

From Inventory to Implementation: Updating the GIS Data Behind the Cuyahoga Greenways Plan



INTRODUCTION



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AGENDA

- Cuyahoga Greenways Plan Recap
- Cuyahoga Greenways Data Update
- Cuyahoga Greenways Database Redevelopment
- Partner Outreach and Validation
- Applying the Data to the Updated Plan

CUYAHOGA GREENWAYS PLAN RECAP



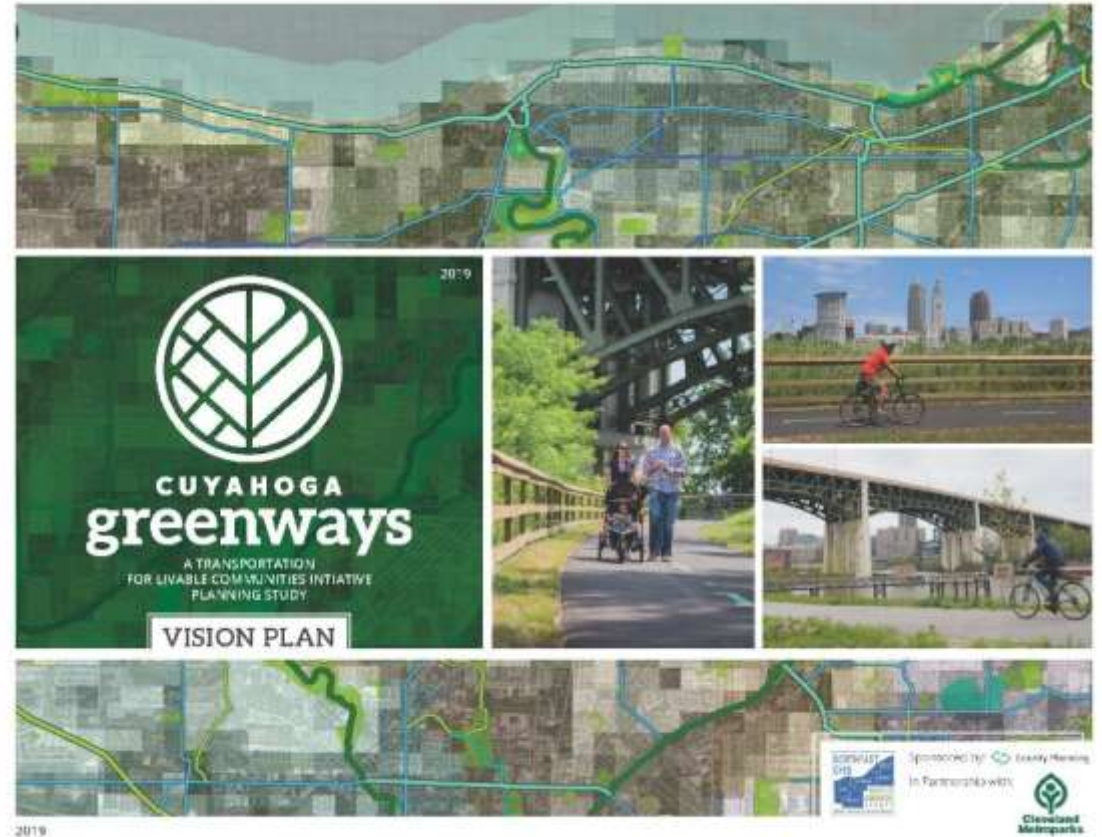
2019 CUYAHOGA GREENWAYS PLAN



EASTSIDE GREENWAY PLAN

A STRATEGIC VISION TO CONNECT EASTERN CUYAHOGA COUNTY

SEPTEMBER 18, 2015



2019 CUYAHOGA GREENWAYS PLAN

- County Planning was awarded funds from the Northeast Ohio Areawide Coordinating Agency (NOACA) Transportation for Livable Community Initiative (TLCI) in 2017.
- Additional support has been provided by County Planning, City of Cleveland, Cleveland Metroparks, and from numerous local governments and public agencies.
- The consulting team of SmithGroup, WSP, and Guide Studio was hired to complete the Vision Plan.
- Created the foundation for future planning, funding, and implementation

COUNTYWIDE NETWORK VISION

- Envisioned an 800-mile All Ages and Abilities active transportation network
- Through on-street and off-street facilities, the Plan connects all 59 cities, villages, and townships to each other and to the region.
- Organizes the network into Regional Links, Key Routes, Critical Gaps, and Supporting Routes

A person is riding a bicycle on a paved greenway path that curves through a grassy area. In the background, a city skyline is visible, including several tall buildings and a prominent tower. The scene is overlaid with a semi-transparent green filter.

CUYAHOGA GREENWAYS DATA UPDATE



WHY DOES THE DATA NEED TO BE UPDATED?

- More than five years have passed since the original plan was completed
- New facilities have been built, designed, funded, or planned
- Local active transportation plans and partner priorities have advanced
- Updated standards and terminology are needed to better classify the network to align with state and national standards
- A more accurate GIS database was needed to support the updated plan

GOALS OF THE UPDATE

Update

Update the countywide bikeway and greenways inventory

Align

Align the network with local and regional active transportation efforts

Apply

Apply current design standards and facility terminology

Track

Track progress from planning through implementation

Build

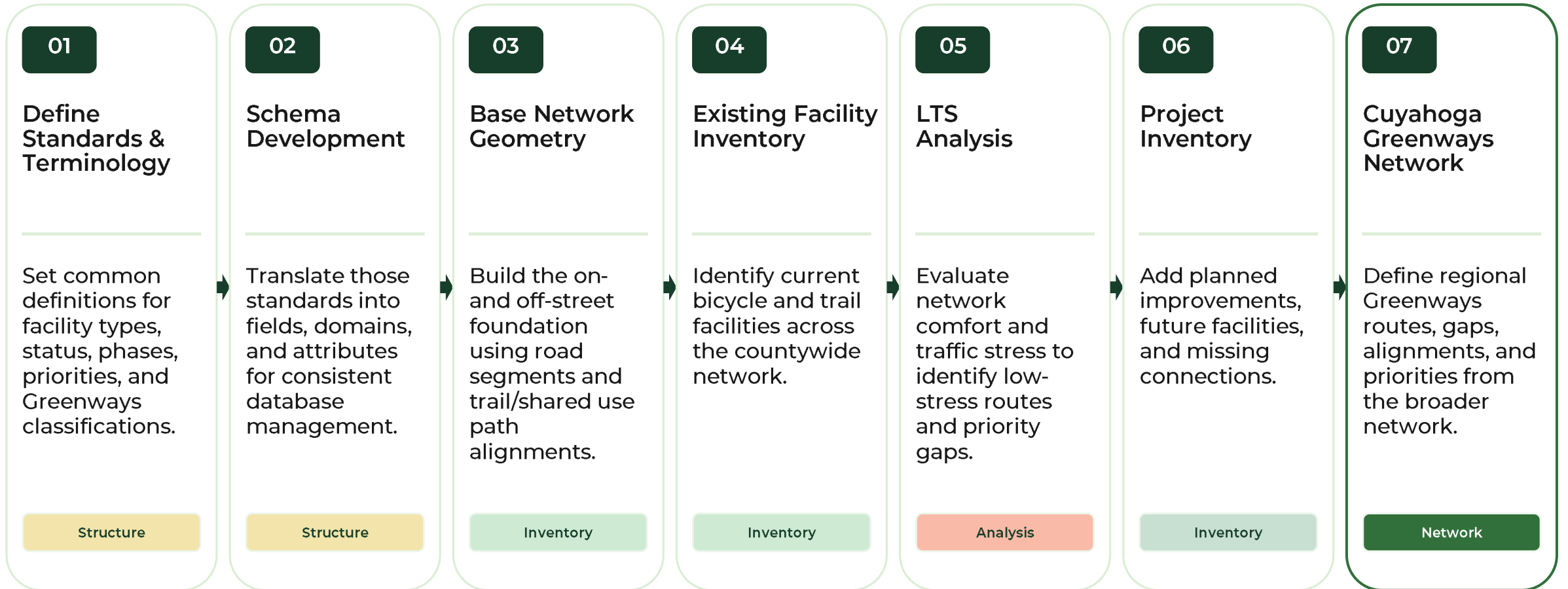
Build a maintainable GIS dataset for future updates, dashboards, and reporting

A person wearing a backpack and a jacket is riding a bicycle on a paved path. The path is bordered by gravel and greenery. In the background, a city skyline is visible through a green tint. The skyline includes several tall buildings, one of which is the prominent Chrysler Building. The overall scene is bright and clear, suggesting a sunny day.

