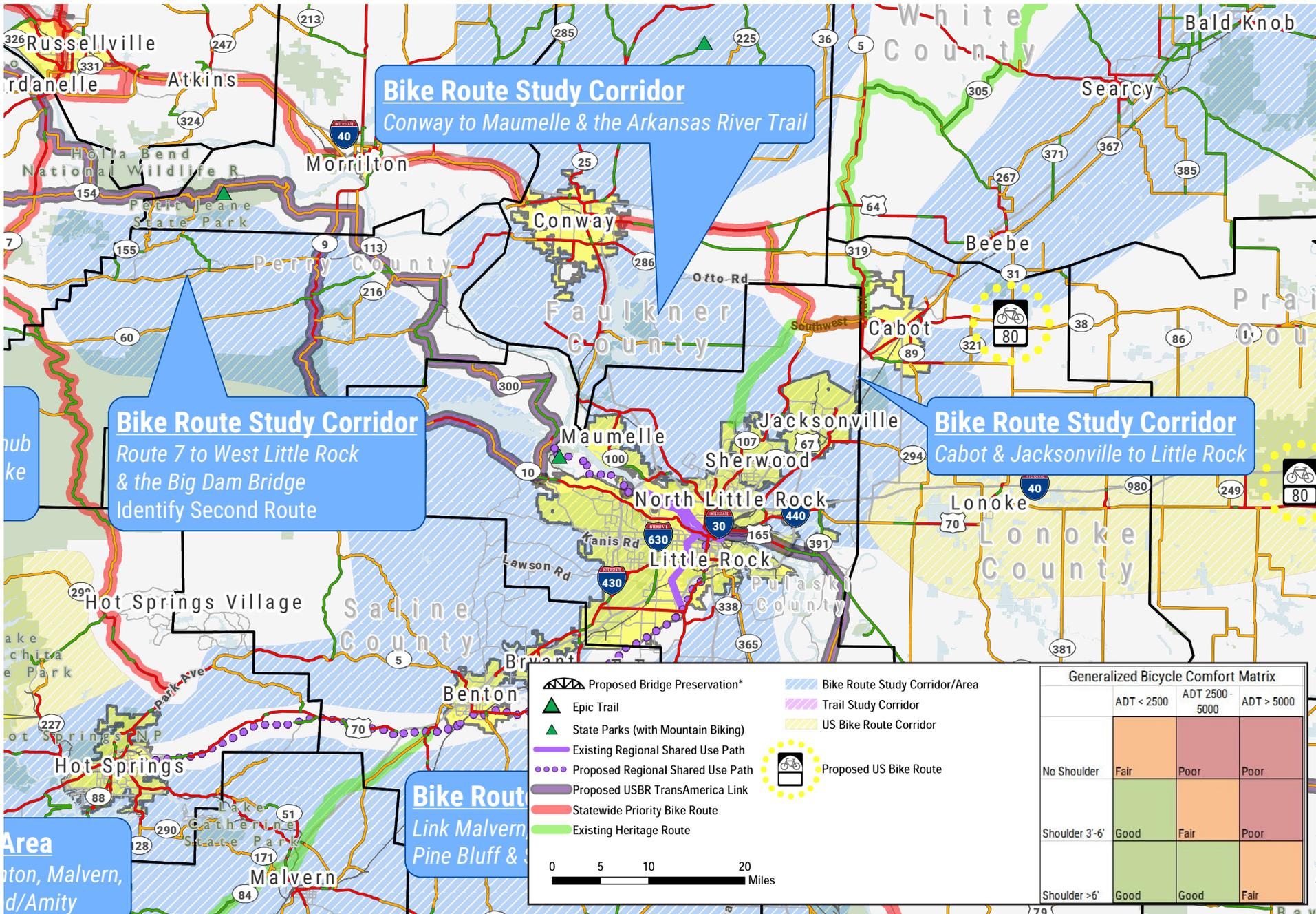Features State-specific landmarks; shown here are proposed bridge preservation projects

Highlights regional connections to cities

Identifies proposed U.S. bike routes

Bike Route Study Corridor
Conway to Maumelle & the Arkansas River Trail

Bike Route Study Corridor
Route 7 to West Little Rock
& the Big Dam Bridge
Identify Second Route

Bike Route Study Corridor
Cabot & Jacksonville to Little Rock

Bike Rout
Link Malvern
Pine Bluff & S

Area
nton, Malvern,
d/Amity

Russellville
rdanelle
Atkins
Morrilton
Holla Bend National Wildlife R
Petit Jean State Park
Perry County
Conway
Faulkner County
Beebe
Searcy
White County
Bald Knob
Cabot
Prai
ou
Maumelle
Jacksonville
Sherwood
North Little Rock
Little Rock
Lonoke
Lonoke County
Hot Springs Village
Saline County
Pulaski County
Bryant
Benton
Hot Springs NP
Hot Springs
Lake Catherine State Park
Malvern
nub
ke
hita e Park
t Spring

Yanis Rd
Lawson Rd
Otto Rd
Southwest
Park Ave

Legend

- ⌓ Proposed Bridge Preservation*
- ▲ Epic Trail
- ▲ State Parks (with Mountain Biking)
- ▬ Existing Regional Shared Use Path
- ••• Proposed Regional Shared Use Path
- ▬ Proposed USBR TransAmerica Link
- ▬ Statewide Priority Bike Route
- ▬ Existing Heritage Route
- ▨ Bike Route Study Corridor/Area
- ▨ Trail Study Corridor
- ▨ US Bike Route Corridor
- 🚲 Proposed US Bike Route

Generalized Bicycle Comfort Matrix

	ADT < 2500	ADT 2500 - 5000	ADT > 5000
No Shoulder	Fair	Poor	Poor
Shoulder 3'-6'	Good	Fair	Poor
Shoulder >6'	Good	Good	Fair

0 5 10 20 Miles

YELLOWSTONE, WY-ID-MT

LOCATION	YEAR	PUBLICATION	RESPONSIBLE AGENCY
YELLOWSTONE REGION	2015	GREATER YELLOWSTONE TRAIL CONCEPT PLAN	WYOMING PATHWAYS (NONPROFIT)

Full Map (Click to view full size)
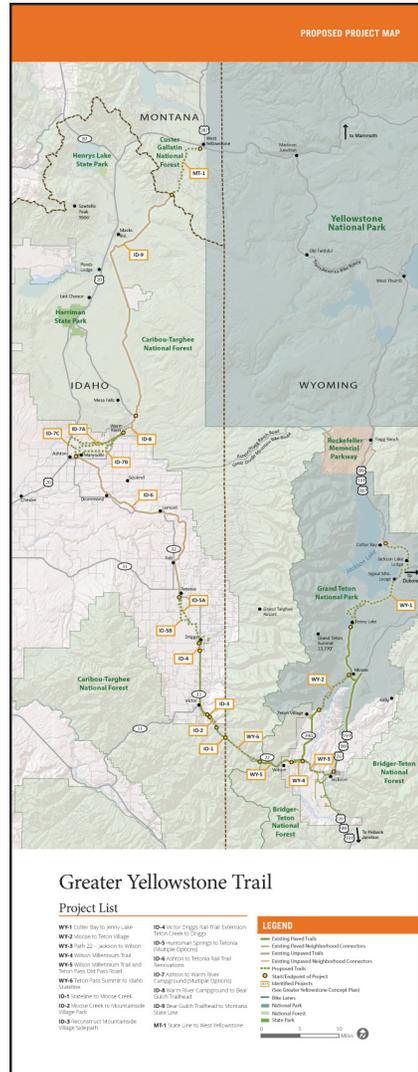
KEY MAP FEATURES

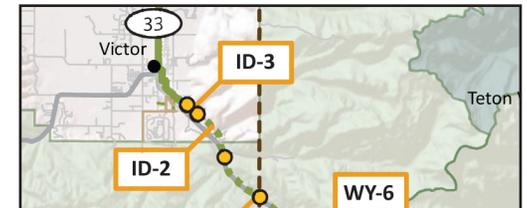Shows the beginning and end points of projects and identifies project areas

Highlights connections to State and Federal lands

Legend highlights paved, unpaved, and proposed connections

Legend includes a numbered list of projects

IDAHO

WYOMING

Mesa Falls

ID-7C

ID-7A

Warm River

ID-8

Ashton

Marysville

ID-7B

Squirrel

20

Chester

Drummond

ID-6

Lamont

Ashton/Flagg Ranch Road
Great Divide Mountain Bike Route

Rockefeller Memorial Parkway

Flagg Ranch

89

191

287

32

Felt

33

Tetonia

ID-5A

ID-5B

Driggs
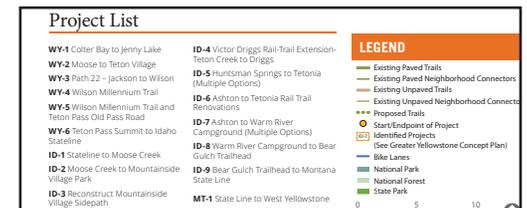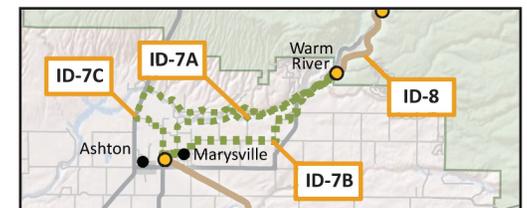
LEGEND

━━━	Existing Paved Trails
━━━	Existing Paved Neighborhood Connectors
━━━	Existing Unpaved Trails
━━━	Existing Unpaved Neighborhood Connectors
••••	Proposed Trails
⬤	Start/Endpoint of Project
ID-7	Identified Projects (See Greater Yellowstone Concept Plan)
━━━	Bike Lanes
▮	National Park
▮	National Forest
▮	State Park

ALBEMARLE REGION, NC

LOCATION	YEAR	PUBLICATION	RESPONSIBLE AGENCY
ALBEMARLE REGION, NC	2013	ALBEMARLE REGIONAL BICYCLE PLAN	ALBEMARLE RURAL PLANNING ORGANIZATION

One of a series of additional local maps (Click to view full size)
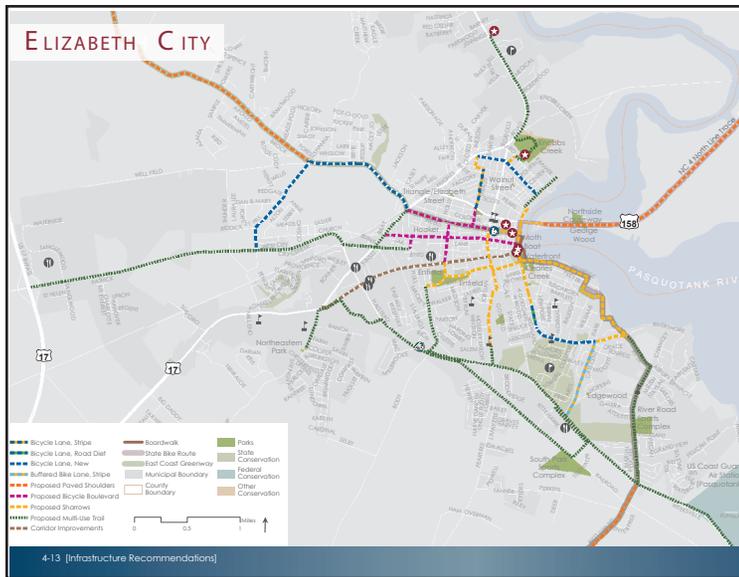
KEY MAP FEATURES

Neighborhood maps show connections to community destinations

Highlights connections to State and Federal conservation lands

Includes the amount of mileage of each type of bike facility

Facility Type	Mileage
Sharrow	14
Bike Boulevard	3
Paved Shoulder	286
Bicycle Lane	15

Legend

- Bicycle Lane, Stripe
- Bicycle Lane, Restripe
- Bicycle Lane, Road Diet
- Bicycle Lane, New
- Buffered Bike Lane, Stripe
- Buffered Bike Lane, New
- Proposed Paved Shoulders
- Proposed Bicycle Boulevard
- Proposed Sharrows
- Proposed Signed Route
- Proposed Multi-Use Trail
- Corridor Improvements
- Paved Multi-Use Trail
- Boardwalk
- Unpaved Multi-Use Trail
- Paved Shoulder
- Bike Route
- State/Regional Bike Rte.
- East Coast Greenway
- State Conservation
- Federal Conservation
- Other Conservation
- County Boundary

Miles
0   2.5   5

NORTH OF SOUND PROPOSED NETWORK

Facility Type	Mileage
Sharrow	14
Bike Boulevard	3
Paved Shoulder	286
Bicycle Lane	15
New	6
Restripe	5
Road Diet	1
Stripe	3
Buffered Bike Lane	16
New	14
Stripe	1
Greenway	62
Corridor Improvements	2
All Facilities	397

SAN FRANCISCO AREA, CA

LOCATION	YEAR	PUBLICATION	RESPONSIBLE AGENCY
SAN FRANCISCO BAY AREA	2008	REGIONAL BICYCLE PLAN NETWORK	METROPOLITAN TRANSPORTATION COMMISSION

KEY MAP FEATURES

Full Map (Click to view full size)
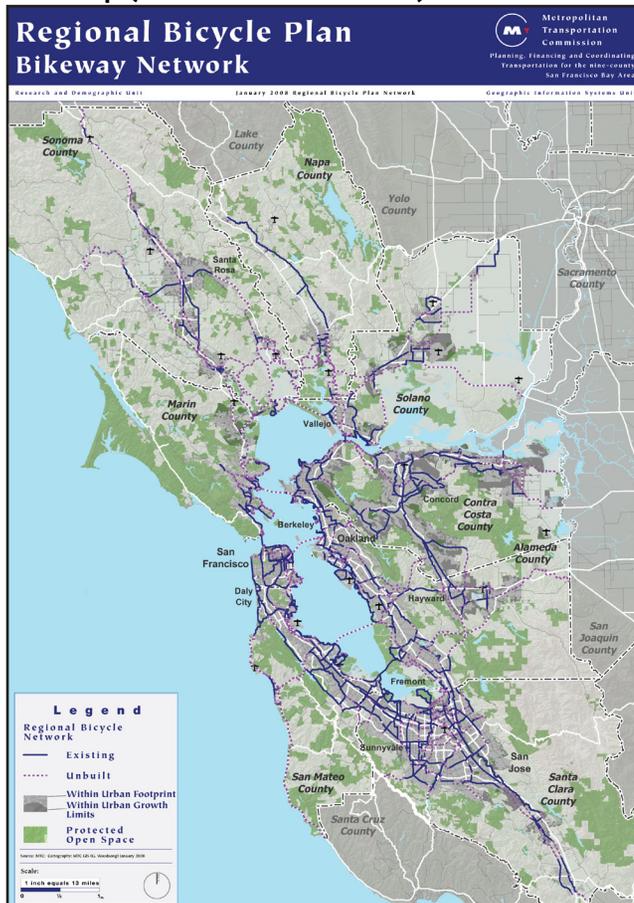
Identifies existing and planned connections to protected open space