CUYAHOGA GREENWAYS DATABASE REDEVELOPMENT



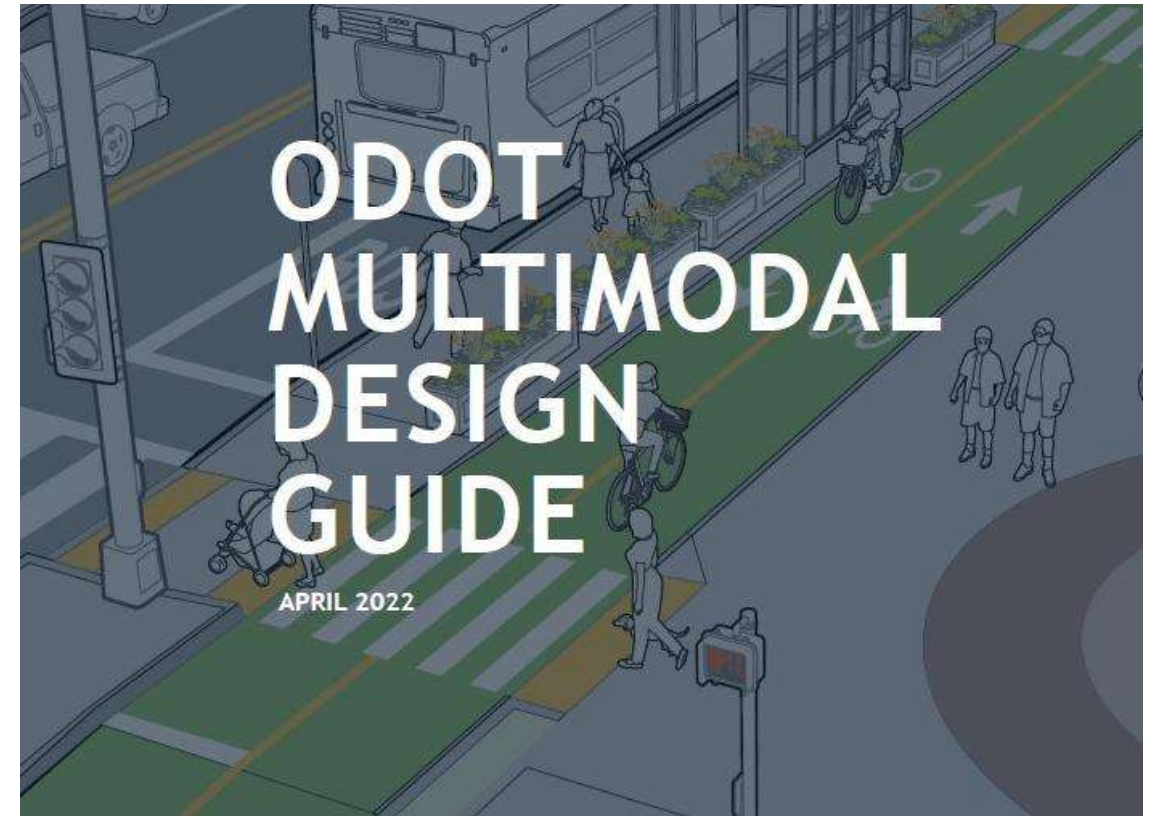
CUYAHOGA GREENWAYS NETWORK DEVELOPMENT PROCESS



Process summary: define the system → structure the data → build the inventory → evaluate stress → identify the regional Greenways network

DEFINING STANDARDS & TERMINOLOGY

- Aligned facility terminology with ODOT Multimodal Design Guidelines
- Incorporated national active transportation data concepts where applicable
- Standardized facility types across on-street and off-street networks
- Improved consistency between local data, regional planning data, and Greenways categories
- Created a more reliable framework for comparing facilities across communities with adoption from the City of Cleveland and Cleveland Metroparks



SCHEMA DEVELOPMENT

Bike Facility Inventory

Existing and future facility type, alignment, status, phase, and geometry

Project Tracking

Greenways category, plan names, plan links, plan sources, plan/programmed years

Implementation Tracking

Built year/timeframe, partner updates, dashboard-ready fields

Roadway Context

Speed, AADT, through lanes, parking, and related LTS inputs

Name	Alias	Type	Usage	Nullable
FAC_NAME	Facility Name	String	Index	TRUE
FAC_ALT_NAME	Alternate Facility Name	String		TRUE
FAC_ALIGNMENT	Facility Alignment	String	Index	TRUE
FAC_STATUS	Facility Status	String	Index	TRUE
FAC_PHASE	Facility Phase	String		TRUE
FAC_TYPE	Facility Type	String	Index	TRUE
FAC_SUBTYPE	Facility Subtype	String		TRUE
FAC_LTS	Level of Traffic Stress	Short Integer		TRUE
FUT_FAC_TYPE	Future Facility Type	String		TRUE
FUT_FAC_SUBTYPE	Future Facility Subtype	String		TRUE
FUT_FAC_NOTES	Future Facility Notes	String		TRUE
FAC_BUILT_YEAR	Facility Built Year	String		TRUE
FAC_PLAN_YEAR	Facility Plan Year	String		TRUE
FAC_PLAN_NAME	Facility Plan Name	String		TRUE
FAC_PLAN_SOURCE	Facility Plan Source	String		TRUE
FAC_NOTES	Facility Notes	String		TRUE
CGW_NETWORK	Cuyahoga Greenways Network	String	Index	TRUE
CGW_PROJECT_TYPE	Cuyahoga Greenways Project Type	String		TRUE
CGW_PROJECTID	Cuyahoga Greenways Project ID	String		TRUE
RD_NAME	Street Name	String		TRUE
RD_NLF_ID	Street NLF-ID (ODOT)	String		TRUE
RD_FUNC_CLASS	Street Functional Class (ODOT)	Short Integer		TRUE
RD_TOT_LANE_NBR	Total Number of Lanes	Short Integer		TRUE
RD_SPEED_NBR	Street Speed Limit (MPH)	Short Integer		TRUE
RD_PARKING	Street Parking Side	String		TRUE
RD_ROUNDABOUT	Street Roundabout	String		TRUE
RD_CARDINALITY	Street Cardinality	String		TRUE
RD_ONEWAY	Street One Way	String		TRUE
RD_CENTERLINE	Street Centerline	String		TRUE
RD_DIVIDED_HWY	Street Divided Highway	String		TRUE
RD_ROUTE_TYPE	Street Route Type	String		TRUE
FAC_URL	Facility URL	String		TRUE
FAC_PROGRAM_YEAR	Facility Programmed Year	String		TRUE
FAC_FUNDING_SOURCE	Facility Funding Source	String		TRUE
FAC_PROGRAM_NAME	Facility Program Name	String		TRUE
RD_AADT_NBR	Annual Average Daily Traffic (AADT)	Big Integer		TRUE

BASE NETWORK GEOMETRY

- Built from on-street and off-street alignments
- Utilized the ODOT Road Inventory for roadway geometry and street attribute data (*where applicable*)
- Added existing trail data and other alignments provided by project partners
- Created a unified geometry foundation for facility, project, and Greenways attribution

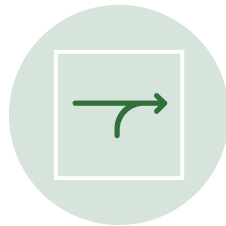
EXISTING FACILITY INVENTORY



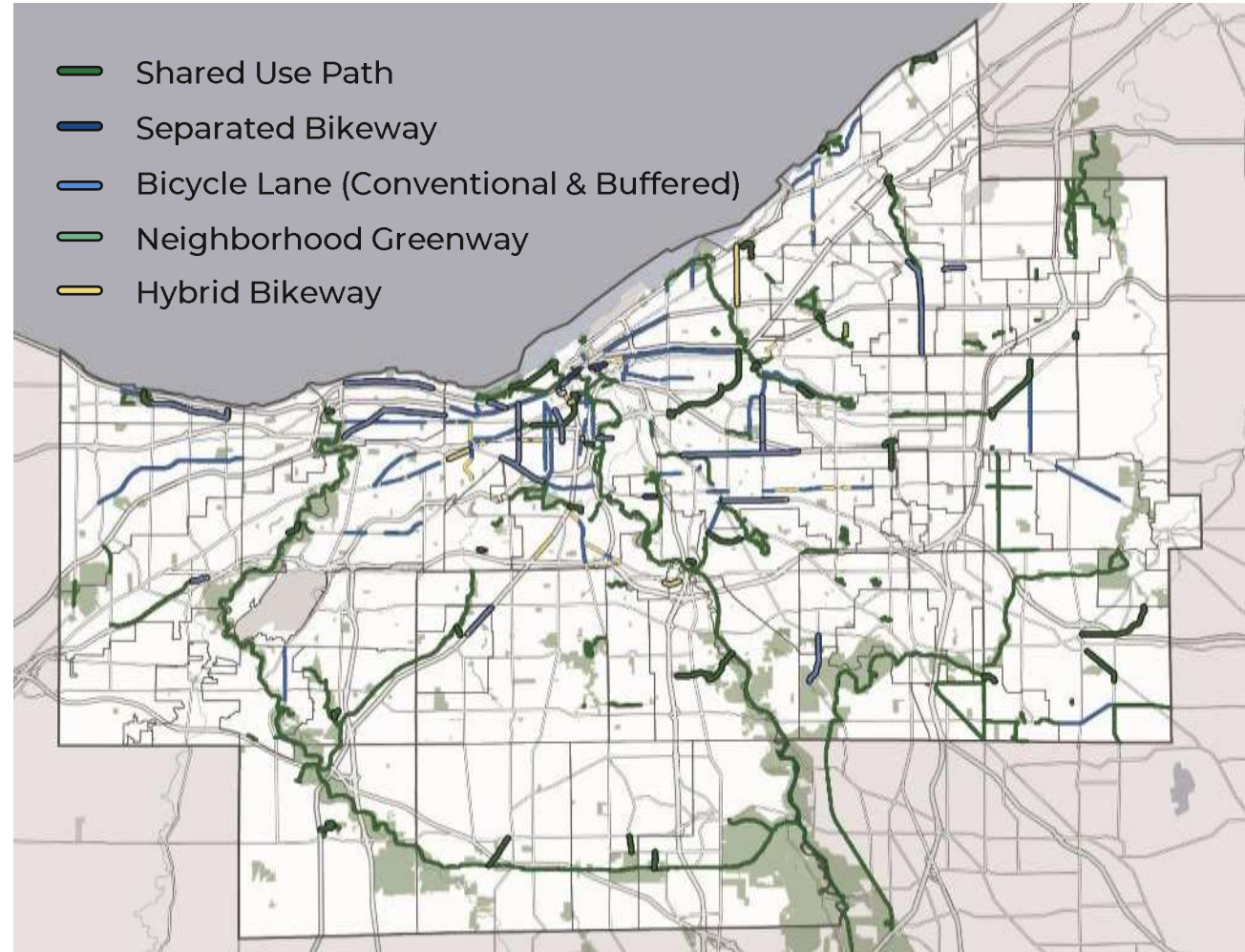
REVIEWED FACILITIES
USING AERIAL
IMAGERY AND
CURRENT GIS
DATASETS



INCORPORATED ANY
MISSING EXISTING
BIKEWAYS, TRAILS,
AND LOCAL NETWORK
DATA

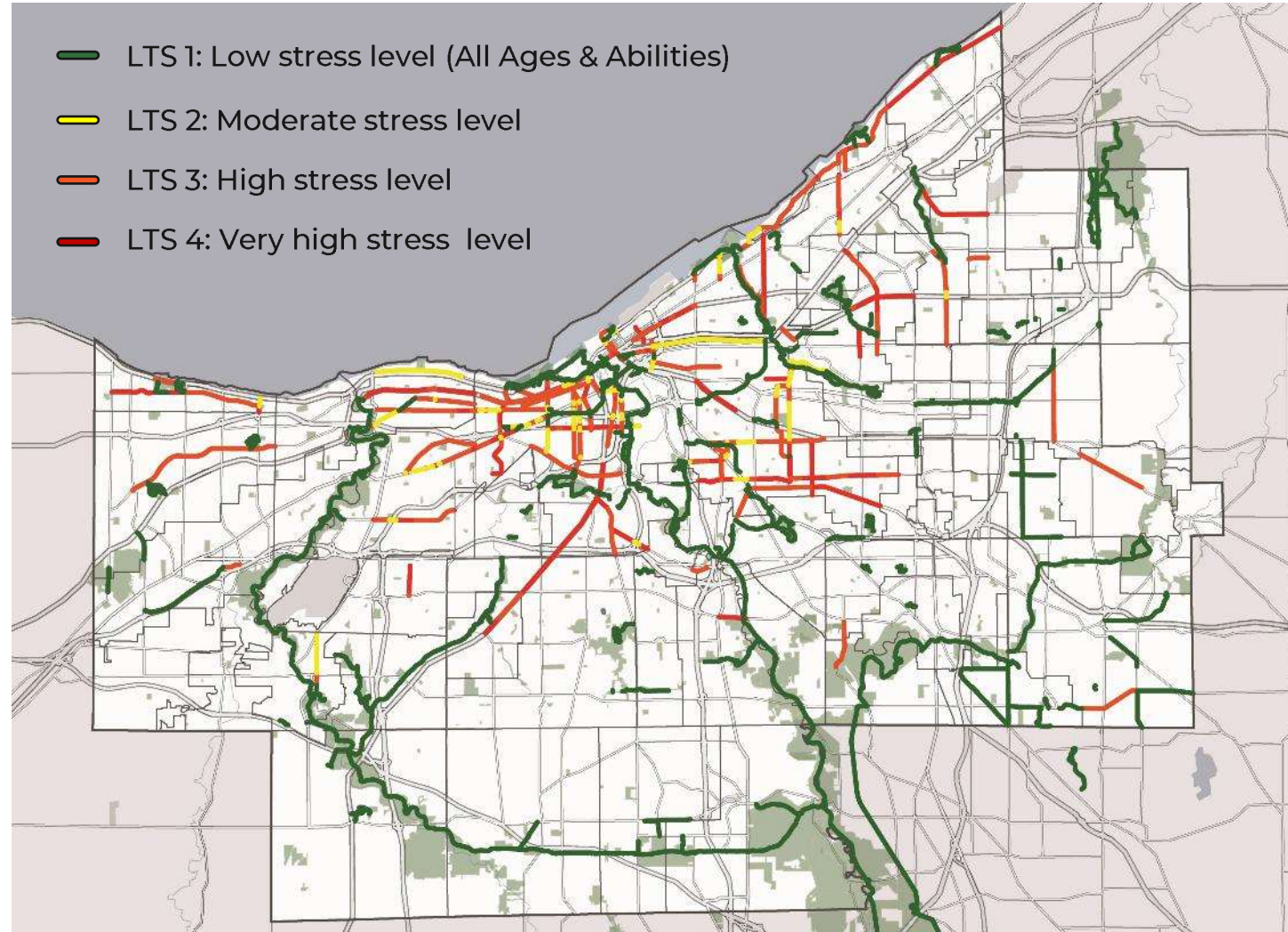


UPDATED GEOMETRY
TO BETTER REFLECT
CURRENT ALIGNMENTS
AND BUILT
CONDITIONS

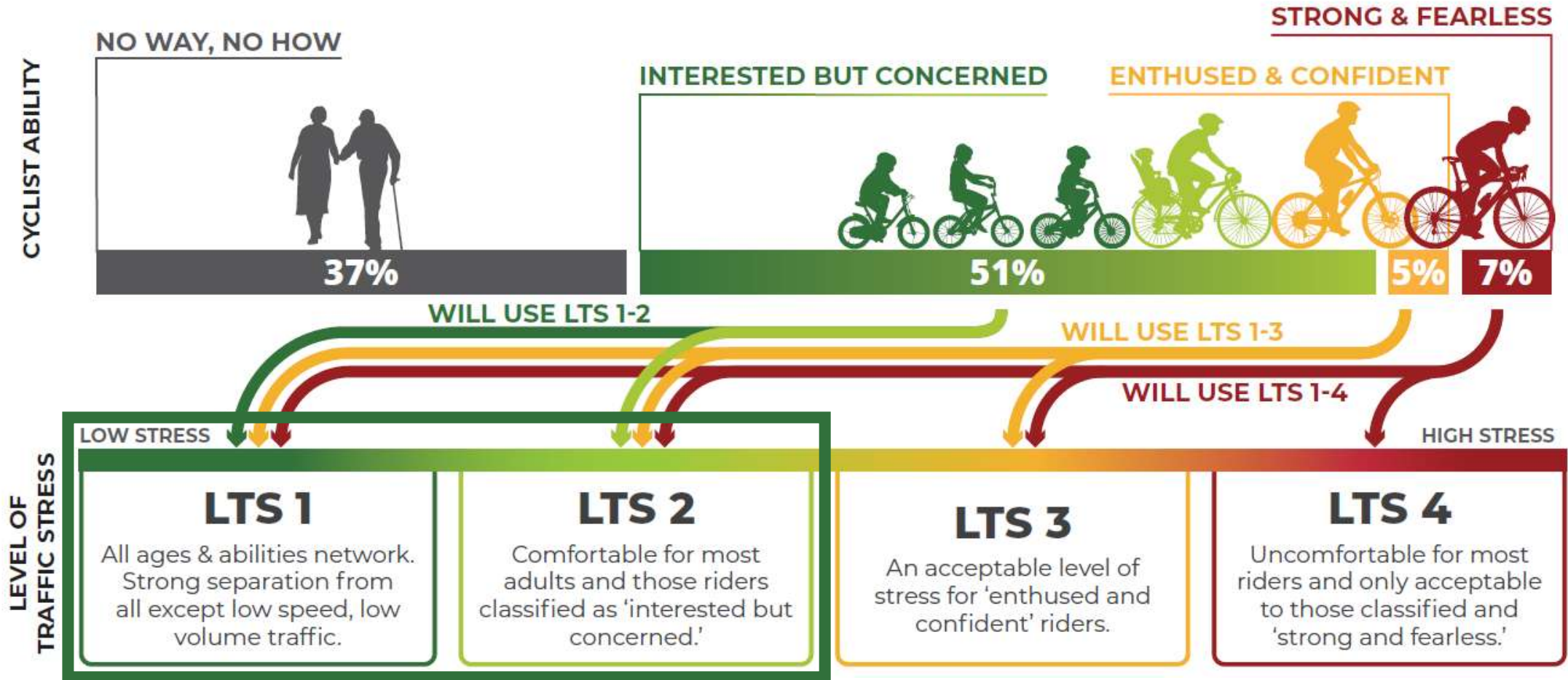


LTS ANALYSIS

- Incorporated speed limit, AADT, number of through lanes, and on-street parking to support Level of Traffic Stress (LTS) analysis
- Utilized the City of Cleveland's Cleveland Moves LTS standards as a baseline for calculation
- Used facility type and roadway context to evaluate bicycling comfort
- Connected roadway conditions to All Ages and Abilities considerations



DEFINING “ALL AGES & ABILITIES”