Differentiates between inside and outside the jurisdiction

Identifies Urban Growth Limits, an important regional land use concept

Legend

Regional Bicycle Network

— **Existing**

····· **Unbuilt**

Within Urban Footprint
Within Urban Growth Limits

Protected Open Space
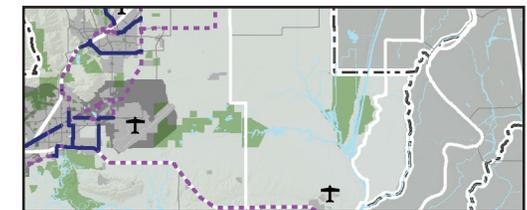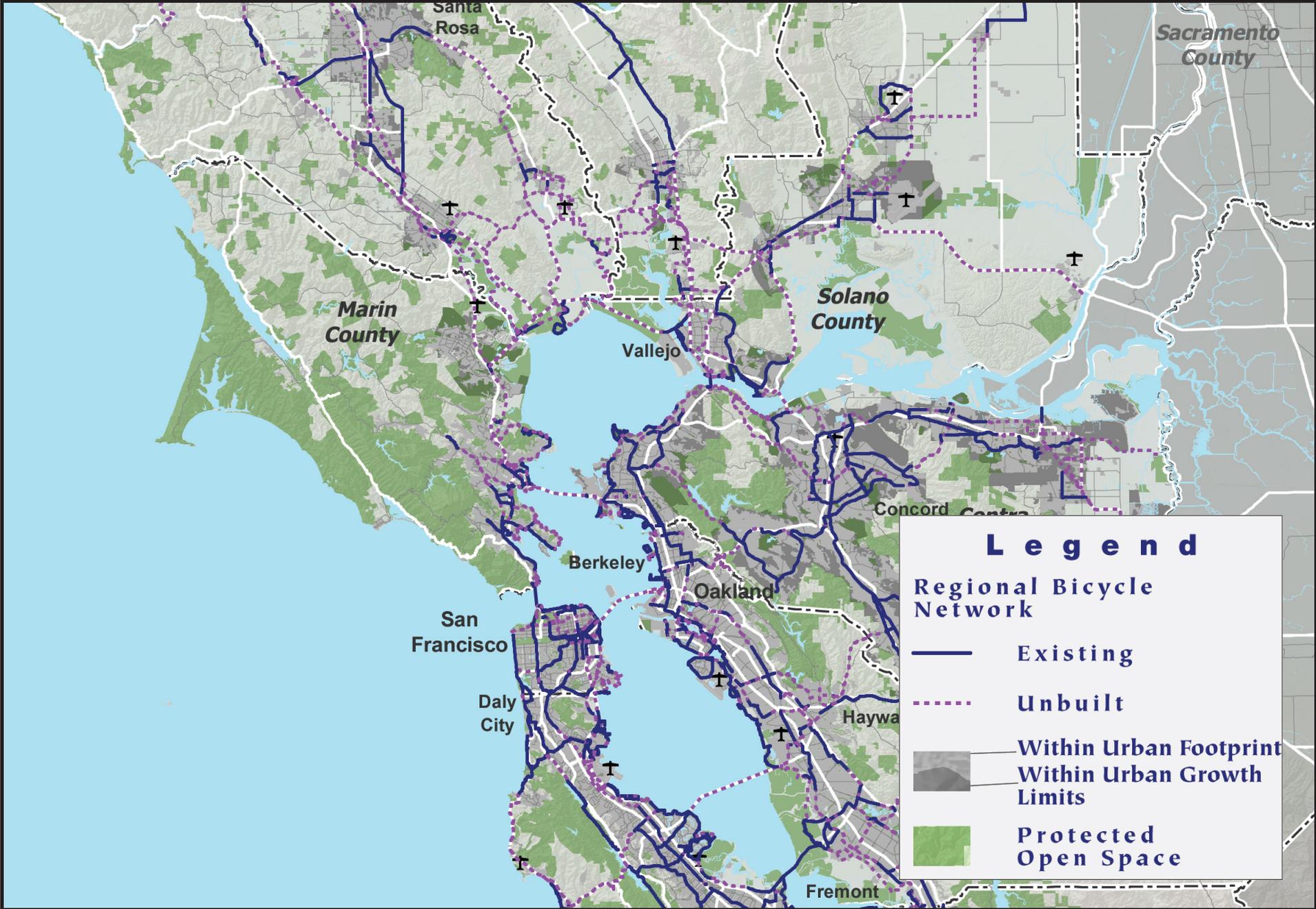
ALAMEDA COUNTY, CA

LOCATION	YEAR	PUBLICATION	RESPONSIBLE AGENCY
ALAMEDA COUNTY, CA	**2012**	**BICYCLE AND PEDESTRIAN MASTER PLAN FOR UNINCORPORATED AREAS**	**ALAMEDA COUNTY PUBLIC WORKS AGENCY**

KEY MAP FEATURES

Full Map (Click to view full size)
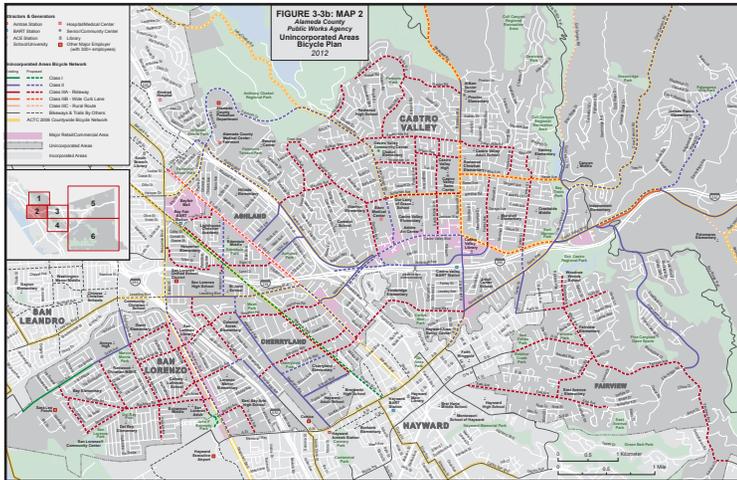
Highlights major employers, community centers, libraries, and hospitals

Streamlined legend labels

Identifies areas inside and outside the planning jurisdiction

Includes a key to each neighborhood map

CASTRO VALLEY

ASHLAND

CHERRYLAND

Anthony Chabot Regional Park

Cull Canyon Regional Recreation Area

Greenridge Park

Attractors & Generators

- 🚆 Amtrak Station
- 🚇 BART Station
- 🚈 ACE Station
- ♪ School/University
- Ⓗ Hospital/Medical Center
- ✳ Senior/Community Center
- 🏛 Library
- ▧ Other Major Employer (with 300+ employees)

Unincorporated Areas Bicycle Network

Existing	Proposed	
———	– – –	Class I
———	– – –	Class II
———	– – –	Class IIIA - Rideway
———	– – –	Class IIIB - Wide Curb Lane
———	– – –	Class IIIC - Rural Route
———	– – –	Bikeways & Trails By Others
———		ACTC 2006 Countywide Bicycle Network

▨ Major Retail/Commercial Area

▦ Unincorporated Areas

▨ Incorporated Areas

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
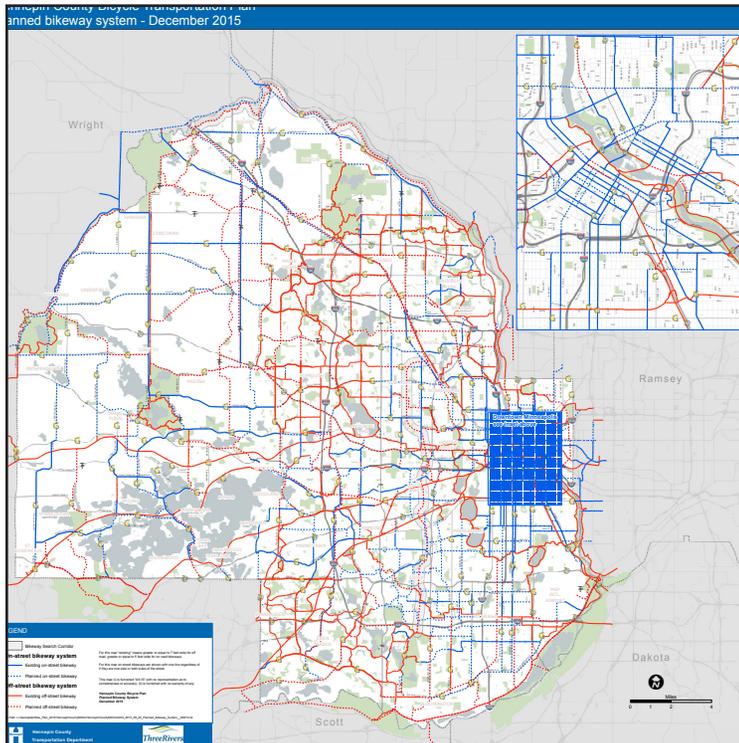
Simple symbology - Two colors and two line types
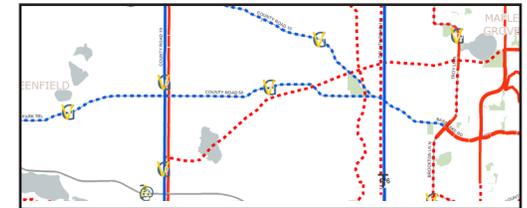
Map focuses on county and state roads. Local roads not shown to improve legibility.

Downtown area is shown in more detail for closer inspection
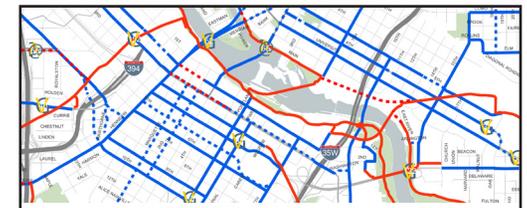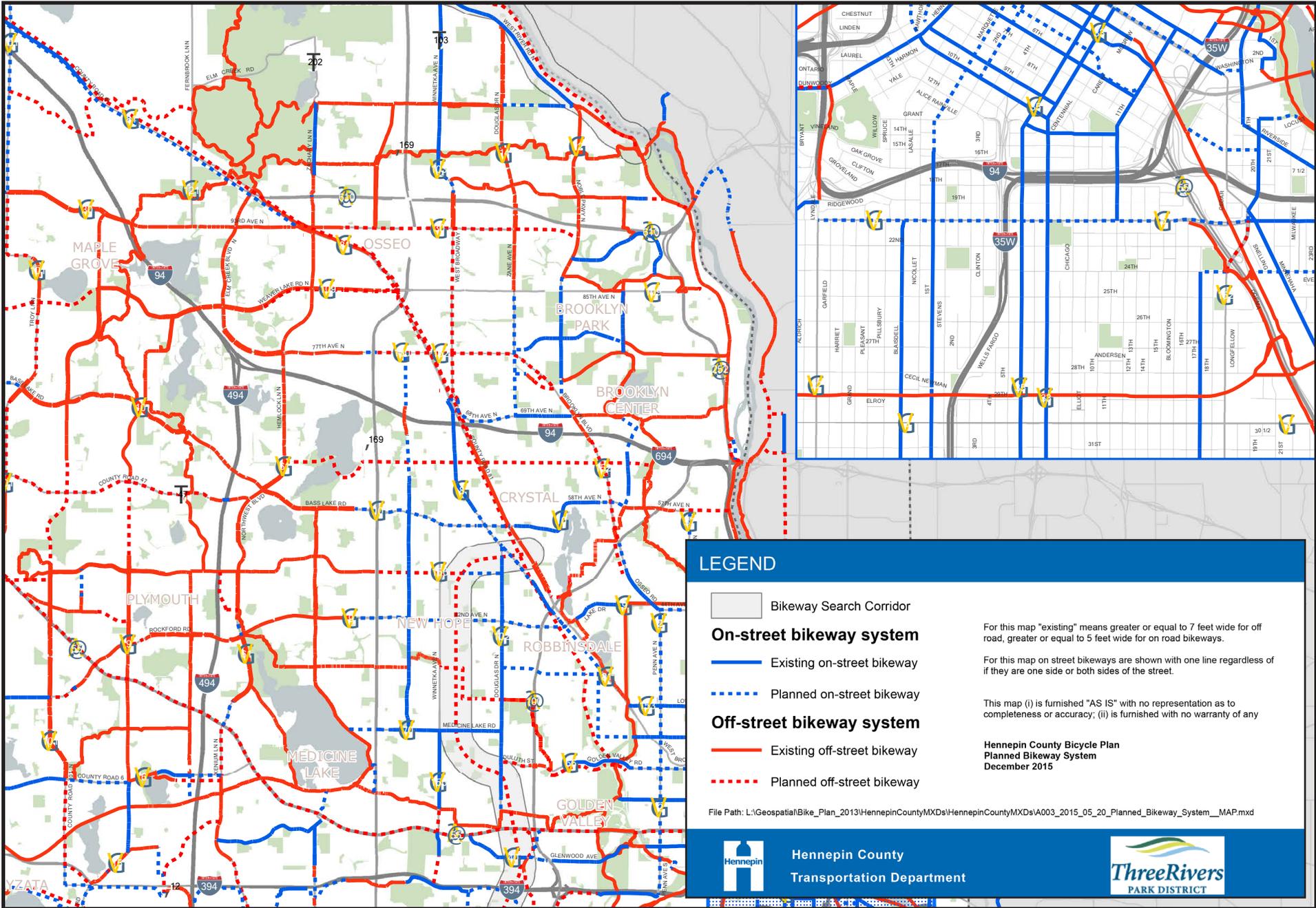
LEGEND

Bikeway Search Corridor

On-street bikeway system

——— Existing on-street bikeway

- - - - Planned on-street bikeway

Off-street bikeway system

——— Existing off-street bikeway

- - - - Planned off-street bikeway

For this map "existing" means greater or equal to 7 feet wide for off road, greater or equal to 5 feet wide for on road bikeways.

For this map on street bikeways are shown with one line regardless of if they are one side or both sides of the street.

This map (i) is furnished "AS IS" with no representation as to completeness or accuracy; (ii) is furnished with no warranty of any

**Hennepin County Bicycle Plan
Planned Bikeway System
December 2015**

File Path: L:\Geospatial\Bike_Plan_2013\HennepinCountyMXDs\HennepinCountyMXDs\A003_2015_05_20_Planned_Bikeway_System__MAP.mxd

**Hennepin County
Transportation Department**

ThreeRivers
PARK DISTRICT

IDAHO FALLS, ID

LOCATION	YEAR	PUBLICATION	RESPONSIBLE AGENCY
IDAHO FALLS, ID	2014	CONNECTING OUR COMMUNITY	IDAHO FALLS PARKS AND RECREATION DIVISION AND THE BONNEVILLE METROPOLITAN PLANNING ORGANIZATION

KEY MAP FEATURES

Full Map (Click to view full size)
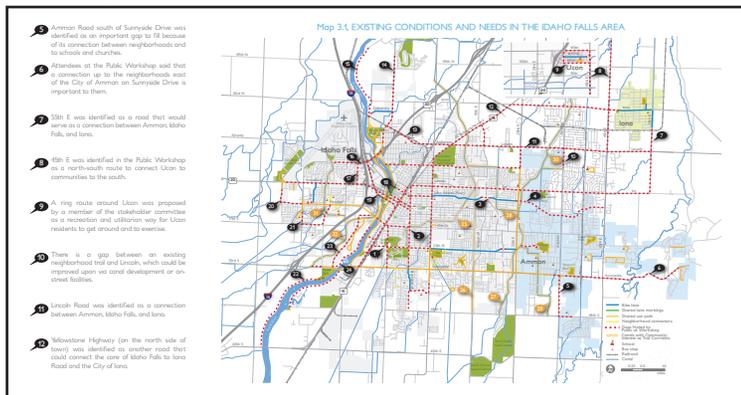
Incorporates community feedback gathered from a range of public workshops and committees

Highlights connections to nearby jurisdictions

Community comment sidebar included

9 A ring route around Ucon was proposed by a member of the stakeholder committee as a recreation and utilitarian way for Ucon residents to get around and to exercise.
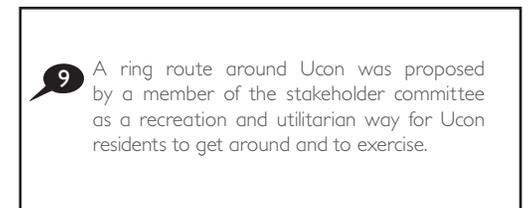
Notes gaps in the bikeway network

Legend:
- Bike lane
- Shared lane markings
- Shared use path
- Neighborhood connectors
- Gaps Noted by Public at Workshop
- Canals with Community Interest as Trail Corridors
- School
- Bus stop
- Railroad
- Canal
- Bike lane
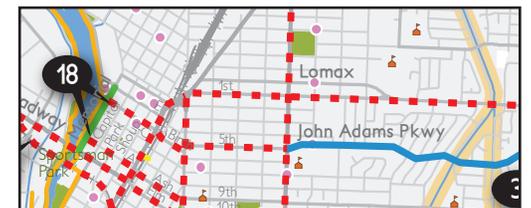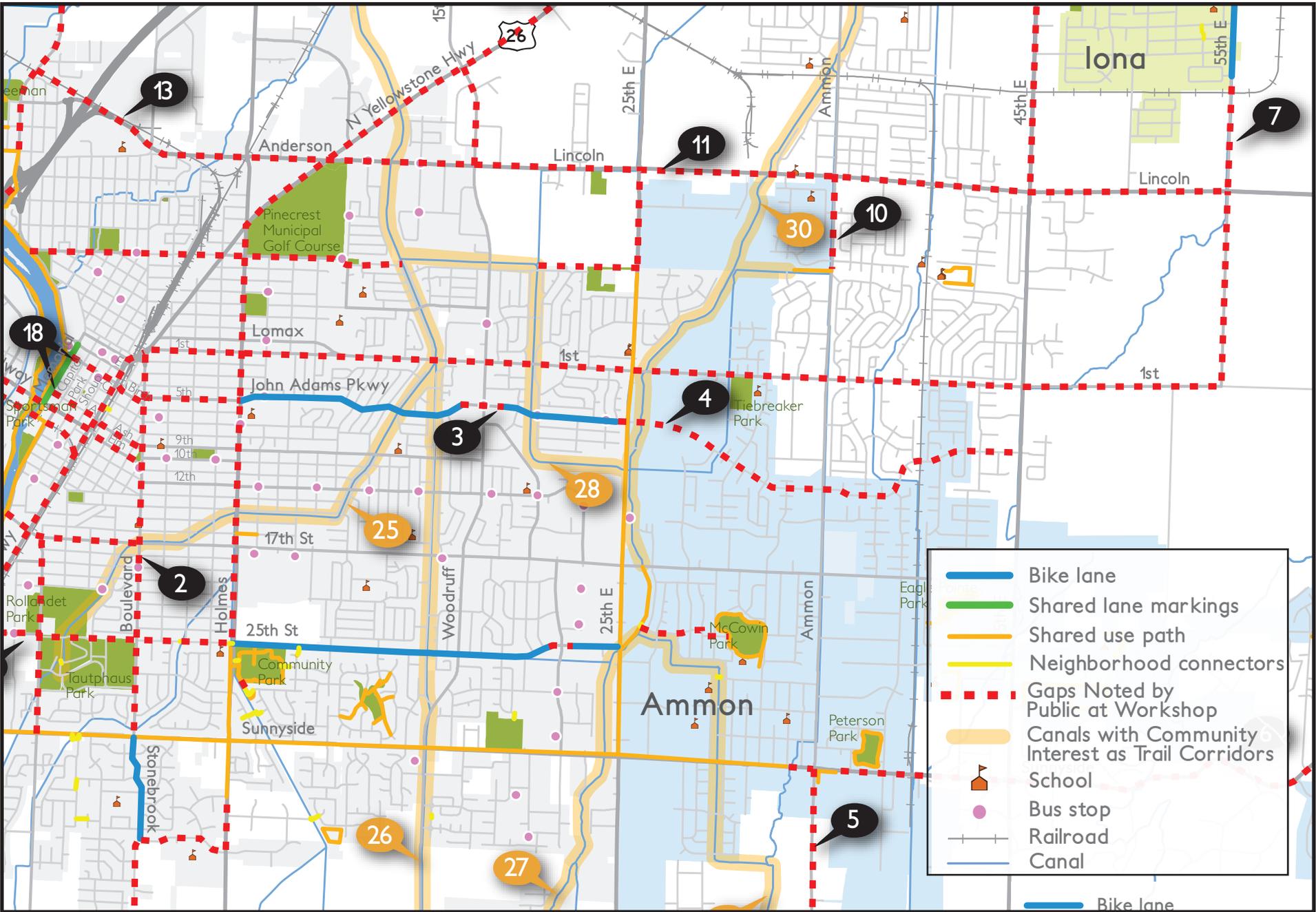
CAMBRIDGE, MA