PROJECT INVENTORY



REVIEWED AND
CORRECTED 2019
CUYAHOGA
GREENWAYS PLAN
ALIGNMENTS



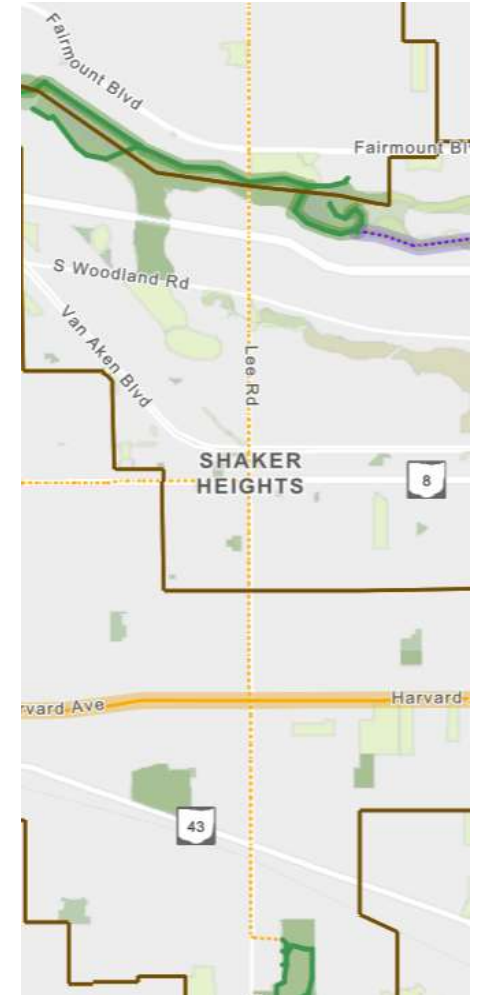
IDENTIFIED
PROGRAMMED,
PLANNED, AND
PROPOSED FACILITIES
FROM PREVIOUS PLANS



ADDED NEW OR
REVISED ALIGNMENTS
FROM LOCAL PLANS
AND PARTNER INPUT



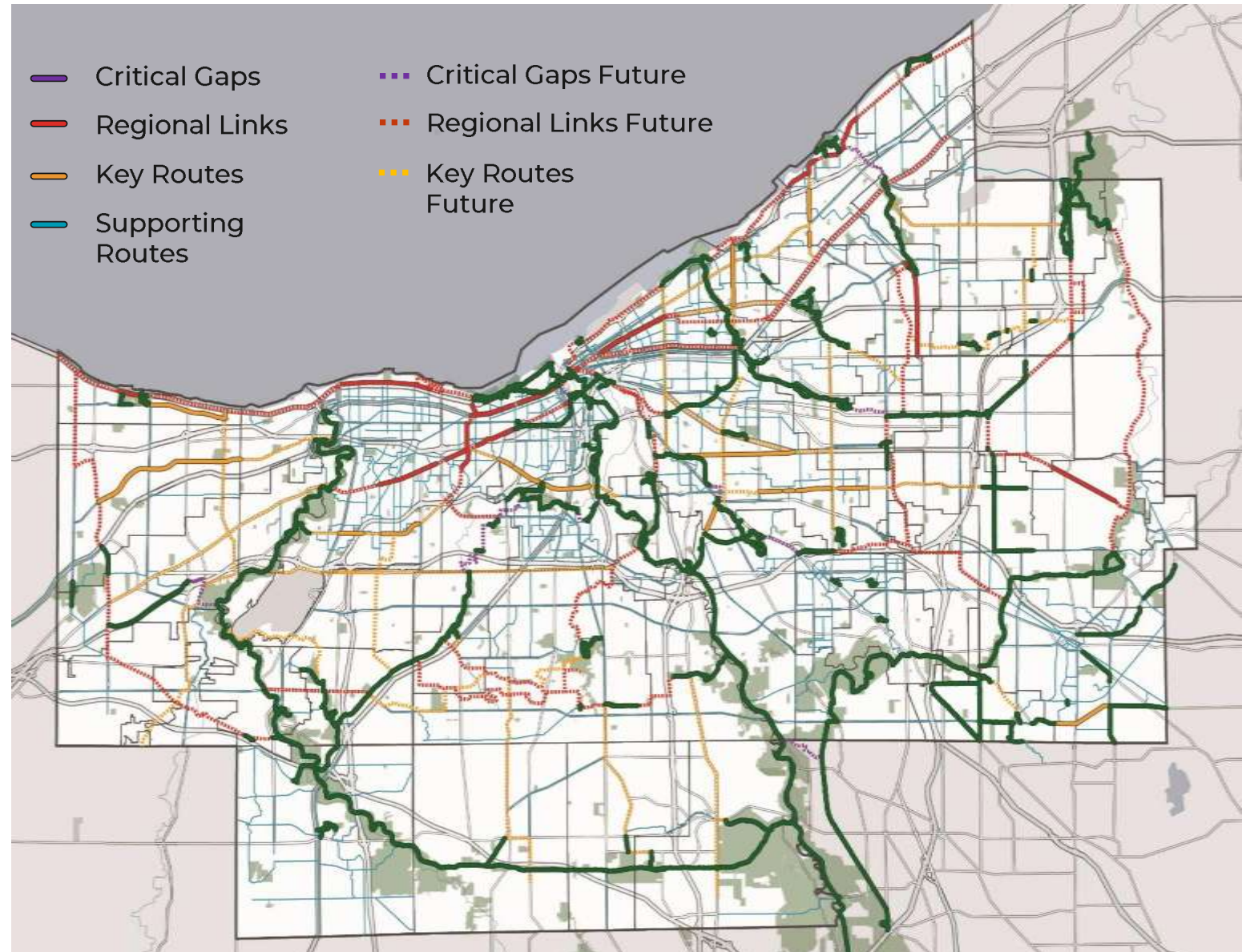
Updated Alignment



New Alignment

CUYAHOGA GREENWAYS NETWORK

- Defined the regional Greenways network from the facility inventory
- Connected existing facilities, planned projects, and desired alignments
- Identified route alignments, priorities, and critical gaps
- Organized segments by route, status, priority, and facility type
- Created a living GIS dataset for ongoing updates and implementation tracking



A person is riding a bicycle on a paved path that curves through a green, grassy area. In the background, a city skyline is visible, including several tall buildings and a prominent tower. The scene is overlaid with a semi-transparent green filter.

PARTNER OUTREACH AND VALIDATION



PARTNER OUTREACH

- County Planning developed an online Facility Editor Tool so partners & municipalities could report their progress
- Two (2) rounds of letters sent to every community
- County Planning held two (2) Live Training Sessions and one (1) Recorded Training Session
- Interviews & one-on-one training sessions were available by request



VIA EMAIL: skocf@bedfordoh.gov; mmalls@bedfordoh.gov; jkuzma@bedfordoh.gov

April 9, 2025

City of Bedford
765 Center Road
Bedford, Ohio 44146

RE: **Cuyahoga Greenways Plan Update and the new Facilities Editor Tool**

Dear Mayor Koci, City Manager Heilis, and Director Kuzma:

On behalf of the Cuyahoga County Planning Commission, I am very pleased to inform you that we have begun the update to the 2019 Cuyahoga Greenways Plan. It's hard to believe that it's been five years since this effort was completed, and with the support of our communities and the Cuyahoga Greenways Partners, we are revisiting the Plan with the goal of updating our current inventory of planned, designed, and built facilities.

To this end, I'm reaching out to you for your assistance with this task. County Planning is launching its online Facilities Editor tool that communities can use to identify and provide markups on existing, planned, and built Cuyahoga Greenways alignments to their respective jurisdictions. Once data is entered by you and your staff, County Planning will review and refine it and make the necessary changes to the countywide facilities inventory. County Planning will make the results available on an online Facilities Dashboard which will display our collective progress toward completing our active transportation network. These two tools will yield invaluable data for our update. Please click on the following link to access the Facilities Editor tool:

<https://maps.knicomaps.com/externalmap/#/52.05466734477263003468/54177766>



FACILITY EDITOR TOOL

- Developed an online Facility Editor for community and partner review
- Allowed partners to review existing, planned, programmed, and to propose facilities
- Helped capture local knowledge not always visible in existing GIS data
- Developed a standardized process for managing corrections and markups across four categorical review buckets