LOCATION	YEAR	PUBLICATION	RESPONSIBLE AGENCY
CAMBRIDGE, MA	2015	INTERNAL PLANNING MAP	CITY OF CAMBRIDGE

KEY MAP FEATURES

Full Map (Click to view full size)
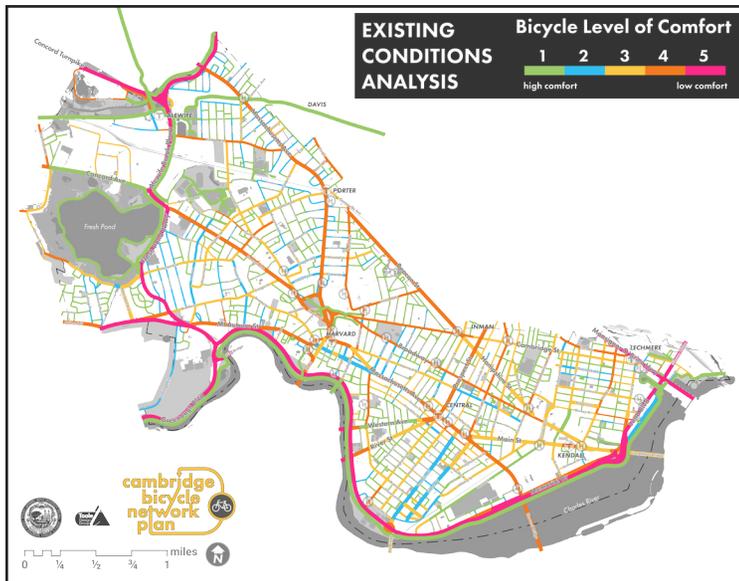
Identifies access points to transit hubs

Bright and easily understandable color scheme

Highlights how low and high stress networks connect

EXISTING CONDITIONS ANALYSIS

Bicycle Level of Comfort

1 2 3 4 5

high comfort   low comfort
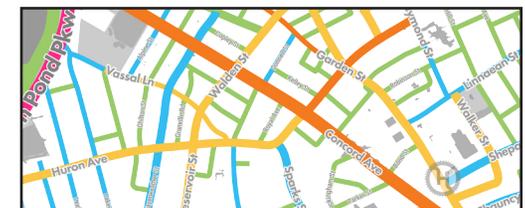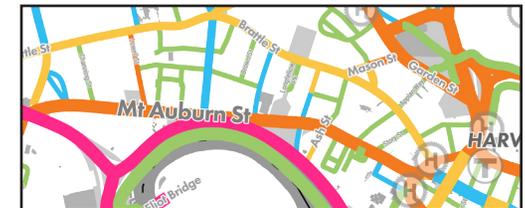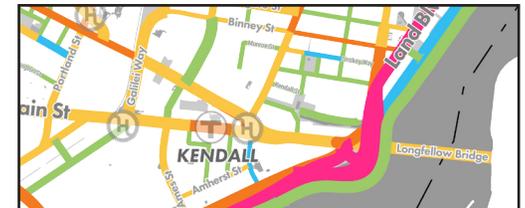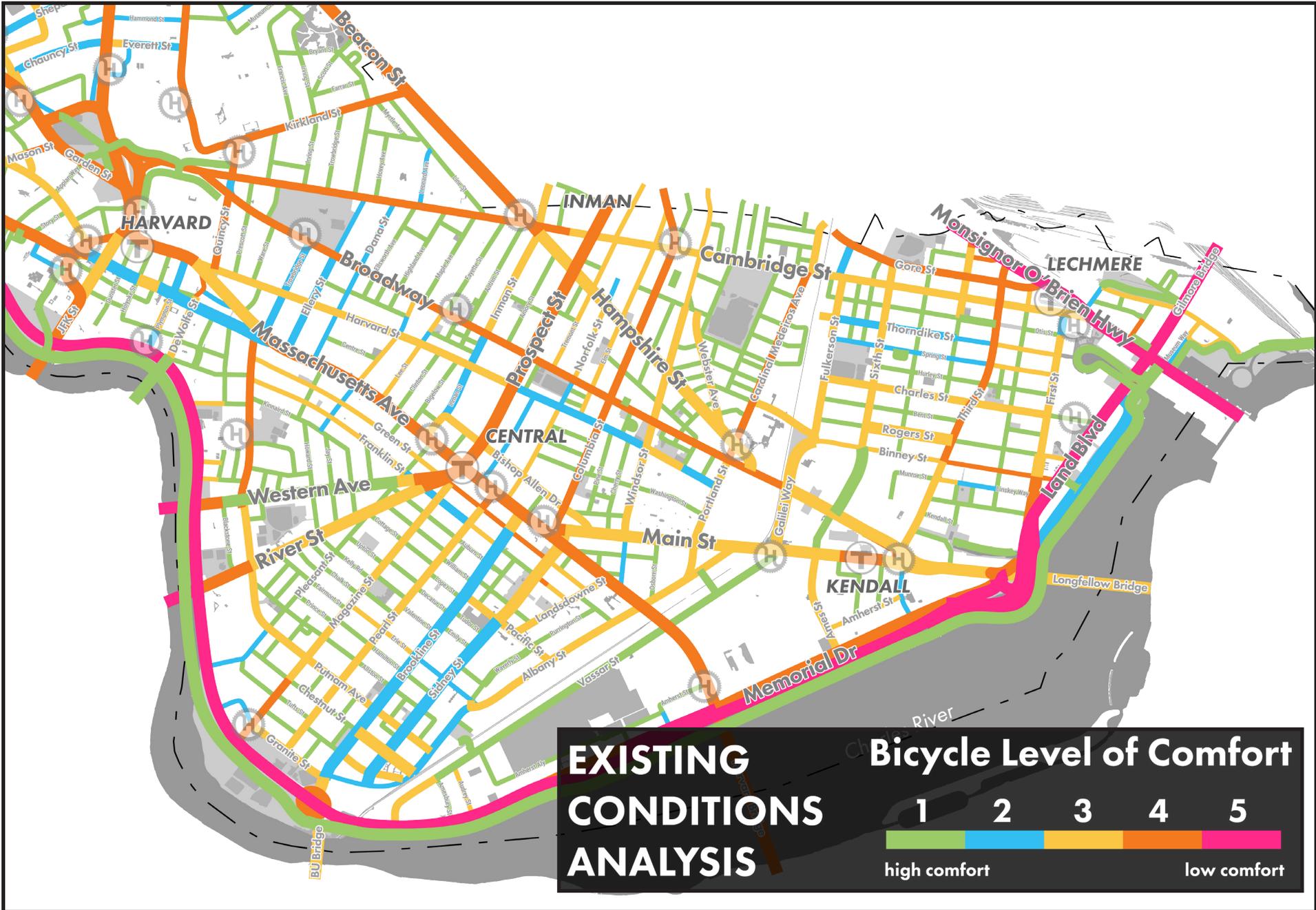
SANTA BARBARA, CA

LOCATION	YEAR	PUBLICATION	RESPONSIBLE AGENCY
SANTA BARBARA, CA	DRAFT 2016	SANTA BARBARA BICYCLE MASTER PLAN	CITY OF SANTA BARBARA

KEY MAP FEATURES

Full Map (Click to view full size)
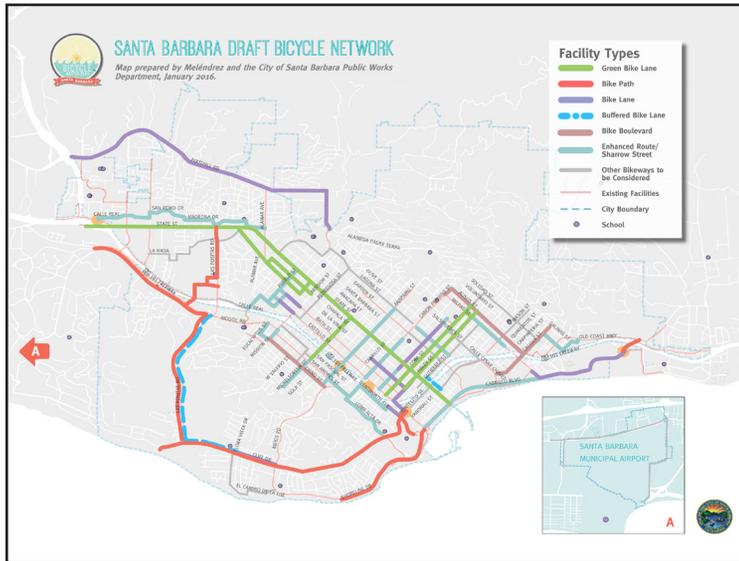
Vibrant color palette while maintaining legibility

Shows alternate bikeways that were considered

Clearly symbolizes two facilities on the same road

Facility Types

- Green Bike Lane
- Bike Path
- Bike Lane
- Buffered Bike Lane
- Bike Boulevard
- Enhanced Route/ Sharrow Street
- Other Bikeways to be Considered
- Existing Facilities
- City Boundary
- School
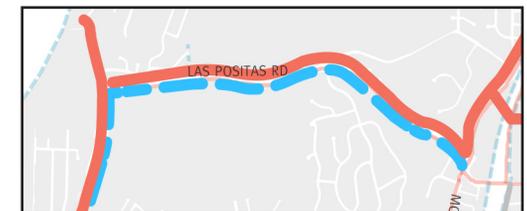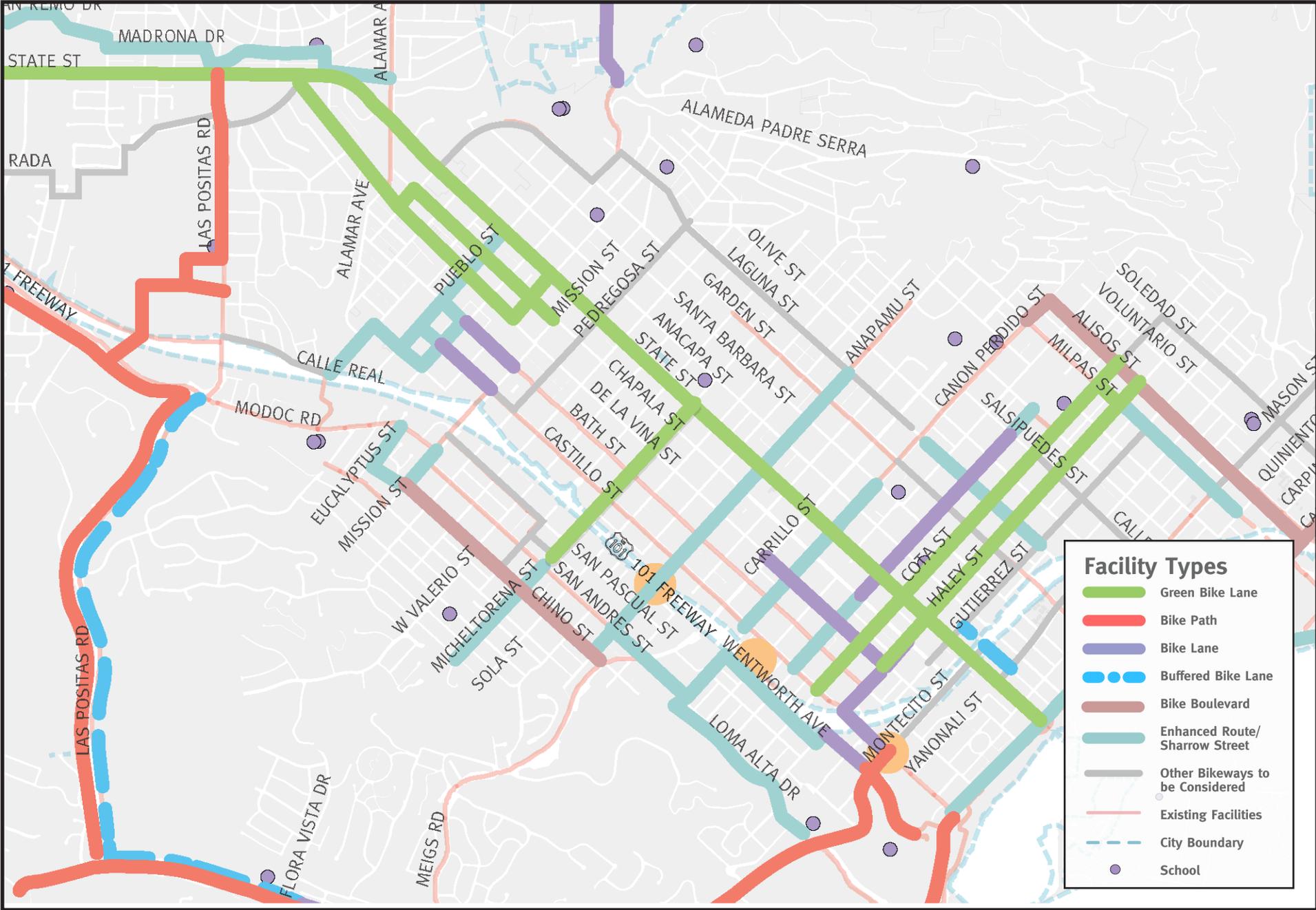
ATLANTA, GA

LOCATION	YEAR	PUBLICATION	RESPONSIBLE AGENCY
ATLANTA, GA	**2015**	**COMPREHENSIVE TRANSPORTATION PLAN - CONNECT ATLANTA**	**CITY OF ATLANTA**