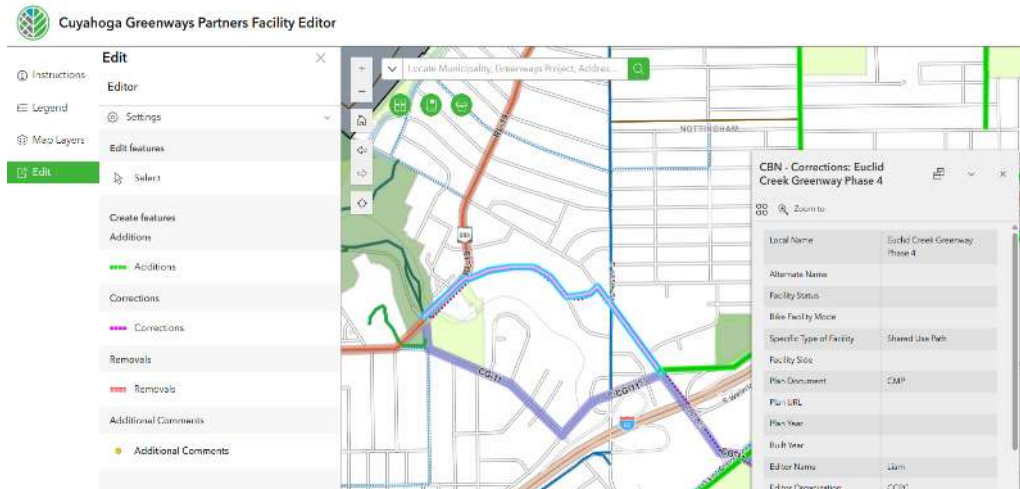
FACILITY EDITOR TOOL | REVIEW BUCKETS



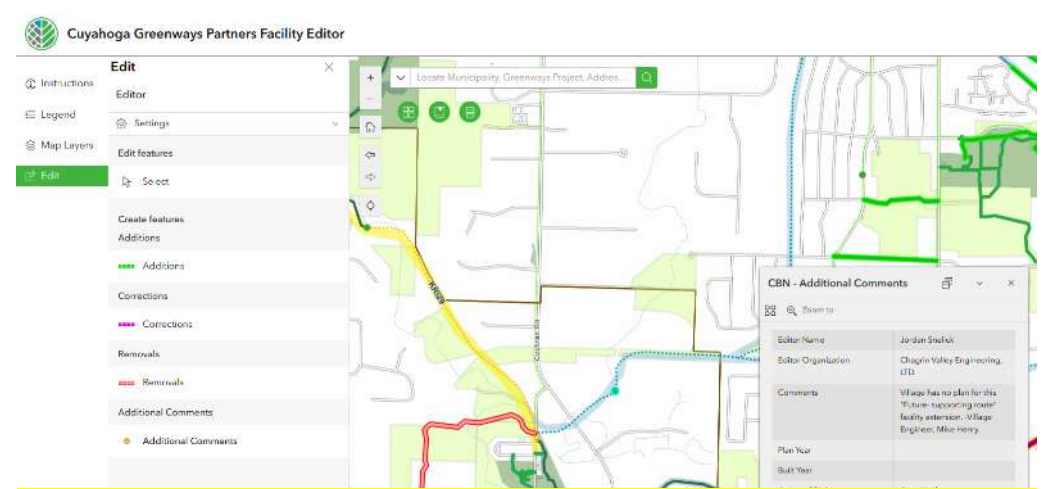
ADDITIONS



REMOVALS



CORRECTIONS



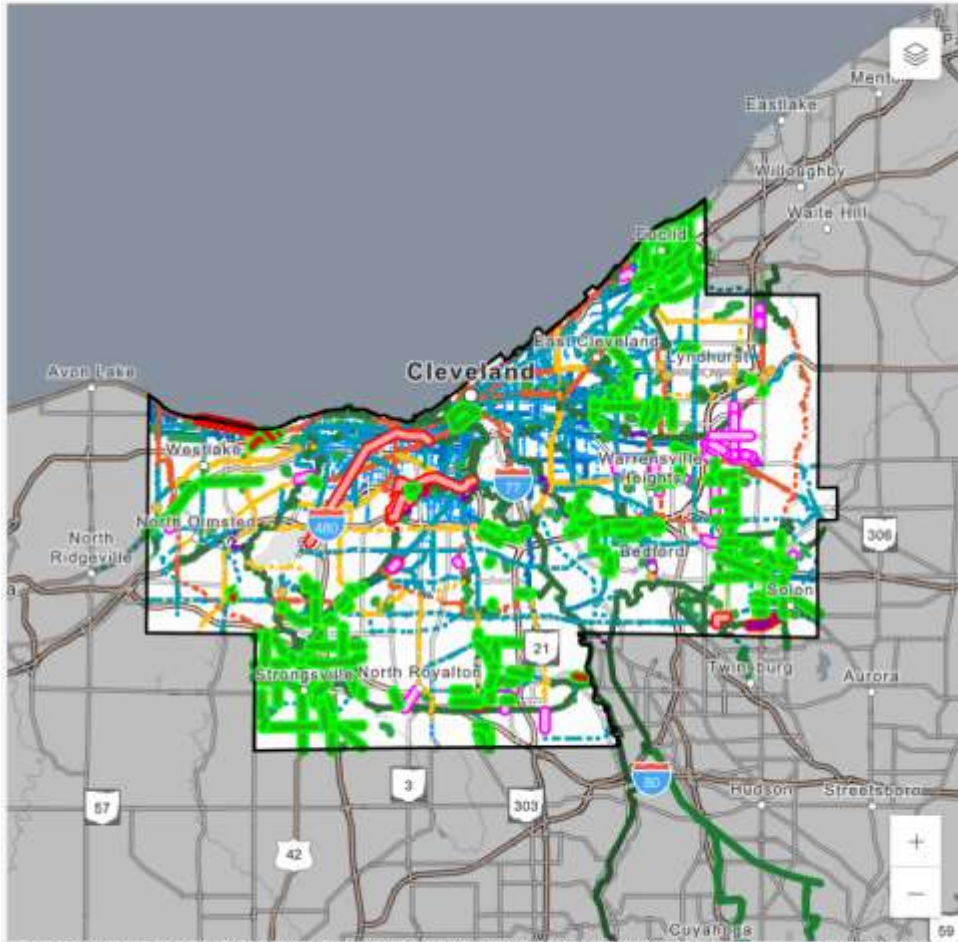
ADDITIONAL COMMENTS

FACILITY EDITOR TOOL | RESULTS DASHBOARD



Cuyahoga Greenways Partners Facility Editor Dashboard

A Product of The Cuyahoga County Planning Commission



Esri, TomTom, Garmin, SafeGraph, FAO, METI/NASA, USGS, EPA, NPS, USFWS | Cuyaho... Powered by Esri

Additions



Removals



Corrections



Comments



UNDER REVIEW

Brooklyn Heights Park to Ohio & Erie Canal Towpath Trail - Option B
 BH MP has this connecting to the towpath through independence & Valley View (not shown)
Paul, CCPC

UNDER REVIEW

No data

UNDER REVIEW

Center to Willis Neighborhood Greenway
 Had a discussion with Jennifer Kuzma of Bedford. CSU capstone class recommended Neighborhood Greenway that cuts through the Hospital Site. Unsure which option they are going to pursue.
Paul, CCPC

Center To Willis Neighborhood Greenway
 Discussion with

UNDER REVIEW

This is a complex area that was discussed previously, bike lanes/trail are not feasible here with very constrained ROW.
Sara Byrnes Maier, Cleveland Metroparks

Discuss - should this addition jog down to Wolf Rd instead of Lake Rd?
Sara Byrnes Maier, Cleveland Metroparks

Discuss - is the designation going to go to Bradley off of Crocker?
Sara Byrnes

Under Review

Under Review

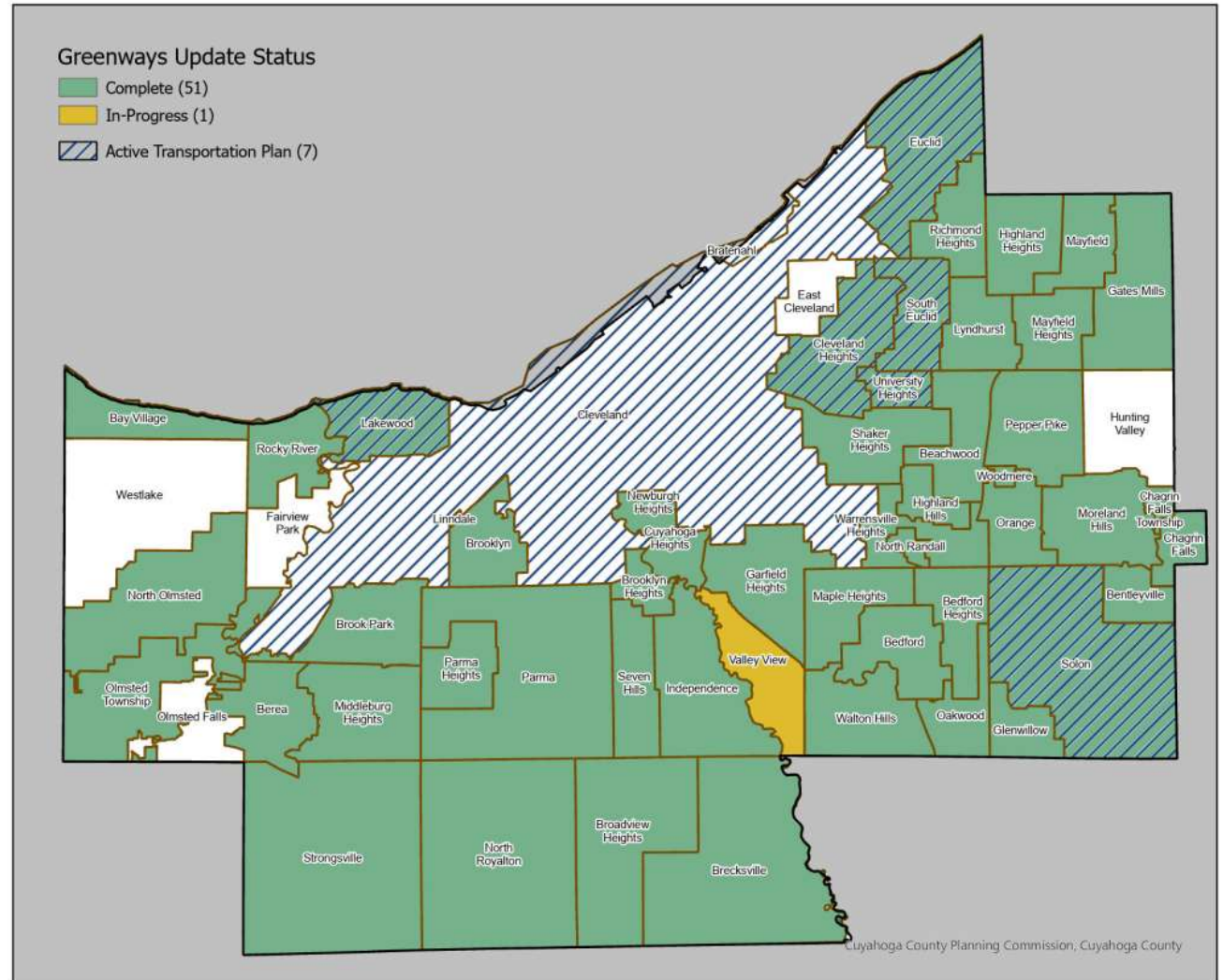
Under Review

Under Review



RESULTS

- Received edits from 53 of 59 communities
- 1 in progress
- 7 communities completed Active Transportation Plans