KEY MAP FEATURES

Full Map (Click to view full size)
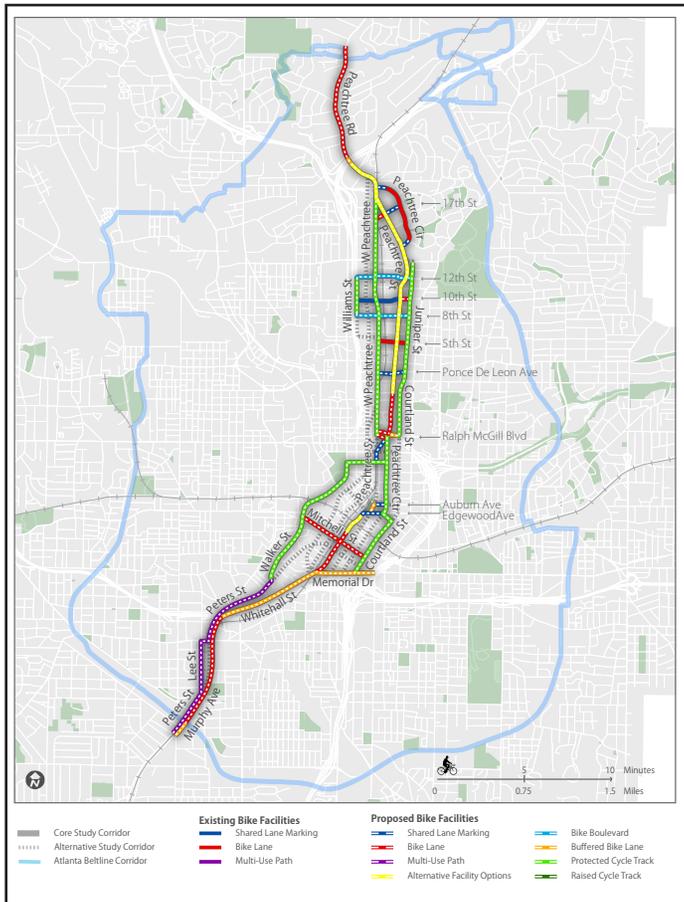
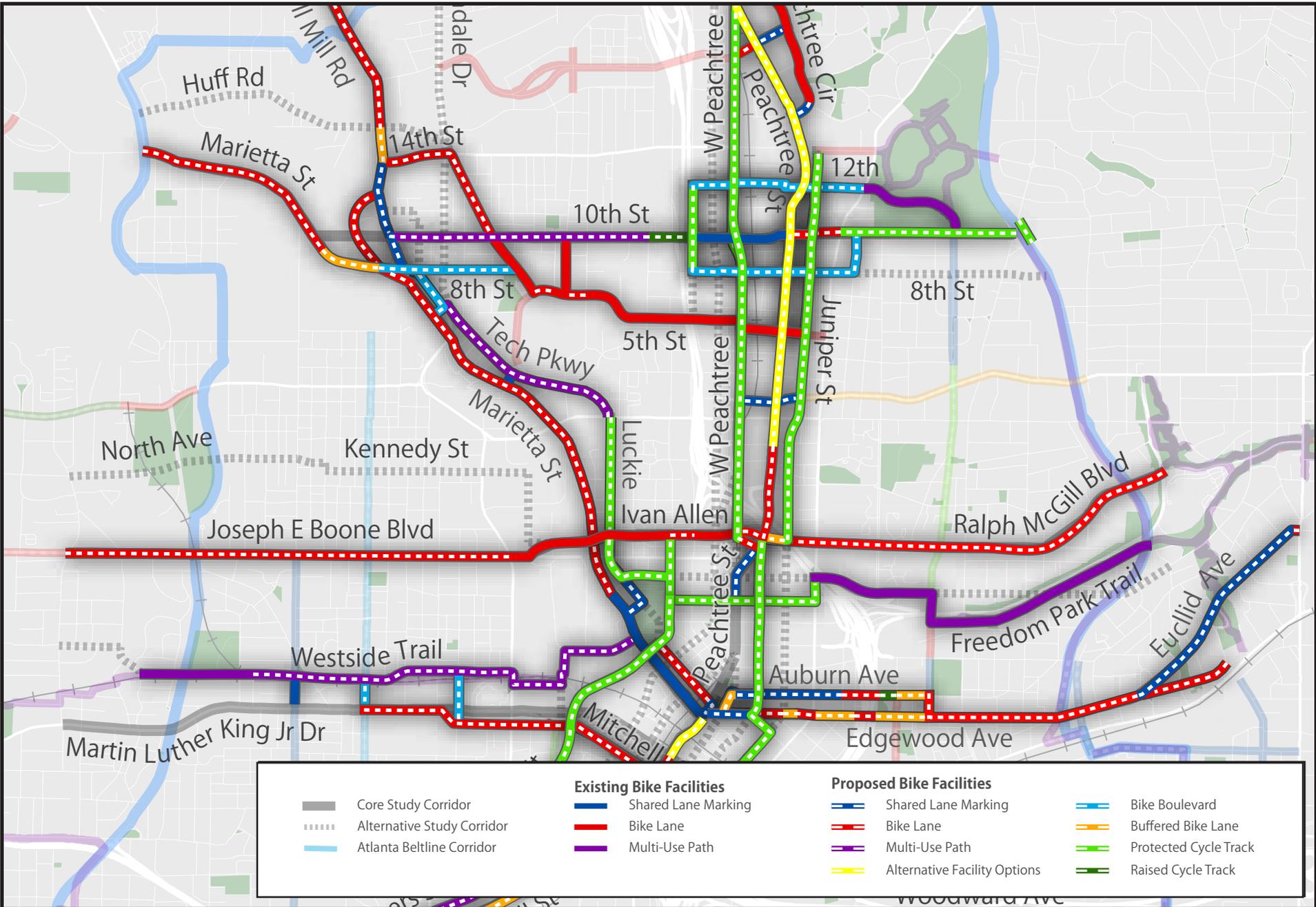**Highlights corridors and transitions between facility types**

Unique line convention for proposed facilities

**Scale communicates to user how long travel will take**

Existing Bike Facilities

- Core Study Corridor
- Alternative Study Corridor
- Atlanta Beltline Corridor

- Shared Lane Marking
- Bike Lane
- Multi-Use Path

Proposed Bike Facilities

- Shared Lane Marking
- Bike Lane
- Multi-Use Path
- Alternative Facility Options
- Bike Boulevard
- Buffered Bike Lane
- Protected Cycle Track
- Raised Cycle Track
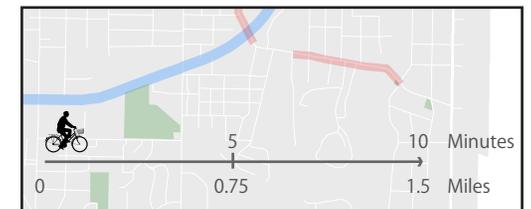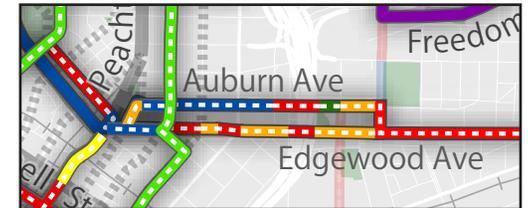
AUSTIN, TX

LOCATION	YEAR	PUBLICATION	RESPONSIBLE AGENCY
AUSTIN, TX	2014	AUSTIN BICYCLE MASTER PLAN	CITY OF AUSTIN

KEY MAP FEATURES

Full Map (Click to view full size)

2014 Bicycle Master Plan
Short Term All Ages and Abilities Bicycle Network
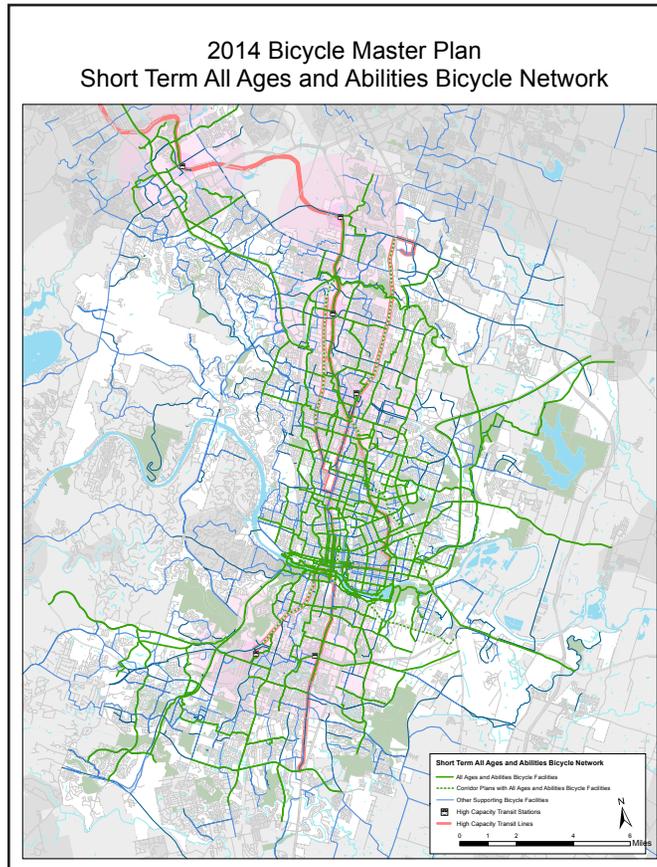
Highlights connections to high capacity transit stations and lines

**Highlights 'all ages and abilities' network**

Denotes facilities from corridor plans

Short Term All Ages and Abilities Bicycle Network

— All Ages and Abilities Bicycle Facilities
···· Corridor Plans with All Ages and Abilities Bicycle Facilities
— Other Supporting Bicycle Facilities
🚌 High Capacity Transit Stations
— High Capacity Transit Lines

Short Term All Ages and Abilities Bicycle Network

All Ages and Abilities Bicycle Facilities

Corridor Plans with All Ages and Abilities Bicycle Facilities

Other Supporting Bicycle Facilities

High Capacity Transit Stations

High Capacity Transit Lines

FORT COLLINS, CO

LOCATION	YEAR	PUBLICATION	RESPONSIBLE AGENCY
FORT COLLINS, CO	**2014**	**CITY OF FORT COLLINS BIKE PLAN**	**CITY OF FORT COLLINS**

KEY MAP FEATURES

Full Map (Click to view full size)
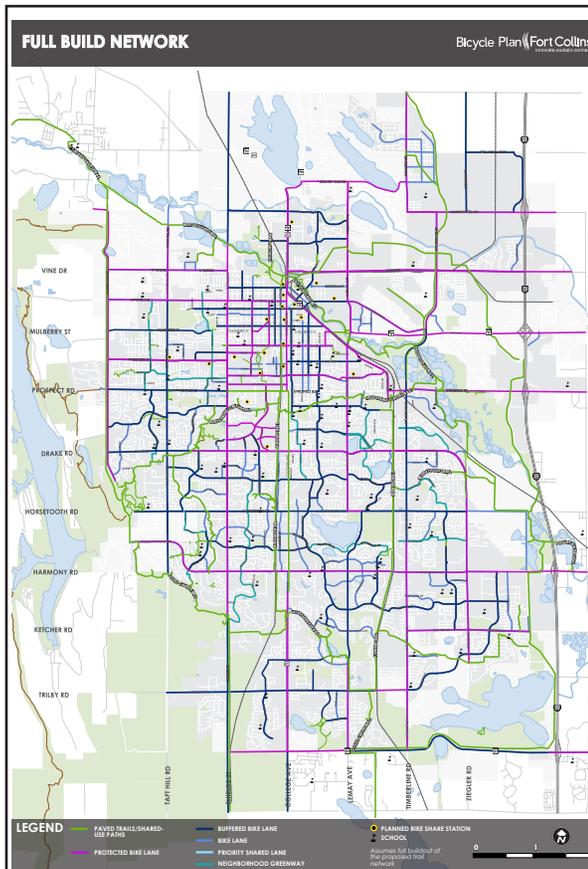
Simple symbology and color scheme

Shows planned bike share stations

Lower stress facilities more visible

BUFFERED BIKE LANE

BIKE LANE

PRIORITY SHARED LANE

NEIGHBORHOOD GREENWAY

LEGEND

— PAVED TRAILS/SHARED-USE PATHS
— PROTECTED BIKE LANE
— BUFFERED BIKE LANE
— BIKE LANE
— PRIORITY SHARED LANE
— NEIGHBORHOOD GREENWAY
● PLANNED BIKE SHARE STATION
⚑ SCHOOL

Assumes full buildout of the proposed trail network

0   1   2
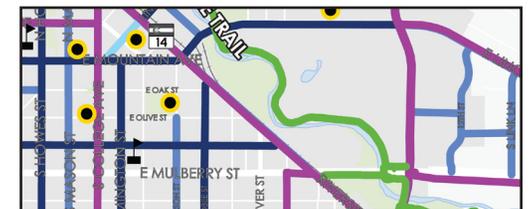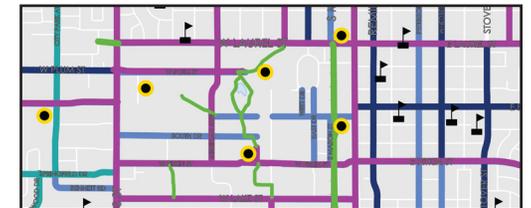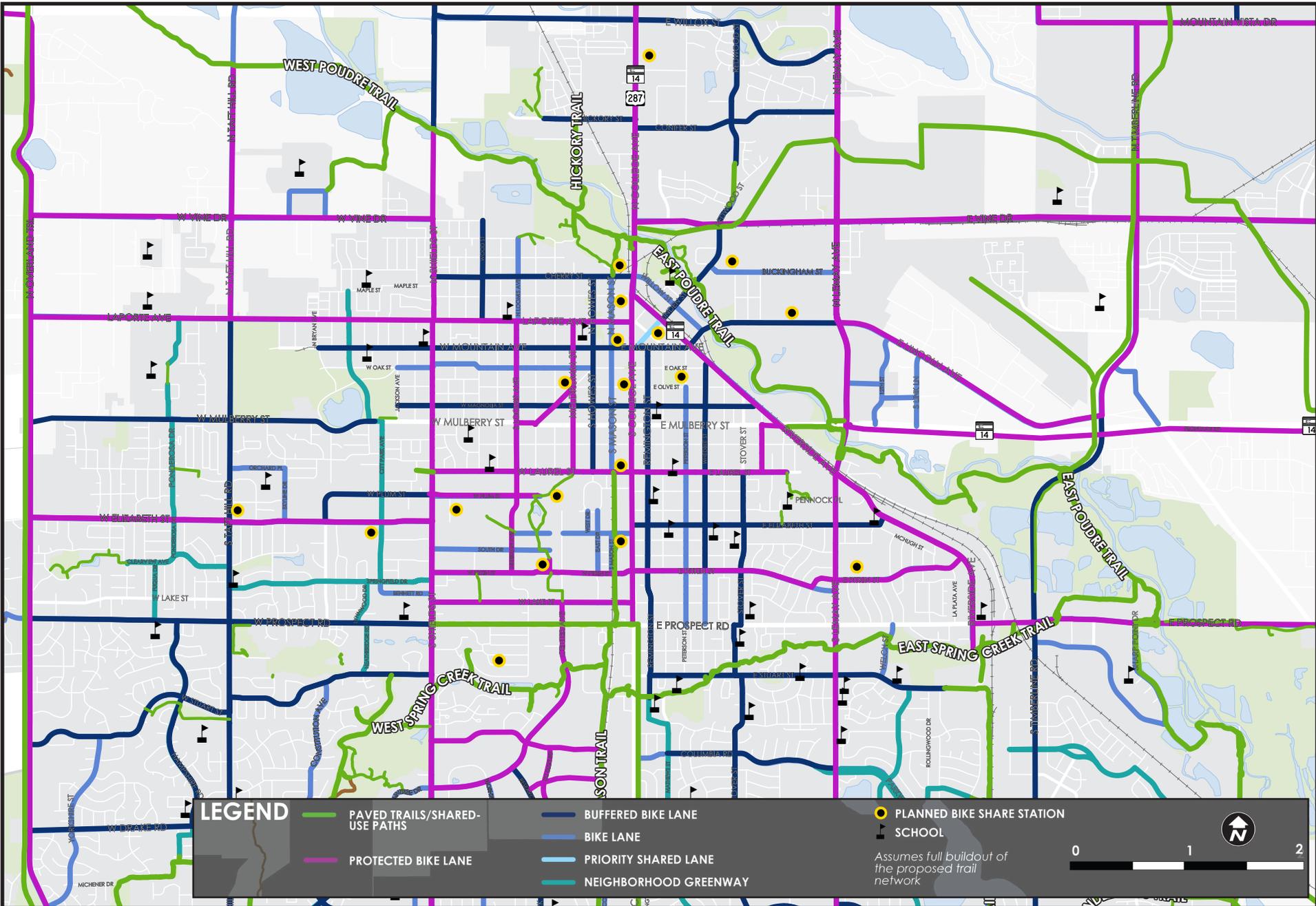
PORTLAND, OR

LOCATION	YEAR	PUBLICATION	RESPONSIBLE AGENCY
PORTLAND, OR	**2010**	**CITY OF PORTLAND BICYCLE PLAN FOR 2030**	**CITY OF PORTLAND**

KEY MAP FEATURES

Full Map (Click to view full size)
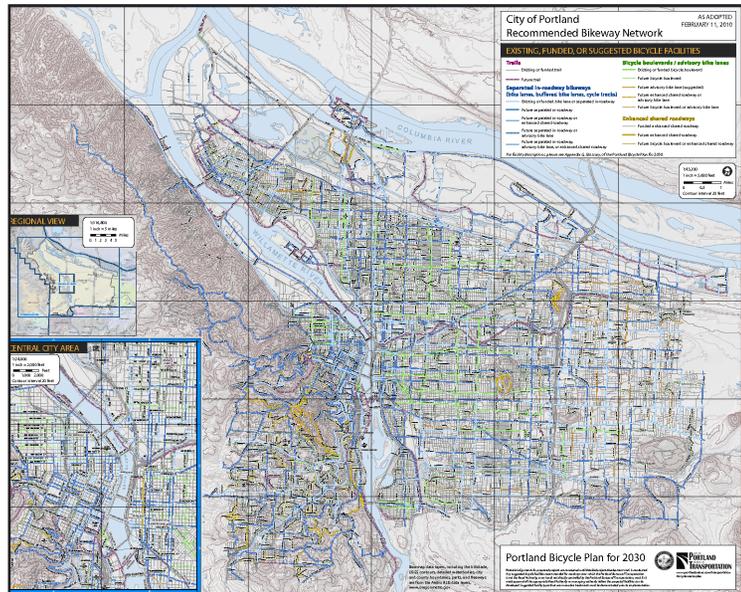
Highlights connections to regional trails and parks

Identifies both 'existing and funded' and 'planned' bike routes


Shows elevation change

EXISTING, FUNDED, OR SUGGESTED BICYCLE FACILITIES

Trails
- Existing or funded trail
- Future trail

Separated in-roadway bikeways
(bike lanes, buffered bike lanes, cycle tracks)
- Existing or funded bike lane or separated in-roadway
- Future separated in-roadway
- Future separated in-roadway or enhanced shared roadway
- Future separated in-roadway or advisory bike lane
- Future separated in-roadway, advisory bike lane, or enhanced shared roadway

Bicycle boulevards / advisory bike lanes
- Existing or funded bicycle boulevard
- Future bicycle boulevard
- Future advisory bike lane (suggested)
- Future enhanced shared roadway or advisory bike lane
- Future bicycle boulevard or advisory bike lane

Enhanced shared roadways
- Funded enhanced shared roadway
- Future enhanced shared roadway
- Future bicycle boulevard or enhanced shared roadway

For facility descriptions, please see Appendix G, Glossary, of the Portland Bicycle Plan for 2030.

BOSTON, MA

LOCATION	YEAR	PUBLICATION	RESPONSIBLE AGENCY
BOSTON, MA	2015	BOSTON BIKE NETWORK PLAN	BOSTON DEPARTMENT OF TRANSPORTATION

KEY MAP FEATURES

Full Map (Click to view full size)
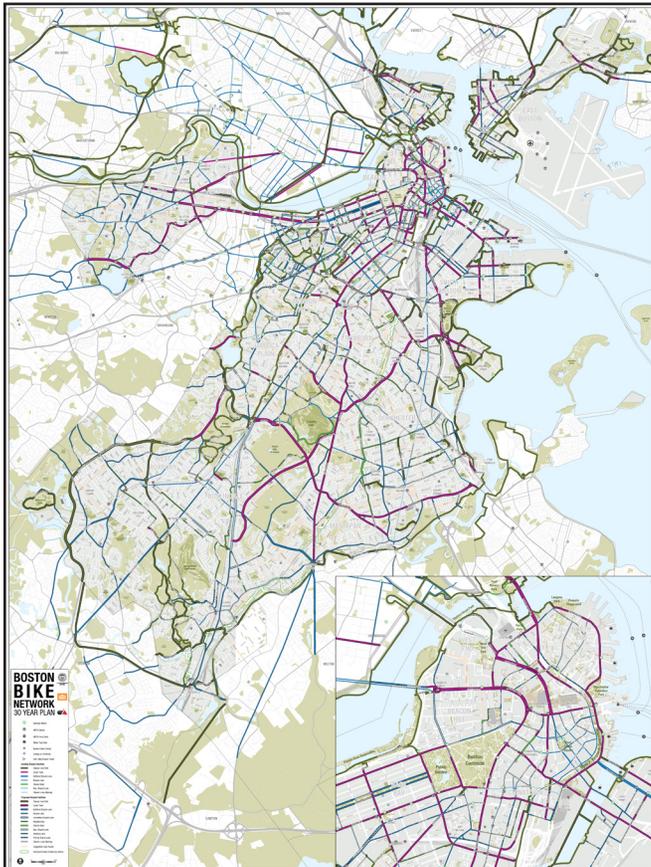
Shows connections between bike network and transportation hubs including rail and bike share stations

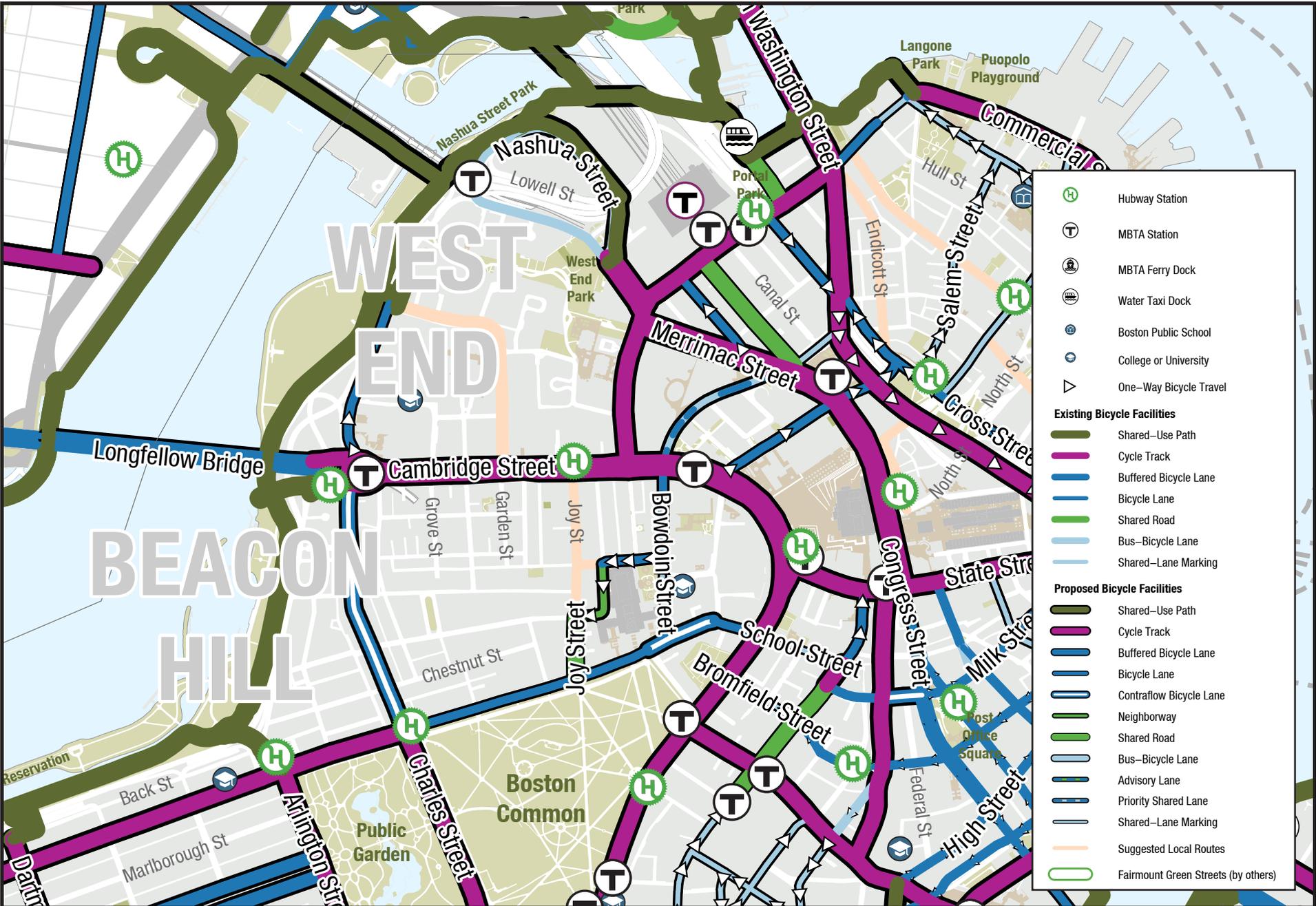Shared use paths is similar to the color used for parks to indicate low-stress

A dominant color is used for cycle tracks, emphasizing the high comfort level this facility type provides

Neighborhood scale maps are included within the plan for more specific details

Legend
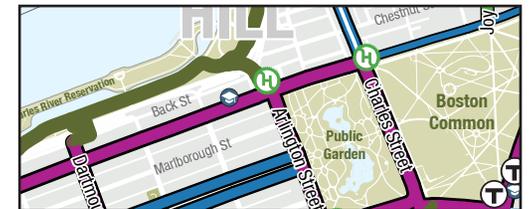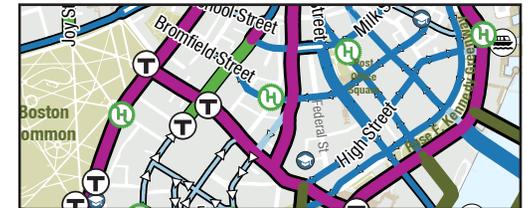
Ⓗ	Hubway Station
Ⓣ	MBTA Station
⛴	MBTA Ferry Dock
🚢	Water Taxi Dock
🏫	Boston Public School
🎓	College or University
▷	One−Way Bicycle Travel

Existing Bicycle Facilities

	Shared−Use Path
	Cycle Track
	Buffered Bicycle Lane
	Bicycle Lane
	Shared Road
	Bus−Bicycle Lane
	Shared−Lane Marking

Proposed Bicycle Facilities

	Shared−Use Path
	Cycle Track
	Buffered Bicycle Lane
	Bicycle Lane
	Contraflow Bicycle Lane
	Neighborway
	Shared Road
	Bus−Bicycle Lane
	Advisory Lane
	Priority Shared Lane
	Shared−Lane Marking
	Suggested Local Routes
	Fairmount Green Streets (by others)

SALT LAKE CITY, UT

LOCATION	YEAR	PUBLICATION	RESPONSIBLE AGENCY
SALT LAKE CITY, UT	2015	SALT LAKE CITY PEDESTRIAN AND BICYCLE MASTER PLAN	SALT LAKE CITY

KEY MAP FEATURES

Full Map (Click to view full size)
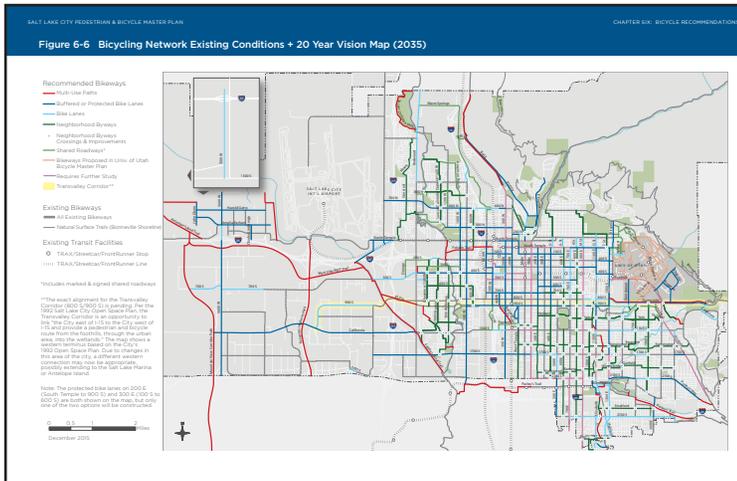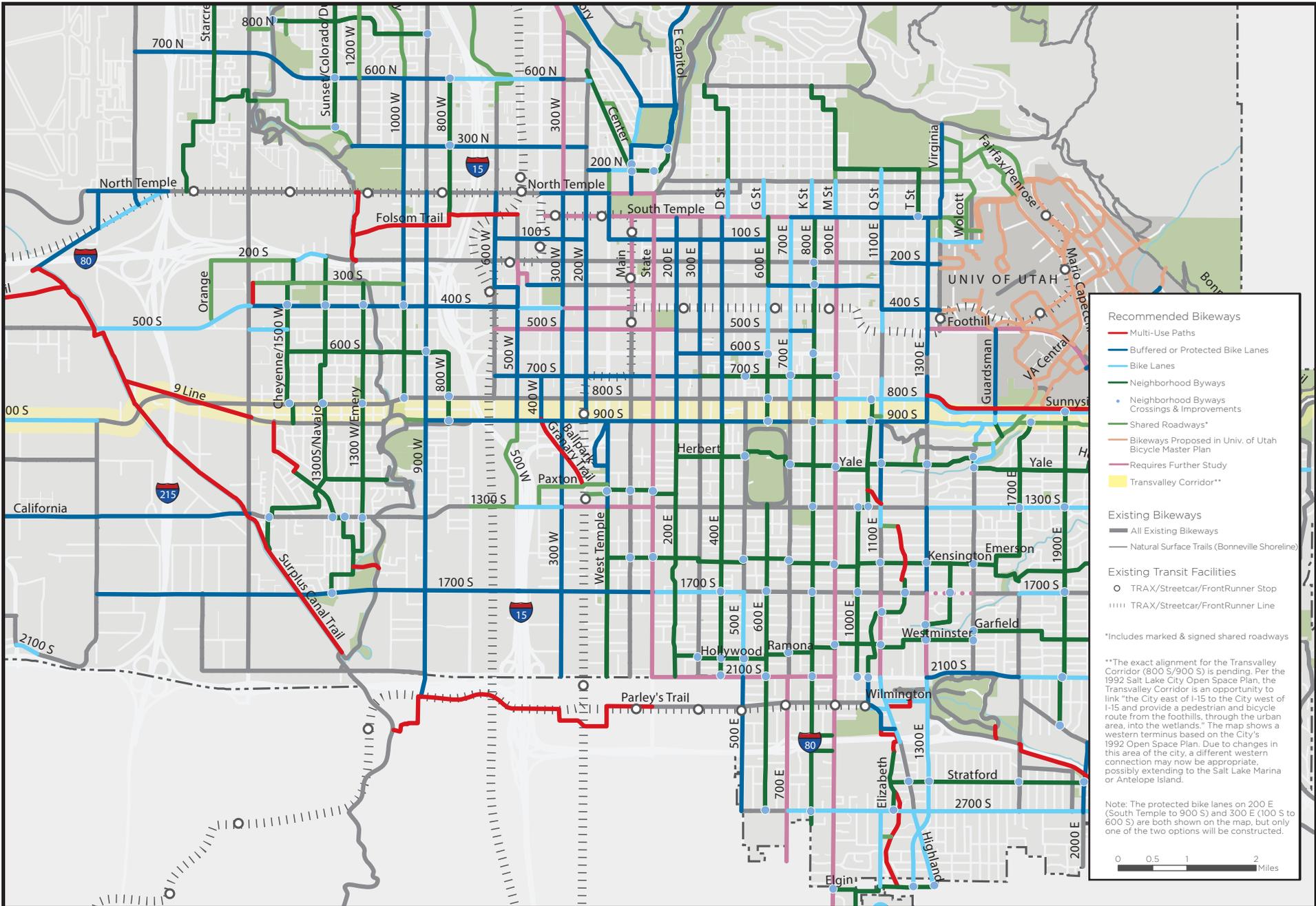

Shows connections to transit lines and stops

Highlights a university campus master plan

Highlights the Transvalley corridor, a planned future investment
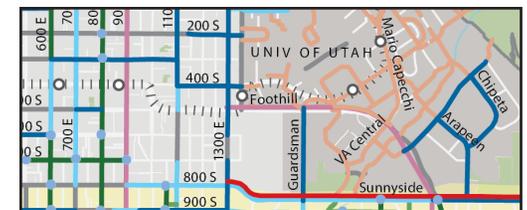
Recommended Bikeways

- Multi-Use Paths
- Buffered or Protected Bike Lanes
- Bike Lanes
- Neighborhood Byways
- Neighborhood Byways Crossings & Improvements
- Shared Roadways*
- Bikeways Proposed in Univ. of Utah Bicycle Master Plan
- Requires Further Study
- Transvalley Corridor**

Existing Bikeways

- All Existing Bikeways
- Natural Surface Trails (Bonneville Shoreline)

Existing Transit Facilities

- ○ TRAX/Streetcar/FrontRunner Stop
- TRAX/Streetcar/FrontRunner Line

*Includes marked & signed shared roadways

**The exact alignment for the Transvalley Corridor (800 S/900 S) is pending. Per the 1992 Salt Lake City Open Space Plan, the Transvalley Corridor is an opportunity to link "the City east of I-15 to the City west of I-15 and provide a pedestrian and bicycle route from the foothills, through the urban area, into the wetlands." The map shows a western terminus based on the City's 1992 Open Space Plan. Due to changes in this area of the city, a different western connection may now be appropriate, possibly extending to the Salt Lake Marina or Antelope Island.