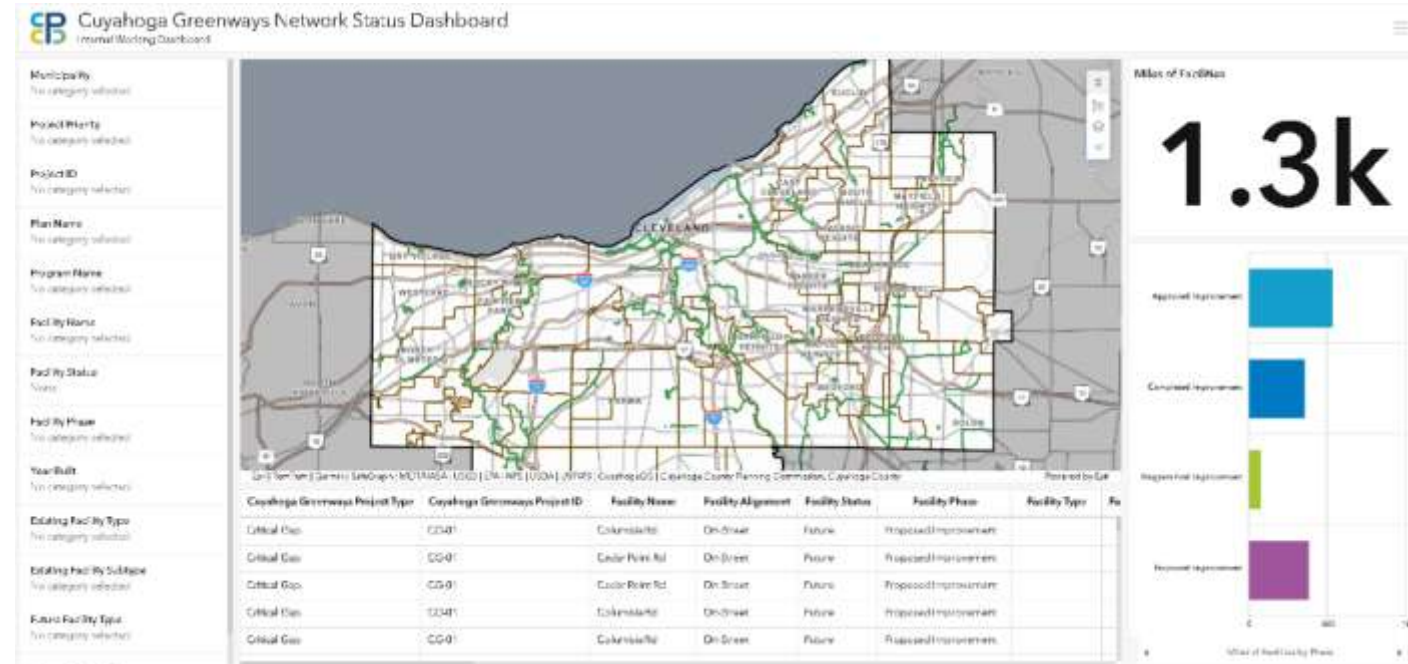
A person is riding a bicycle on a paved path that curves through a grassy area. In the background, a city skyline is visible, including several tall buildings and a prominent tower. The scene is overlaid with a semi-transparent green filter.

APPLYING THE DATA TO THE UPDATED PLAN

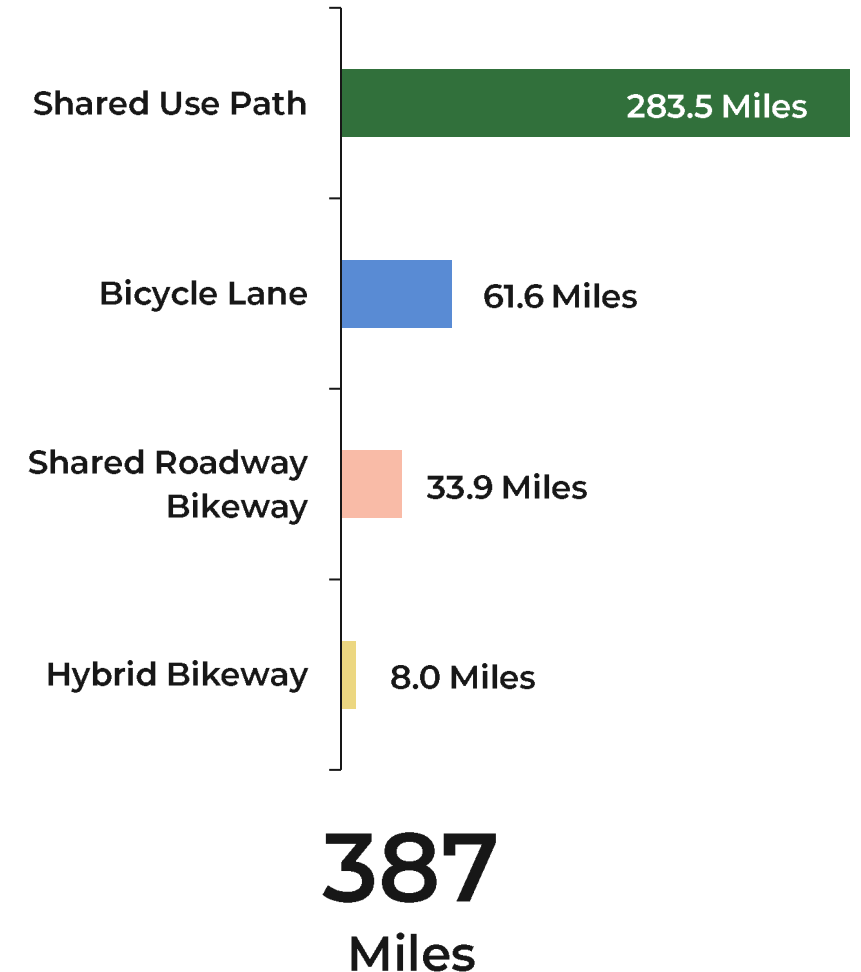
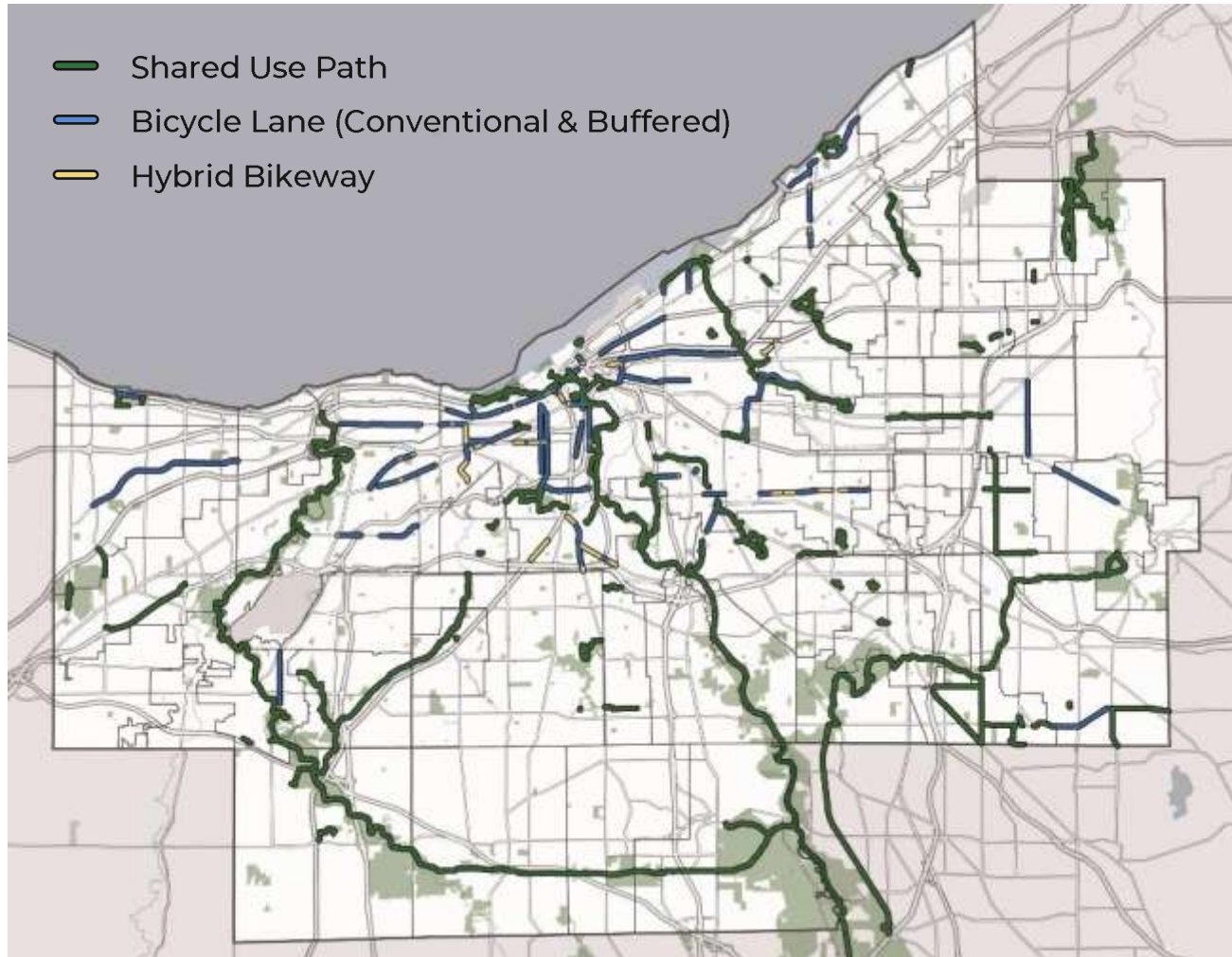