Note: The protected bike lanes on 200 E (South Temple to 900 S) and 300 E (100 S to 600 S) are both shown on the map, but only one of the two options will be constructed.
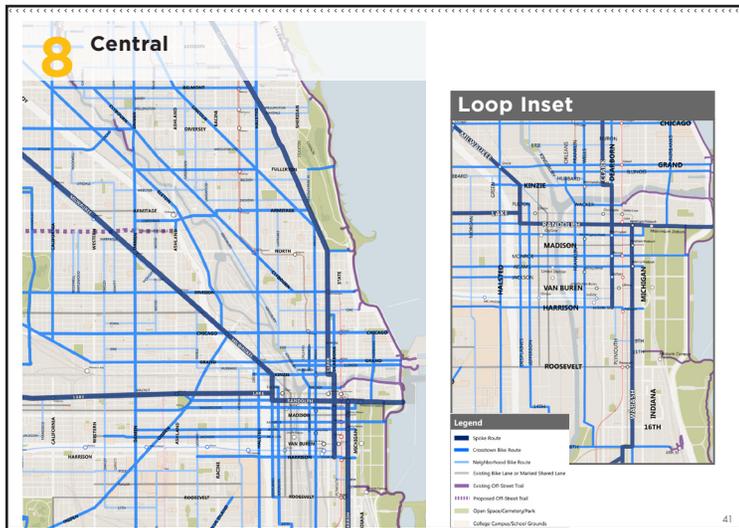
0   0.5   1   2 Miles

CHICAGO, IL

LOCATION	YEAR	PUBLICATION	RESPONSIBLE AGENCY
CHICAGO, IL	2012	CHICAGO STREETS FOR CYCLING 2020	CITY OF CHICAGO

KEY MAP FEATURES

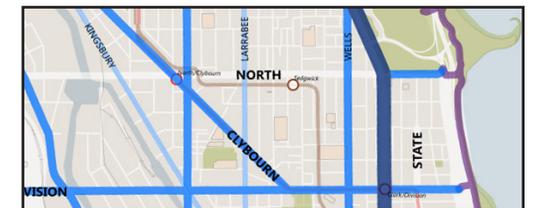**Full Map (Click to view full size)**

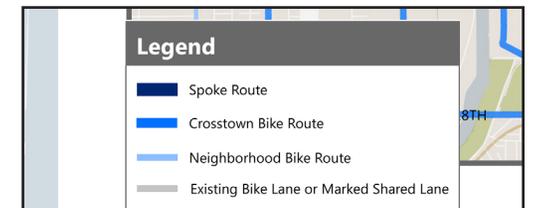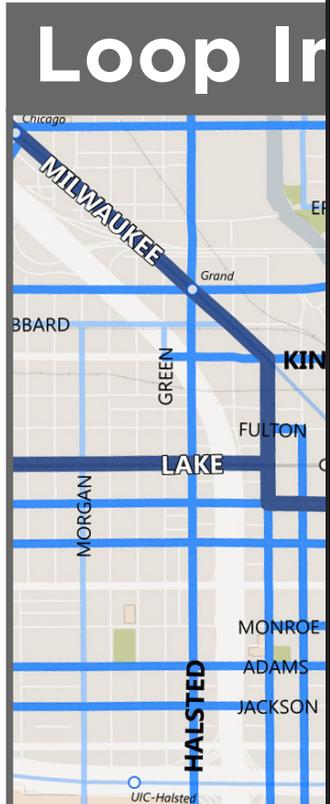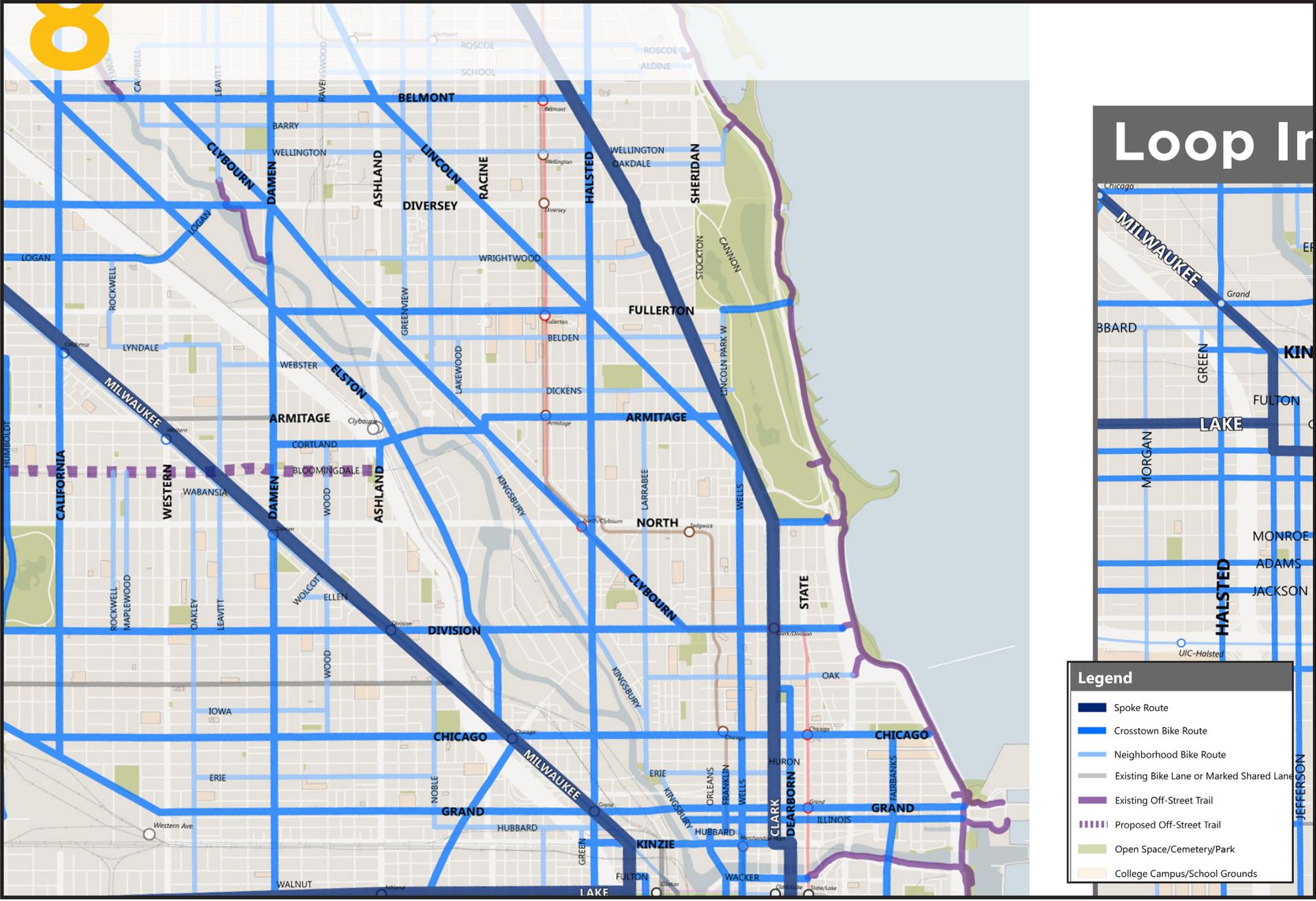Inset map provides additional information about important area

Route hierarchy shown using line thickness and color saturation

Legend

- Spoke Route
- Crosstown Bike Route
- Neighborhood Bike Route
- Existing Bike Lane or Marked Shared Lane

Shows connections to network of off-street trails

Loop In

Legend

▬	Spoke Route
▬	Crosstown Bike Route
▬	Neighborhood Bike Route
▬	Existing Bike Lane or Marked Shared Lane
▬	Existing Off-Street Trail
▪▪▪	Proposed Off-Street Trail
▬	Open Space/Cemetery/Park
▬	College Campus/School Grounds

GRAFTON, WI

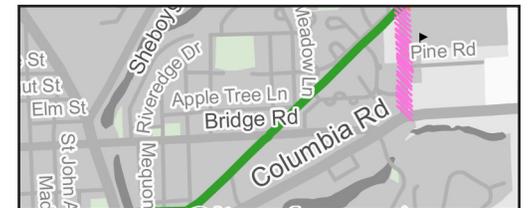| LOCATION	YEAR	PUBLICATION	RESPONSIBLE AGENCY
GRAFTON, WI	2015	VILLAGE OF GRAFTON BICYCLE AND PEDESTRIAN PLAN	VILLAGE OF GRAFTON

KEY MAP FEATURES
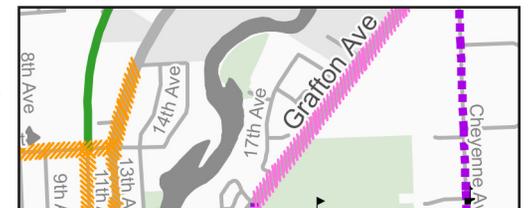
Full Map (Click to view full size)
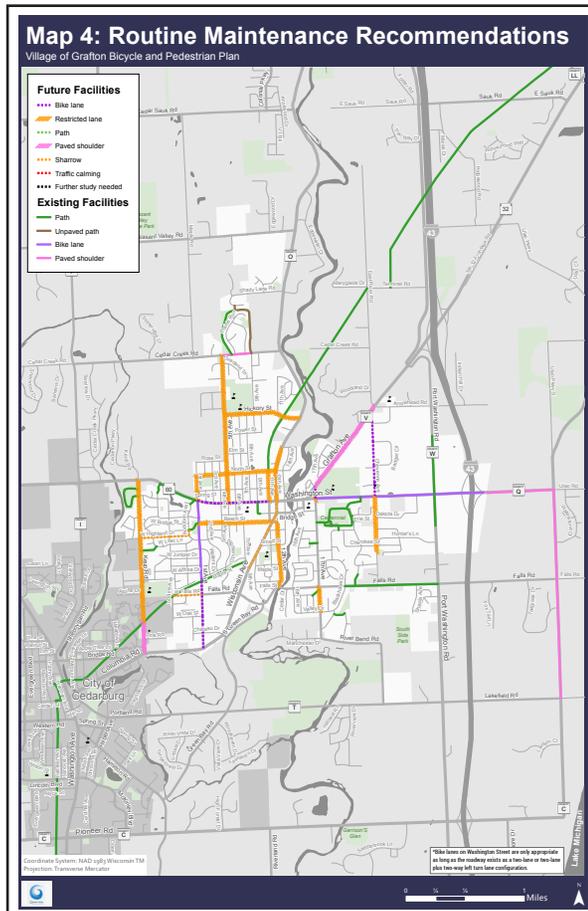
Shows 'restricted lanes,' a unique facility where bicyclists share a lane with parking and right-turning vehicles
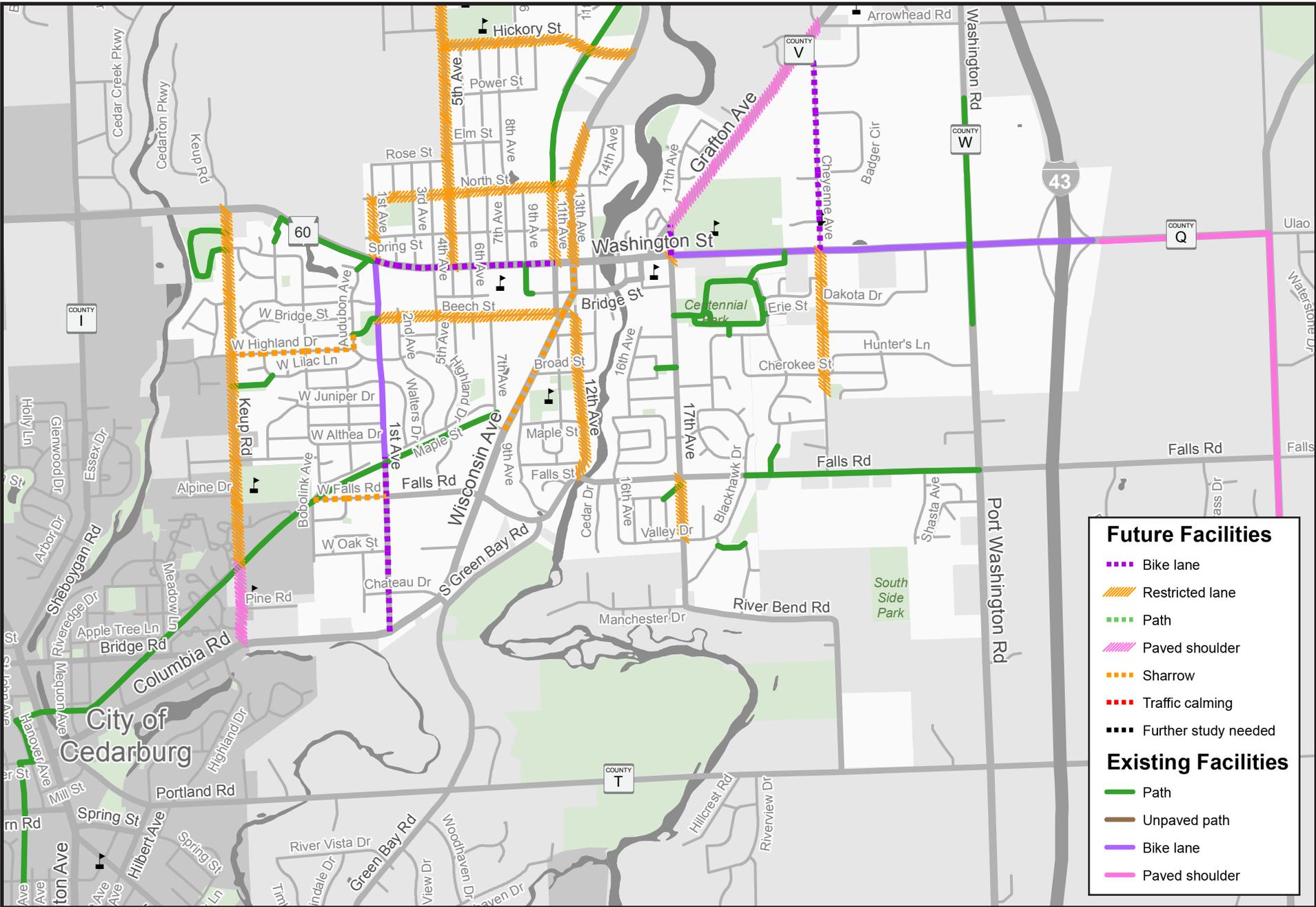
Highlights future and existing paved shoulders, an important bike facility in more rural communities

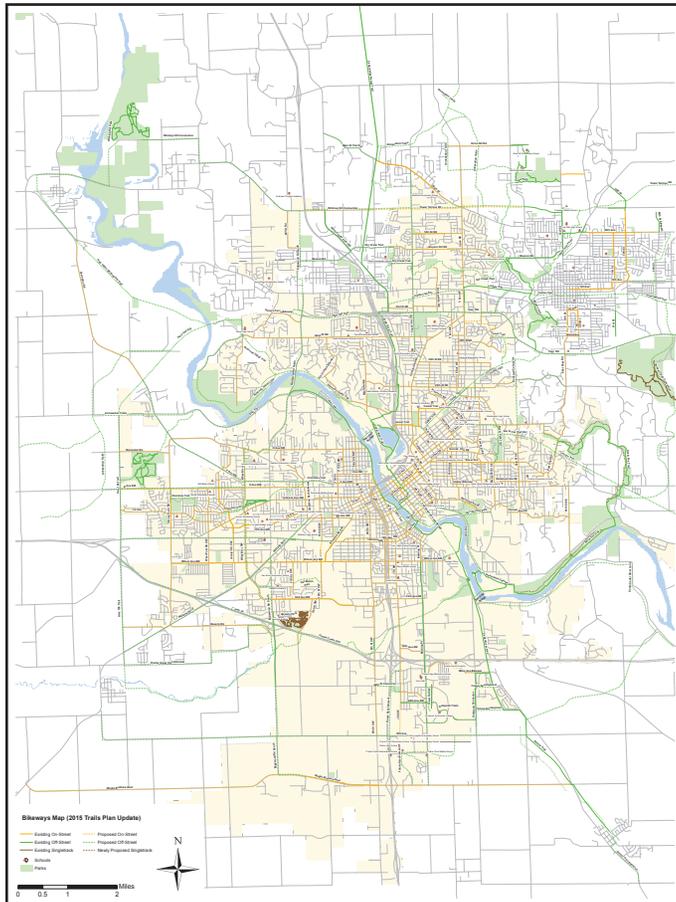Highlights streets keyed for future traffic calming

Future Facilities

- Bike lane
- Restricted lane
- Path
- Paved shoulder
- Sharrow
- Traffic calming
- Further study needed

Existing Facilities

- Path
- Unpaved path
- Bike lane
- Paved shoulder

CEDAR RAPIDS, IA

LOCATION	YEAR	PUBLICATION	RESPONSIBLE AGENCY
CEDAR RAPIDS, IA	2015	CEDAR RAPIDS COMPREHENSIVE TRAILS PLAN	CORRIDOR METROPOLITAN PLANNING ORGANIZATION

KEY MAP FEATURES

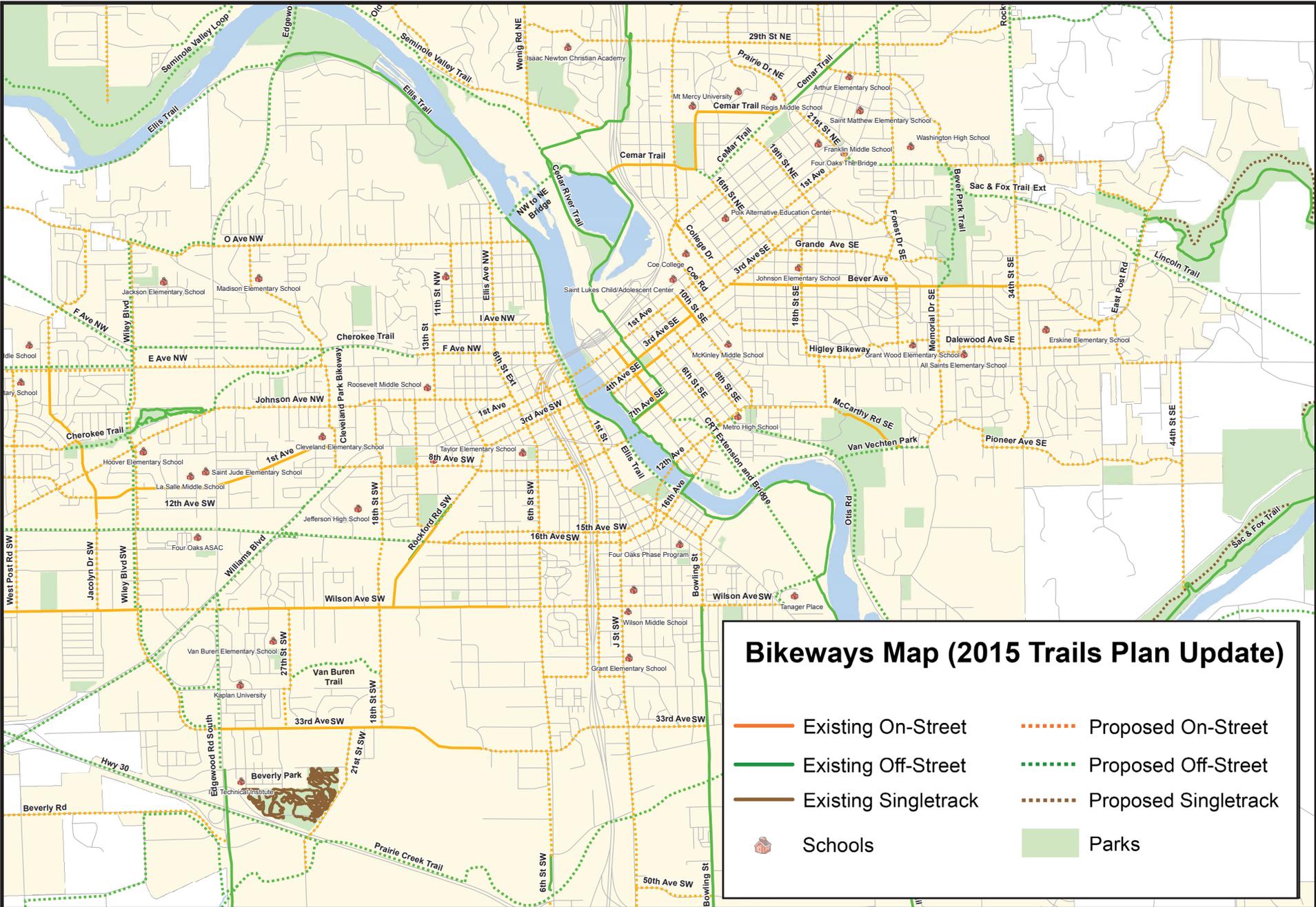**Full Map (Click to view full size)**

Bikeways Map (2015 Trails Plan Update)

Highlights nearby jurisdictions

Includes flexible facility typologies

Bikeways Map (2015 Trails Plan Update)

- Existing On-Street
- Existing Off-Street
- Existing Singletrack
- Schools
- Proposed On-Street
- Proposed Off-Street
- Proposed Singletrack
- Parks

SEATTLE, WA

LOCATION	YEAR	PUBLICATION	RESPONSIBLE AGENCY
SEATTLE,WA	2015	SEATTLE BICYCLE MASTER PLAN UPDATE	SEATTLE DEPARTMENT OF TRANSPORTATION

KEY MAP FEATURES

Full Map (Click to view full size)
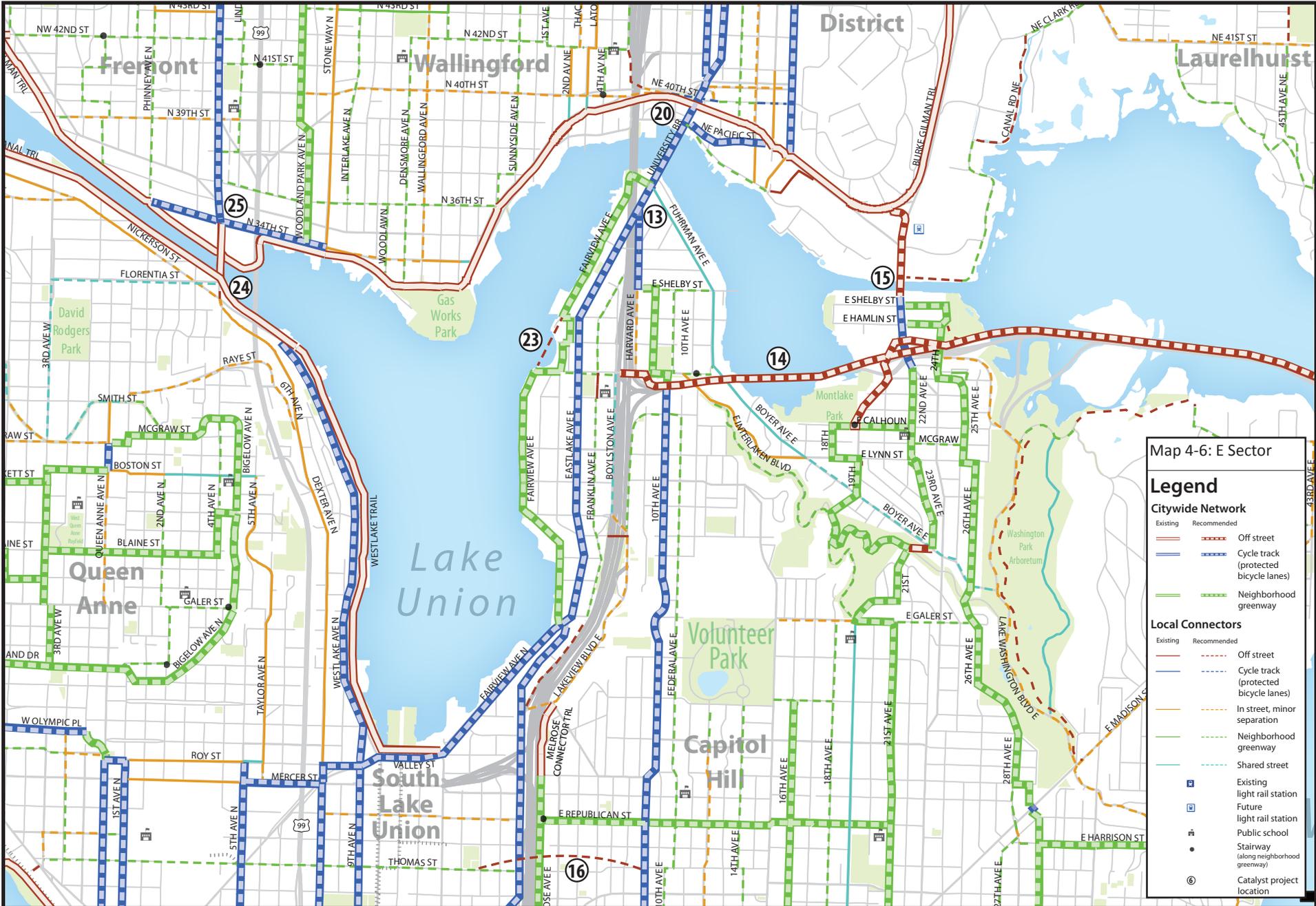

Unique symbology for proposed facilities

Recommendation hierarchy delineated by line weight

Neighborhood names highlighted to orient users

Fremont
Wallingford
District
Laurelhurst
Queen Anne
South Lake Union
Capitol Hill
Lake Union
Gas Works Park
David Rodgers Park
Volunteer Park
Montlake Park
Washington Park Arboretum

Map 4-6: E Sector

Legend

Citywide Network

Existing	Recommended	
		Off street
		Cycle track (protected bicycle lanes)
		Neighborhood greenway

Local Connectors

Existing	Recommended	
		Off street
		Cycle track (protected bicycle lanes)
		In street, minor separation
		Neighborhood greenway
		Shared street

Existing light rail station
Future light rail station
Public school
Stairway (along neighborhood greenway)
Catalyst project location

NORTH SANTA CLARA COUNTY, CA

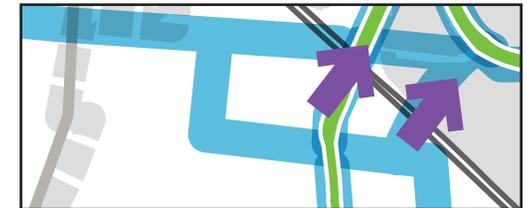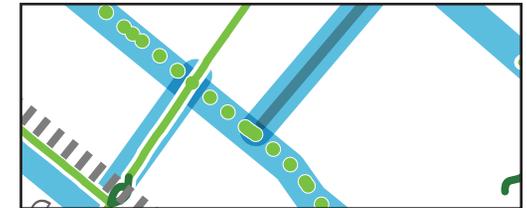| LOCATION	YEAR	PUBLICATION	RESPONSIBLE AGENCY
NORTH SANTA CLARA COUNTY, CA	2015	GOOGLE BIKE VISION PLAN	GOOGLE

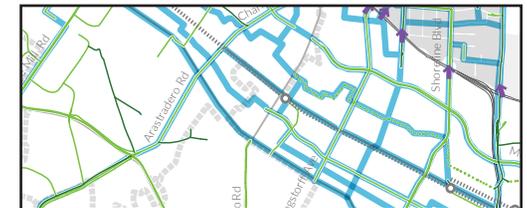## KEY MAP FEATURES

Full Map (Click to view full size)
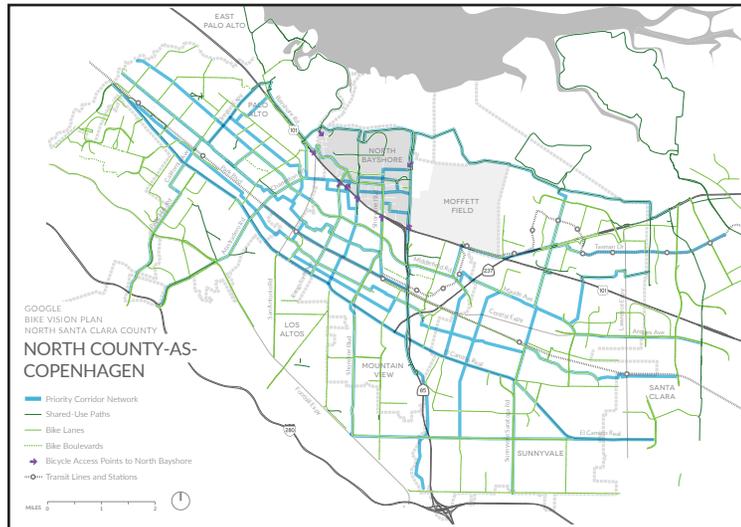
Identifies bike access points to Google's North Bayshore campus

Different line weights allow for layered information

Clear color scheme and organization

PALO ALTO

Oregon Expy

Bayshore Rd

101

Park Blvd

Charleston Rd

Arastradero Rd

San Antonio Rd

Rengstorff Ave

NORTH BAYSHORE

Shoreline Blvd

MOFFETT FIELD

Middlefield Rd

237

Maude Ave

Central Expy

Tasman Dr

101

Lawrence Expy

LOS ALTOS

Shoreline Blvd

MOUNTAIN VIEW

El Camino Real

85

SANTA

▬▬▬	Priority Corridor Network
──	Shared-Use Paths
──	Bike Lanes
⋯⋯	Bike Boulevards
➡	Bicycle Access Points to North Bayshore
⊶⊙⊶	Transit Lines and Stations

PORT OF PORTLAND, OR

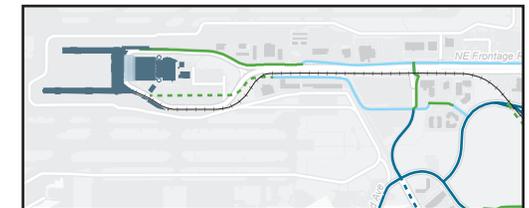| LOCATION	YEAR	PUBLICATION	RESPONSIBLE AGENCY
PORTLAND, OR	**2014**	**PORTLAND INTERNATIONAL AIRPORT BICYCLE AND PEDESTRIAN MASTER PLAN**	**PORT OF PORTLAND**

KEY MAP FEATURES

Full Map (Click to view full size)
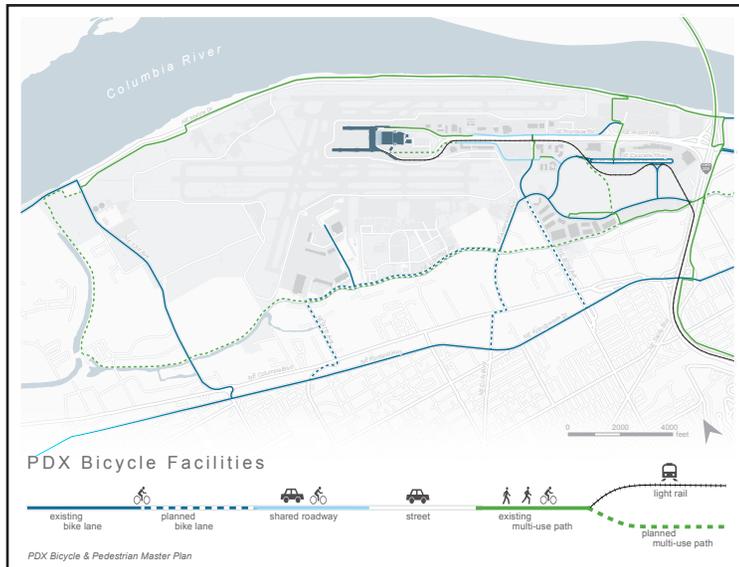
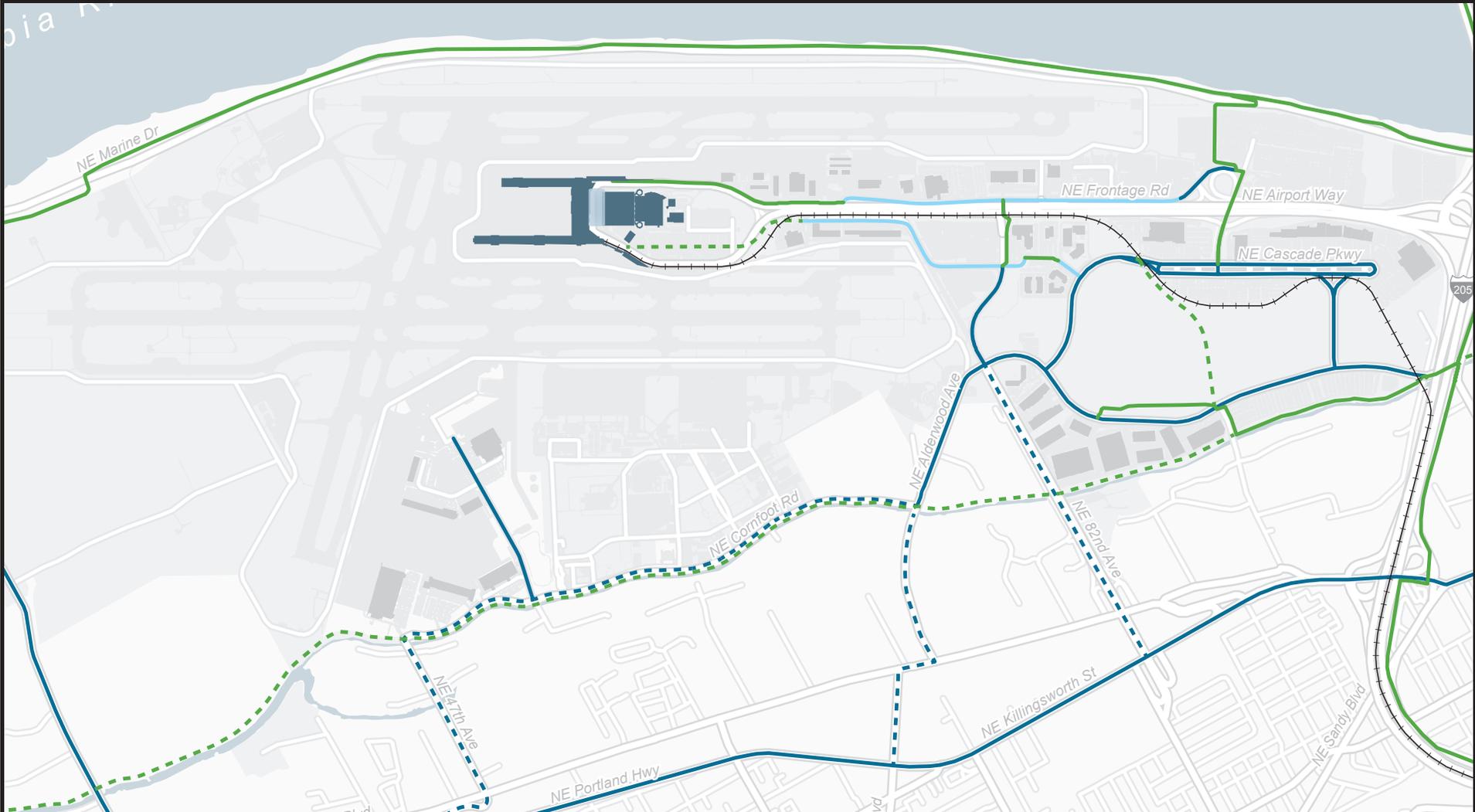**Legend integrates facility types with user types**
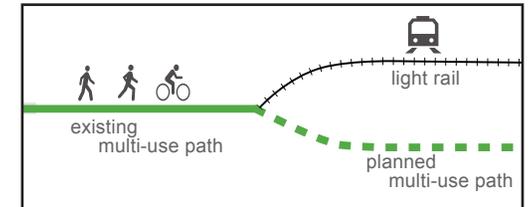
Simple color palette and contextual background layers including buildings and waterways