TRACKING PROGRESS SINCE 2019

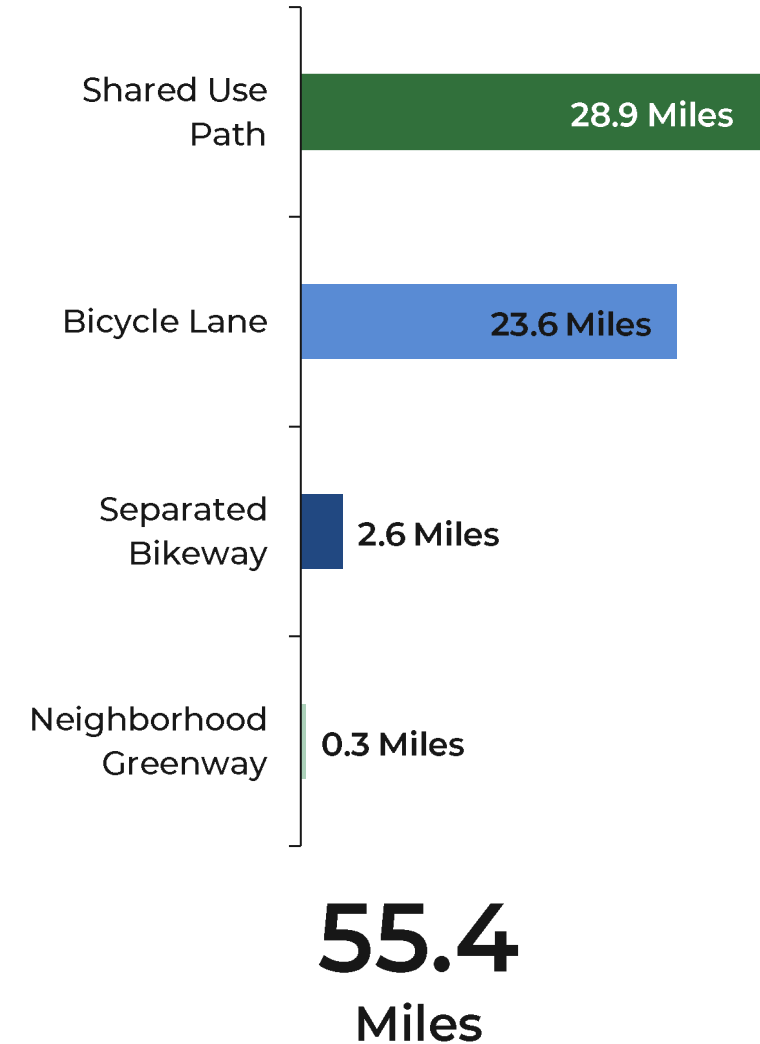
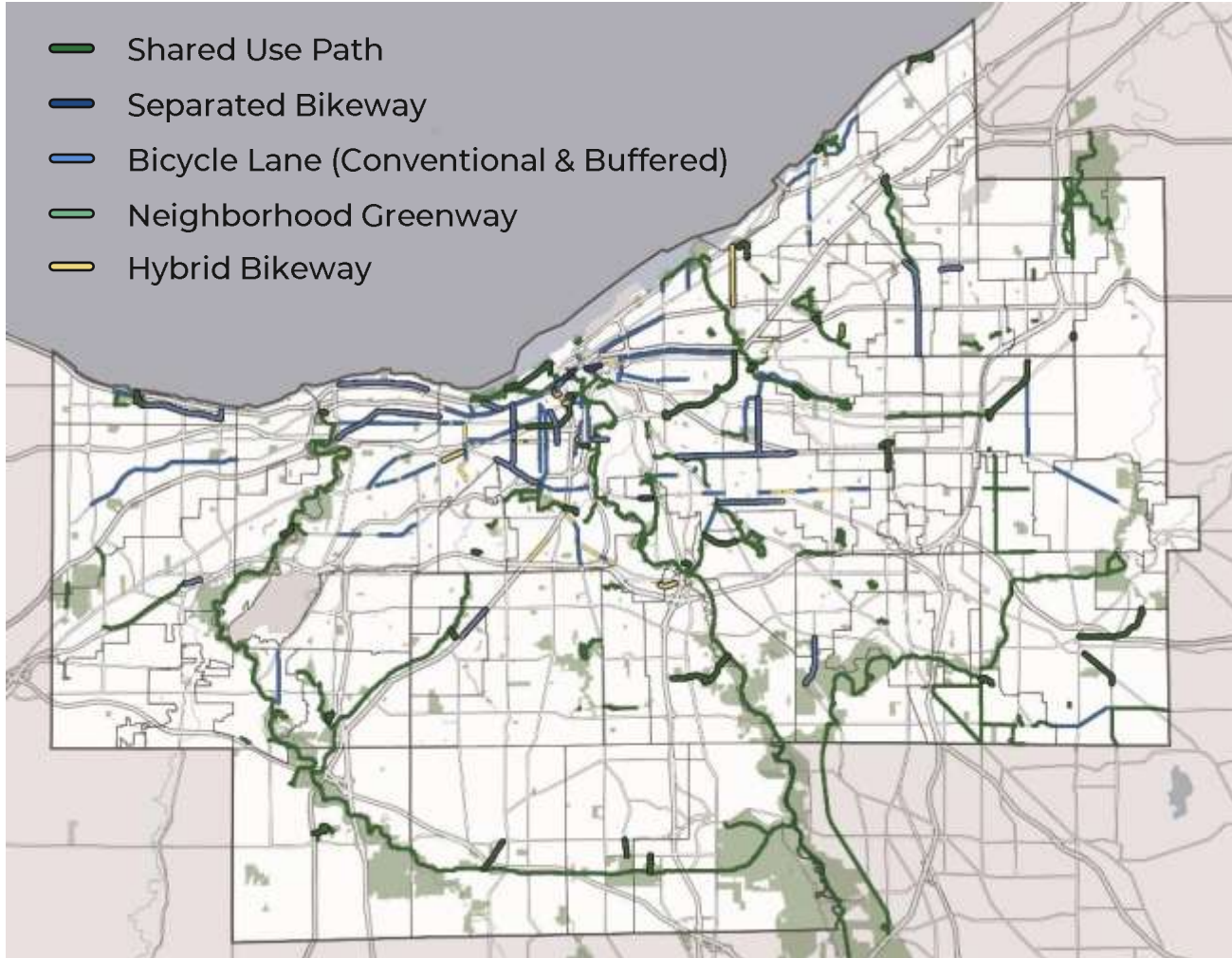
- Identified facilities built before the 2019 Greenways Plan as a baseline
- Tracked facilities built after the 2019 plan for current progress
- Documented programmed, funded, designed, and proposed facilities
- Measured progress by facility type and Greenways category
- Created a clearer picture of implementation across the county



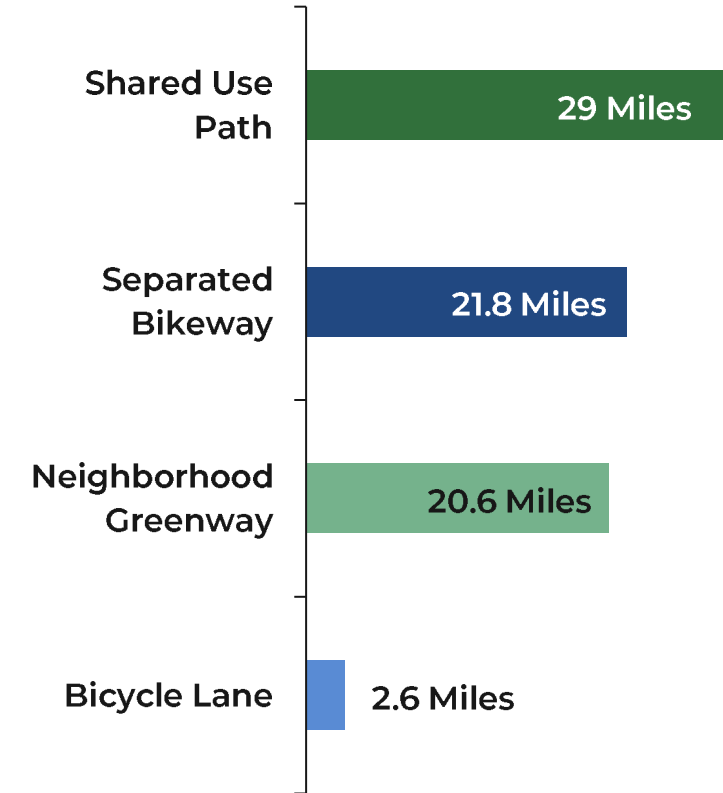
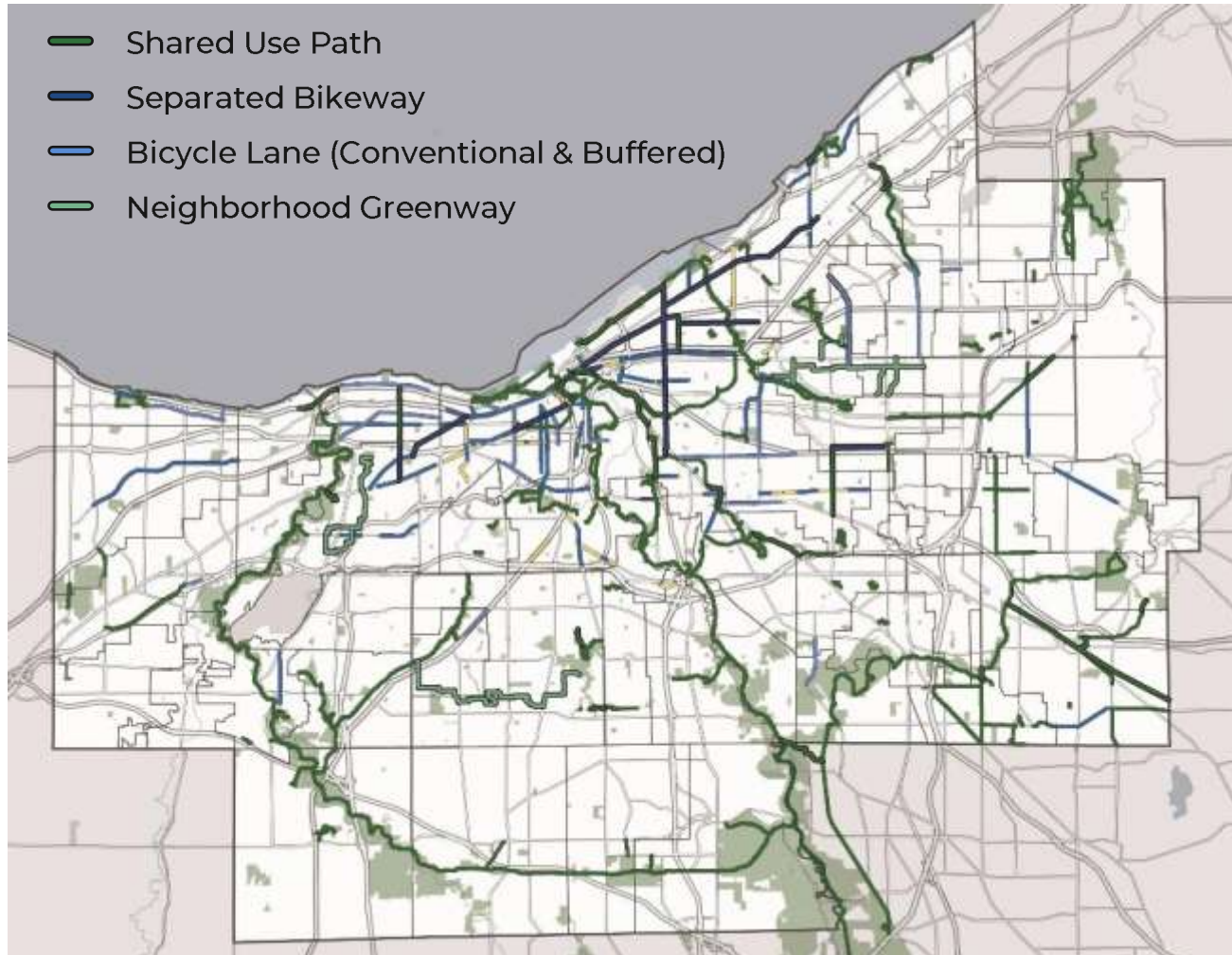
FACILITIES BUILT PRIOR TO 2019 GREENWAYS PLAN