Highlights connections to citywide bike network and other multimodal options
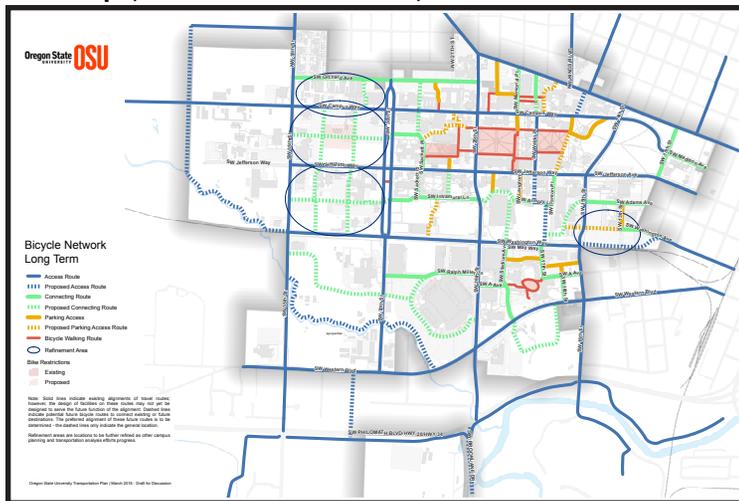
PDX Bicycle Facilities

existing bike lane

planned bike lane

shared roadway

street

existing multi-use path

light rail

planned multi-use path

OREGON STATE UNIVERSITY

LOCATION	YEAR	PUBLICATION	RESPONSIBLE AGENCY
CORVALLIS, OR	**2015**	**OREGON STATE UNIVERSITY TRANSPORTATION PLAN**	**OREGON STATE UNIVERSITY**

KEY MAP FEATURES
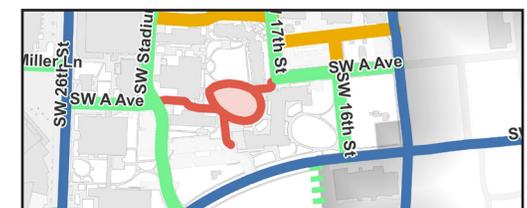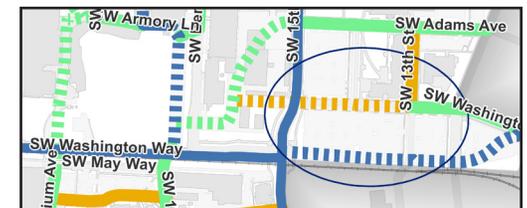
Full Map (Click to view full size)

Highlights dismount zones

Identifies areas for further refinement

Highlights bicycle parking access routes

Bicycle Network
Long Term

- Access Route
- Proposed Access Route
- Connecting Route
- Proposed Connecting Route
- Parking Access
- Proposed Parking Access Route
- Bicycle Walking Route
- Refinement Area

Bike Restrictions
- Existing
- Proposed
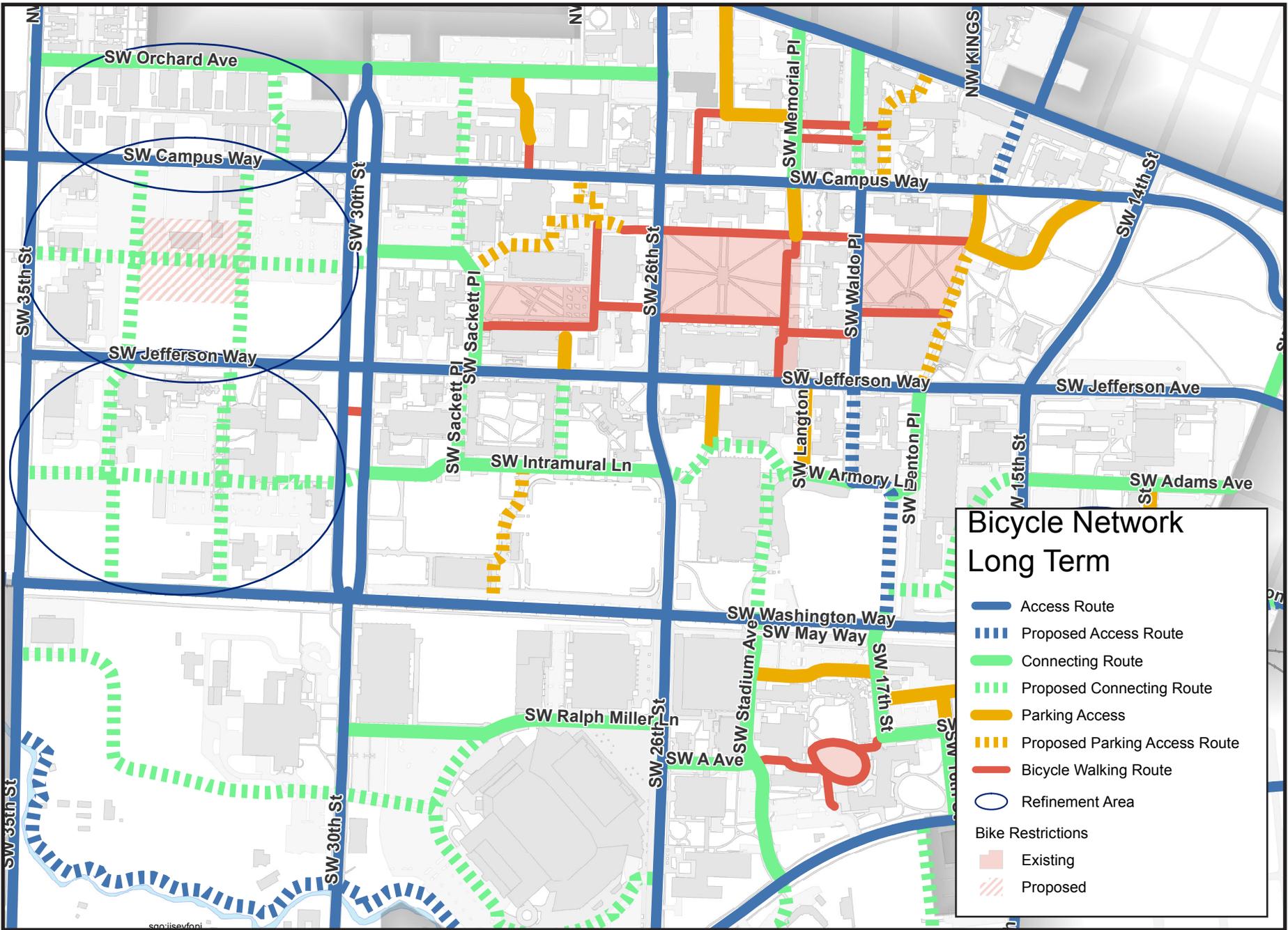
UNIVERSITY OF NORTH CAROLINA

LOCATION	YEAR	PUBLICATION	RESPONSIBLE AGENCY
CHAPEL HILL, NC	2014	UNC CHAPEL HILL BIKE MASTER PLAN	UNIVERSITY OF NORTH CAROLINA

KEY MAP FEATURES

Full Map (Click to view full size)

Long Term Bicycle Plan

LEGEND

Proposed Spot Improvements
- Bicycle/Pedestrian Bridge
- Pedestrian Bridge (UNC Campus Master Plan) Bicycle Accommodation Recommended

Existing Facilities
- Greenway/Side Path
- Natural Surface Trail
- Bike Lane
- UNC-CH Campus
- Town of Chapel Hill

Proposed Facilities
- Greenway/Side Path
- Bike Lane
- Climbing Lane
- Shared-Lane Marking
- Signed Route
- Further Study Needed
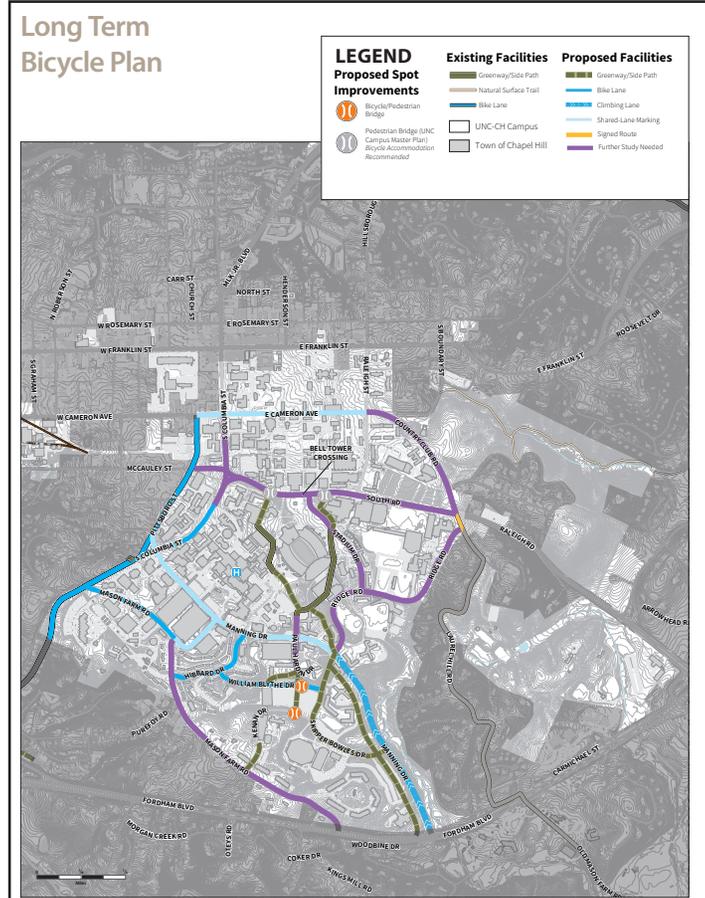
 Shows recommended bridges with clean icons
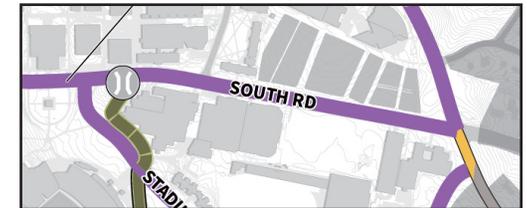
 Clever symbology for climbing lanes

 Shows greenways
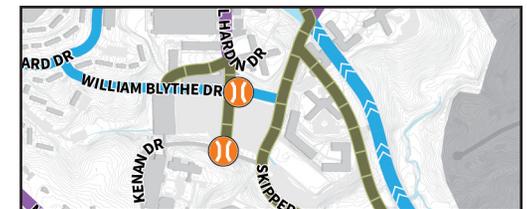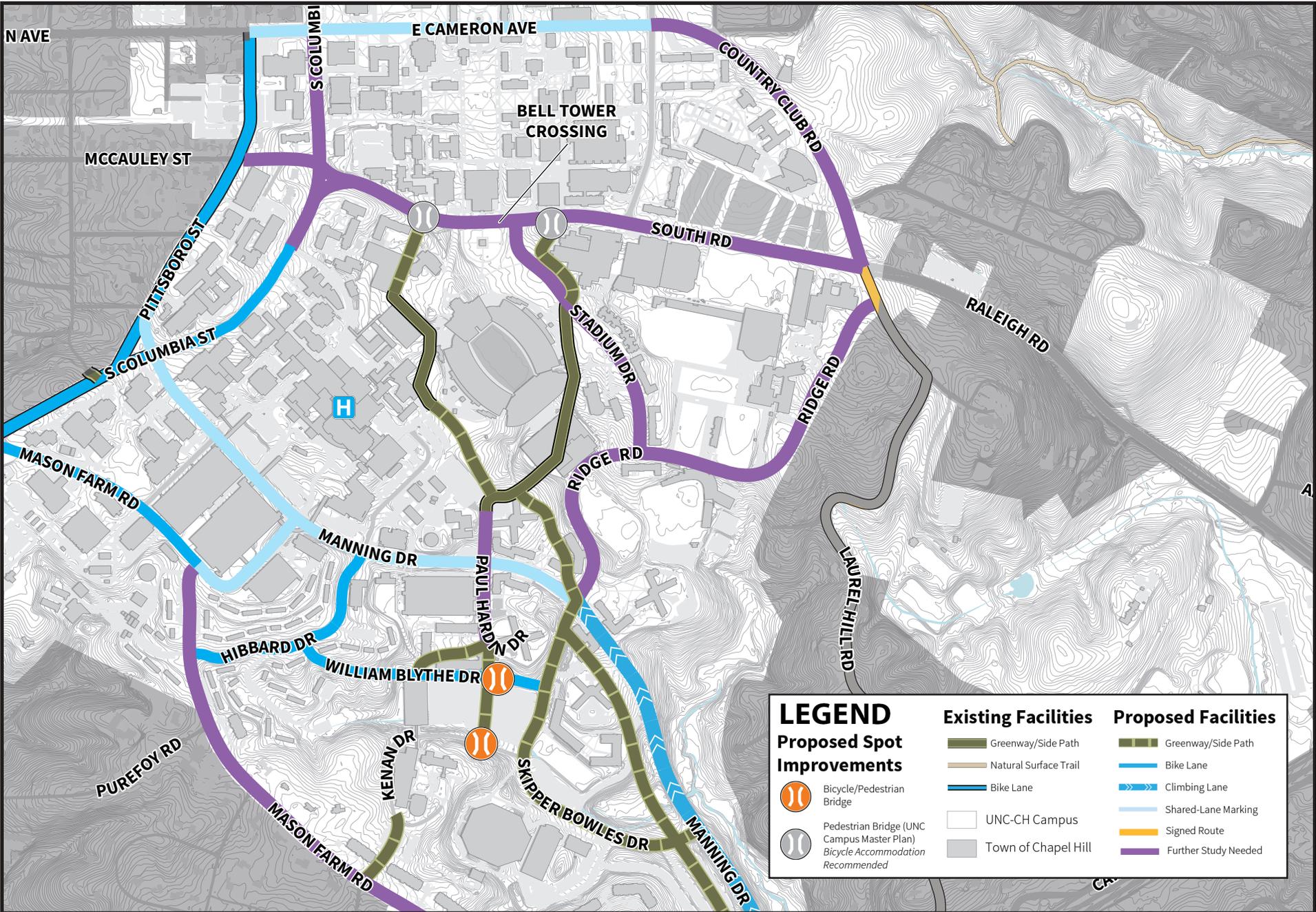
N AVE

E CAMERON AVE

MCCAULEY ST

BELL TOWER CROSSING

S COLUMBIA ST

COUNTRY CLUB RD

PITTSBORO ST

SOUTH RD

STADIUM DR

RALEIGH RD

S COLUMBIA ST

RIDGE RD

RIDGE RD

MASON FARM RD

MANNING DR

LAUREL HILL RD

HIBBARD DR

PAUL HARDIN DR

WILLIAM BLYTHE DR

KENAN DR

PUREFOY RD

SKIPPER BOWLES DR

MASON FARM RD

MANNING DR

LEGEND

Proposed Spot Improvements

🔶 Bicycle/Pedestrian Bridge

⬭ Pedestrian Bridge (UNC Campus Master Plan) *Bicycle Accommodation Recommended*

Existing Facilities

▬ Greenway/Side Path
▬ Natural Surface Trail
▬ Bike Lane

☐ UNC-CH Campus
☐ Town of Chapel Hill

Proposed Facilities

▬ Greenway/Side Path
▬ Bike Lane
▬ Climbing Lane
▬ Shared-Lane Marking
▬ Signed Route
▬ Further Study Needed

NEXT STEPS

This resource highlights different approaches and techniques for mapping existing and proposed bicycle networks.

As demonstrated by the best practices highlighted here, there have been significant positive advances in this area in recent years.

To build on this progress, it will be important to institutionalize these techniques so that they become standard practice across jurisdictions and at all scales.

The following next steps are offered to inform the continued development of this national capacity and they will involve partners and stakeholders at all levels.

1. Identify a consistent set of bicycle facility types and community destinations that can serve as a baseline for bicycle network planning efforts across jurisdictions and geographic locations. The tables below are intended to inform this conversation.

2. Undertake a significant national push to research, apply, and document methodologies for measuring bicycle network connectivity and tracking change in connectivity over time.

3. Examine ways to integrate bicycle network infrastructure data into national infrastructure databases and data management systems.

4. Continue to identify and promote strategies for integrating bicycle network planning into ongoing planning processes at the local, MPO, and State level (e.g. resurfacing, TIP and STIP, Highway Safety Improvement Program, project design and development, MPO certification review).

BICYCLE FACILITY TYPES

- Bike Lane
- Buffered Bike Lane
- Climbing Lane (i.e., bike lane on uphill side only)
- Separated Bike Lane or Protected Bike Lane or Cycle Track
- Bike Boulevard
- Shared Use Path
- Other (such as shared lane marking and paved shoulder)

COMMUNITY DESTINATIONS

- Bike share stations
- Bus stops
- Community centers
- Community colleges
- Community service center
- High density residential
- Major retail and entertainment
- Parks
- Places of worship
- Public libraries
- Retirement homes
- Schools
- Government offices
- Universities or colleges
- Major tourist destinations
- Hospitals and other health care facilities
- Transit centers