FACILITES BUILT POST 2019 GREENWAYS PLAN



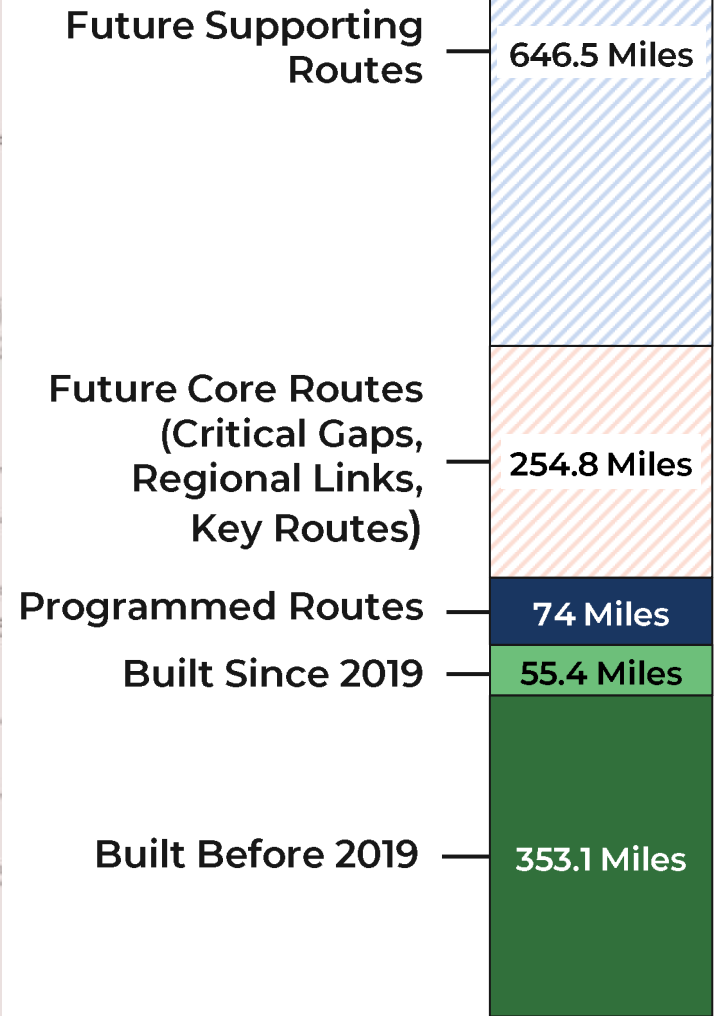
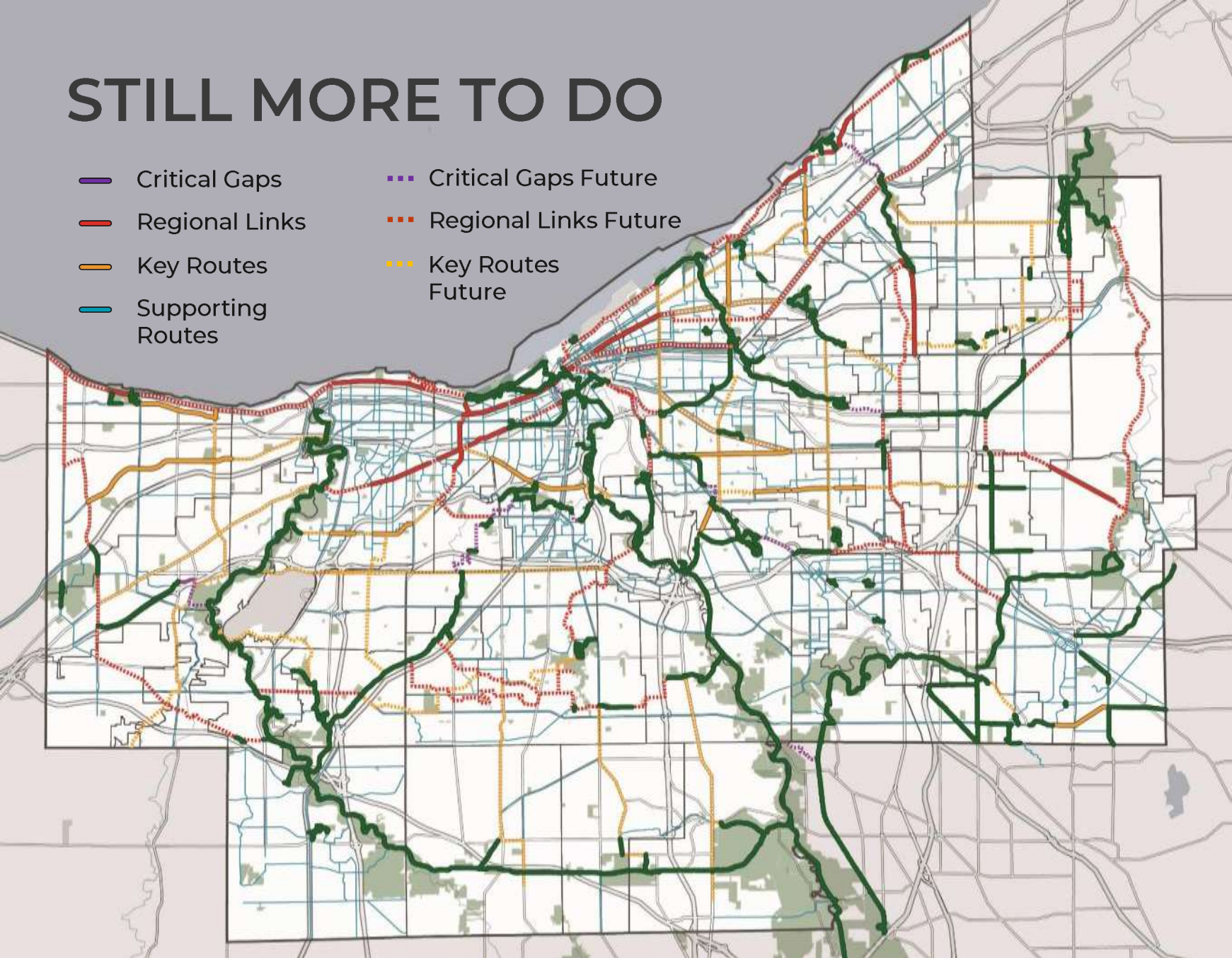
PROGRAMMED FACILITIES (IN PROGRESS)



74
Miles

STILL MORE TO DO

- Critical Gaps
- Regional Links
- Key Routes
- Supporting Routes
- Critical Gaps Future
- Regional Links Future
- Key Routes Future



UNDERSTANDING WHAT STILL NEEDS TO BE DONE

- Identify remaining gaps in the Greenways network
- Support the review of Regional Links, Key Routes, Critical Gaps, and Supporting Routes
- Help compare future facilities against existing and programmed improvements
- Show where additional coordination or planning may be needed
- Produce and maintain a publicly available GIS service that will tie into applications for both practitioners and the public



A person wearing a backpack and a jacket is riding a bicycle on a paved path that curves through a grassy area. In the background, a city skyline is visible, including several tall buildings and a bridge structure. The entire image has a green tint.

DISCUSSION Q & A



THANK YOU!



Liam Leveto, M.GISc

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Planning Commission

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